# Functional Specification of EURent

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7 June 2014

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# Chapter 1

# Introduction

This document specifies automated support for the EU-Rent example as described in 'DEMO-3 Way of Working (version 3, 1 September 2009)' by Jan L.G. Dietz. The purpose of the effort that resulted in this document is to provide case material to support statements regarding the extent that the DEMO approach and the Ampersand approach interfere and/or support one another.

We use the notation 'slide n' to refer to a specific slide in the DEMO-3 document mentioned above. In this notation, n is the slide number that can be found at the bottom of the slide. We use 'Slide n,m' to refer to slides n and m.

We use the notation 'Px:y', to refer to a specific sentence in the EU-Rent description of slide 3. In this notation, x identifies the paragraph number, and y identifies the sentence in that paragraph. Occasionally, the letter 'a' or 'b' may be appended to indicate the first or second part of (long) sentences. The notation 'Px:y-z' is used to refer to sentences y through z of paragraph x.

P2:1 states: "A car may be rented by a reservation in advance or by a 'walk-in' customer on the day of renting". The Note on slide 10 says that there is no difference between these two. We will follow this idea so as not to digress too much from the case. The consequence of this is that making a reservation in advance does not mean that there is a higher chance that a car of the requested type will be available.

This document[1] defines the functionality of an information system called 'EU-Rent'. It defines the database and the business services of EURent by means of business rules[2]. Those rules are listed in chapter 2, ordered by theme. , ordered by theme.

The diagnosis in chapter 3 is meant to help the authors identify shortcomings in their Ampersand script.

[1] This document was generated at 7-6-2014 on 22:37:51, using Ampersand v3.0.2.1357, build time: 06-Jun-14 14:50:03 UTC.

[2] Rule based design characterizes the Ampersand approach, which has been used to produce this document.

# Chapter 2

# Shared Language

This chapter defines the natural language, in which functional requirements of 'EURent' can be discussed and expressed. The purpose of this chapter is to create shared understanding among stakeholders. The language of 'EURent' consists of concepts and basic sentences. All functional requirements are expressed in these terms. When stakeholders can agree upon this language, at least within the scope of 'EURent', they share precisely enough language to have meaningful discussions about functional requirements. All definitions have been numbered for the sake of traceability.

## 2.1 EU-Rent

This pattern models the organizational structure of rental companies (limited to EU-Rent), as well as company-wide policies such as the maximum rental duration and rental and penalty tariffs.

At this point, the definitions of *branch*, *carRentalCompany*, *rentalCase*, *location*, *carType*, *brand*, *model*, and *amount* are given.

This system is designed for companies that rent cars according to the business essence as described in the DEMO document.

**Definition 1:** a company whose business is renting cars. *CarRentalCompany*

Car rental companies operate from branch offices at different geographical locations, each of which must be identifiable.

**Definition 2:** an office of a car rental company at a specific location. *Branch*

Branch offices are at different geographical locations. In order to compute penalties for dropping off cars at another branch than contractually agreed, the locations of such branches must be known.

**Definition 3:** a city (at which a branch office is located). *Location*

Rental charges (and penalties) depend on the type of a car.

**Definition 4:** the brand and model of a car. *CarType*

Car types are composed of a brand and a model. Examples of brands are: 'Volkswagen', 'Audi'.

**Definition 5:** the brand of a car. *Brand*

Car types are composed of a brand and a model. Examples of models are: 'Polo' or 'Beetle'.

**Definition 6:** the model of a car. *Model*

Tariffs, charges etc. are amounts of money. It is necessary to be specific about the nature of amounts, such as the sum and the currency.

**Definition 7:** a sum of money, expressed in 'Euro'. *Amount*

A common practice in case management is to define an anchorpoint for everything whose life cycle has to be managed, monitored, etc. To this end, we introduce such an anchorpoint for rentals, and call it a 'RentalCase'.

**Definition 8:** an information object that contains all information about a rental, including contractual items, rental items, billing items etc. *RentalCase*

EU-Rent is a company that rents cars to persons, operating from geographically dispersed braches. Therefore, we must know what branches exist with EU-Rent. *P1:1*

**Agreement 9:** Every branch is part of a car rental company.

Phrases that can be made are for instance:

AMS is a branch of EU-Rent.

DHG is a branch of EU-Rent.

RTD is a branch of EU-Rent.

EU-Rent operates from geographically dispersed braches. We need to know where such locations are in order to compute penalty charges for drivers that drop off their car at a location other than is contracted, because such charges depend on the distance between the actual and the contracted drop-off branch. *P1:1, P4:5*

**Agreement 10:** Every branch operates from a geographical location.

Phrases that can be made are for instance:

AMS is located in Amsterdam.

DHG is located in Den Haag.

RTD is located in Rotterdam.

Since only cars that are available at the pick-up branch may be rented, the availability of these cars at the branches must be known. *P3.4*

**Agreement 11:** It is known which cars are available at a branch.

Phrases that can be made are for instance:

Car with license plate 1-AMS-11 is available at EU-Rent branch AMS.

Car with license plate 1-AMS-12 is available at EU-Rent branch AMS.

Car with license plate 1-AMS-13 is available at EU-Rent branch AMS.

In order for the renter/driver to specify the car (s)he wants to rent, but also to correctly compute rental charges, the type of every car must be known.

**Agreement 12:** Every car is of a specific type (brand, model).

Phrases that can be made are for instance:

Car with license plate 1-AMS-11 is a VW Polo.

Car with license plate 1-AMS-12 is a VW Polo.

Car with license plate 1-AMS-13 is a VW Passat.

The cars of EU-Rent are divided in car types (brands and models). *P1:2a*

**Agreement 13:** A cartype has a specific brand.

Phrases that can be made are for instance:

The brand of Audi A4 is Audi.

The brand of VW Beetle is Volkswagen.

The brand of VW Passat is Volkswagen.

The cars of EU-Rent are divided in car types (brands and models). *P1:2a*

**Agreement 14:** A cartype has a specific model.

Phrases that can be made are for instance:

The model of Audi A4 is A4.

The model of VW Beetle is Beetle.

The model of VW Passat is Passat.

For every car type there is a particular rental tariff per day. *P1:2b*

**Agreement 15:** All car types have a specified rental tariff (Euros/day).

Phrases that can be made are for instance:

The rental tariff for Audi A4 is 93 Euros/day.

The rental tariff for VW Beetle is 60 Euros/day.

The rental tariff for VW Passat is 90 Euros/day.

In order to compute the penalty charge for exceeding the contracted rental duration, for each type of car it is specified what the excess charge per day will be.

**Agreement 16:** All car types have a specified excess tariff (Euro/day)

Phrases that can be made are for instance:

For cars of type Audi A4 the extra charge for a late drop-off is 56 Euro/day.

For cars of type VW Beetle the extra charge for a late drop-off is 38 Euro/day.

For cars of type VW Passat the extra charge for a late drop-off is 47 Euro/day.

Since EURent has specified a maximum duration for a rental, rental contracts must state whether or not the period between the specified pick-up and drop-off dates exceeds this maximum duration. *P2:3*

**Agreement 17:** the date interval (e.g.: [start date,end date]) is within the maximum rental duration as specified by EURent.

Phrases that can be made are for instance:

The period between 01-06-2014 and 07-06-2014 does not exceed the maximum allowed rental duration.

The period between 01-07-2014 and 10-07-2014 does not exceed the maximum allowed rental duration.

In order to compute the correct charge for renting a car, the start date must be known. Note that the meaning of this date depends on whether or not the rental has already started. If the rental has not yet started, it is the date that the rental is foreseen to start. If the rental has started, it is the date on which the rental actually started. *P2:2*

**Agreement 18:** Rental contracts may specify the actual (and contractual) start date of the rental.

Phrases that can be made are for instance:

The contractual and/or actual starting date of the rental of RC_AMS_123 is 01-07-2014.

The contractual and/or actual starting date of the rental of RC_RTD_262 is 01-06-2014.

In order to determine whether or not a penalty has to be paid for a late drop-off, the end date before which the car will be dropped off must be contractually administrated. *P2:2*

**Agreement 19:** Rental contracts may specify the (contractual) end date of the rental.

Phrases that can be made are for instance:

The contractual end date of the rental of RC_AMS_123 is 10-07-2014.

The contractual end date of the rental of RC_RTD_262 is 07-06-2014.

In order to keep track of the cars that EU-Rent owns, every case must specify the car that is being rented.

**Agreement 20:** Rental contracts specify the car that is (to be) issued to the driver.

Phrases that can be made are for instance:

The car that will be, or has been issued under RC_AMS_123 has license plate 1-AMS-12.

The car that will be, or has been issued under RC_RTD_262 has license plate 3-RTD-18.

During the lifetime of a rental, i.e. between the start and end of a rental, the renter has the right to make use of the rented car. For this reason, it is necessary to know which rentals have been started. Other reasons include that from the time of the start of a rental, payment is due, and the car that is mentioned in the rental case is no longer available for rent. *P4:2*

The transaction result B-R01 ([rental] has been started) must be modeled. *Slides 4-5*

**Agreement 21:** Rental cases may have the property 'rental has been started'.

A phrase that can be formed is for instance:

RC_RTD_262 has the property 'rental has been started', meaning that the rental associated with RC_RTD_262 has started.

During the lifetime of a rental, i.e. between the start and end of a rental, the renter has the right to make use of the rented car. For this reason, it is necessary to know which rentals have been ended. Other reasons include that at the time a rental is ended *P4:2*

- the bill can be made up,
- payment can be requested, and
- the returned car is again available for rent.

The transaction result B-R02 ([rental] has been ended) must be modeled. *Slides 4-5*

Slide 26 states that the rental ends after the rental has been paid. According to slide 4, P4:2, the renter has the right to make use of the rented car between the start and end of a rental. However, when rental payment is stated, it must be checked that 'everything is ok' (slide 30), which takes time. In that time, according to Slide 4, P4:2, the renter still has the right to make use of the rented car, and if he does so, it is undefined what will happen. *Slides 26, 30*

The transaction result B-R02 ([rental] has been ended) must be modeled. *Slides 4-5*

Slide 26 states that the rental ends after the rental has been paid. According to slide 4, P4:2, the renter has the right to make use of the rented car between the start and end of a rental. However, when rental payment is stated, it must be checked that 'everything is ok' (slide 30), which takes time. In that time, according to Slide 4, P4:2, the renter still has the right to make use of the rented car, and if he does so, it is undefined what will happen. *Slides 26, 30*

**Agreement 22:** Rental cases may have the property 'rental has been ended'.

While our scope is limited to EU-Rent, we need to explicitly model it as a company in order to be able to define company policy that holds for all branches. An example of this would be the maximum rental period. *P2:3*

**Agreement 23:** The system is limited to branches that are part of EU-Rent.

In order to ensure that cars are not lost 'administratively', every car must be accounted for.

**Agreement 24:** All cars must either be rented, or in stock at one of the branches.

Since EURent has specified a maximum duration for a rental, it must be checked (computed) whether or not the period between the specified pick-up and drop-off dates exceeds this maximum duration. *P2:3*

**Agreement 25:** The difference between the contracted end date and start date may bot exceed the maximum duration for rentals.

In order to prevent errors from occurring when Yes/No answers are answered differently, it is necessary to check whether such answers are either 'Yes' or 'No'.

**Agreement 26:** A Yes/No answer may only take the values 'Yes' or 'No'.

## 2.2 Rental Contracts

This pattern defines the contents of rental contracts and any constraints that must apply. It was decided not to introduce a specific concept 'RentalContract' because such an information object was also not mentioned in the slides.

The sequel introduces the language of Rental Contracts.

In order to be sure that a driver has a valid driving license, an identification number of the driving license must be known.

**Definition 27:** the identification number of a (valid) driving license. *DrivingLicense*

Since the daily charges depend on the car type, the contract must mention what type of car is (going to be) rented. *P2:2*

**Agreement 28:** Rental contracts may specify the car type of the rental.

Phrases that can be made are for instance:

The contractual type of the car being rented under RC_AMS_123 is VW Polo.

The contractual type of the car being rented under RC_RTD_262 is VW Polo.

Drivers can only rent cars that are available at the pick-up branch. Therefore, it must be known which branch this is. *P2:2*

**Agreement 29:** Rental contracts may specify the branch where the rental starts (i.e.: the car is picked up).

Phrases that can be made are for instance:

The contractual and/or actual pick-up branch for the rental of RC_AMS_123 is AMS.

The contractual and/or actual pick-up branch for the rental of RC_RTD_262 is RTD.

In order to allow branches to plan their stock of available cars, it helps to know what cars will be dropped off at what branch. *P2:2*

**Agreement 30:** Rental contracts may specify the branch where the rental supposedly ends (i.e.: the car is dropped off).

Phrases that can be made are for instance:

The contractual drop-off branch for the rental of RC_AMS_123 is DHG.

The contractual drop-off branch for the rental of RC_RTD_262 is UTR.

The person that will be held accountable for the rent, in particular for the payment thereof, must be administered. *P3.1*

**Agreement 31:** The person who rents the car is called the renter.

Phrases that can be made are for instance:

The renter for RC_AMS_123 is Richard Enter.

The renter for RC_RTD_262 is Richard Enter.

The person that will be held driving the rented car, must be administered, allowing amongst others that his driving license is checked. *P3.2*

**Agreement 32:** The person who is going to drive is called the driver.

Phrases that can be made are for instance:

The driver for RC_AMS_123 is Dick River.

The driver for RC_RTD_262 is Dick River.

Since rentals may only be started if the driver has a valid driving license, the number of such a license will be registered. Registration must imply that the license is valid. *P3.3*

**Agreement 33:** A person may have a valid driving license.

A phrase that can be formed is for instance:

The driving license of Dick River , with number DL01235467 , is valid.

Whenever the driver in a rental contract is known, his/her driving license must be checked for validity. If it is valid, the license number must be registered. *P3.3*

**Agreement 34:** Drivers must have a valid driving license.

In order to ensure that the information contents of the cases are valid, it must be checked whether the car that is issued is of the type that is mentioned in the contract.

**Agreement 35:** The type of a rented car must be the same as the type mentioned in the contract.

## 2.3 Promising Rentals

This process models the interaction between a renter and/or branch office employee as they prepare a request for obtaining a car rental. The bulk of the work consists of filling in most parts of the contract. The result of the process is that the rental has been promised (B-T01). *B-T01 promised*

The sequel introduces the language of Promising Rentals.

Some questions should only be answered with 'Yes' or 'No'. For automated reasoning it is necessary to be certain that no other answers can be given.

**Definition 36:** the answer to a question that must be 'Yes' or 'No'. *YesNoAnswer*

Before a rental may start, it must be known that the corresponding rules are satisfied. Rental cases that have the property of having been promised satisfy these rules. *Slide 18*

**Agreement 37:** Rental cases may have the property 'rental has been promised'

A phrase that can be formed is for instance:

RC_RTD_262 corresponds to RC_RTD_262 in relation rentalHasBeenPromised.

The rules that need to be satisfied in order for a rental case to have the property 'rental has been promised', are as follows: *Slide 11*

1. the following contractual items must all have been filled in:
   - the pick-up branch;
   - the drop-off branch;
   - the start date;
   - the end date;
   - the car type;
   - the driver;
   - the renter.
2. it must have been ascertained that the driver has a valid driving license.
3. the drop-off branch must have a car available of the type specified in the contract.

**Agreement 38:** A rental will be promised when the form is filled in, the driver is qualified and the pick-up branch has a car of the requested type.

**Agreement 39:** When a rental has been promised, the request form is completely filled in, the driver is qualified and the pick-up branch has a car of the requested type.

## 2.4 Starting Rentals

This process models the work for the car rental company employee, starting with a filled in rental request and leading up to the result that the car of a rental has been picked up (B-R03) and the rental has started (B-R01). *Results: B-R01, B-R03*

Note that since the transactional parts as stated in slides 11 and 18 are manual, they are not modeled here.

The transaction result B-R03 (the car of [rental] has been picked up) must be modeled. *Slides 12-13*

**Agreement 41:** Rental cases may have the property 'rental has been started'.

A phrase that can be formed is for instance:

RC_RTD_262 has the property 'car of rental has been picked up', meaning that the keys of the car associated with RC_RTD_262 have been handed over to the driver.

A rental starts when a driver has been handed the car keys. In order for the system to keep track of its cars (amongst other things), this (manual) action must be registered. Registration of this action presupposes that the information as registered in the rental contract is in accordance with reality, which the issuer of the keys must check. Note that when a rental is started, the car is no longer available for rent.

**Agreement 42:** Branches must register the handover of car keys (i.e. the responsibility for the car).

A phrase that can be formed is for instance:

The answer to the question 'have the keys of the car rented under RC_RTD_262 been handed over to the designated driver?' is Yes.

The rules that need to be satisfied in order for a rental case to have the property 'rental has been started', are as follows: *Slides 4-5,18*

1. the rental case has the property 'rental has been promised'.
2. a car (of the type as listed in the contract) has been assigned to the rental case;
3. keys of that car are handed to the driver, which we assume to imply that
   - the driver has picked up the car at the contracted start date;
   - the driver has promised to drop off the car according to the contractual constraints.

**Agreement 43:** A rental starts when the rental has been promised, a car of the correct type has been assigned and the driver has received the keys for this car.

**Agreement 44:** When a rental has been started, a car of the correct type has been assigned and the driver has received the keys for this car.

The type of car that is requested can only be one for which the pick-up branch has cars available. *P3.4*

**Agreement 45:** Rentals may only be promised if a car of the type specified in the contract is available at the pick-up branch.

For sanity reasons, the question of whether or not the keys are handed over can only be answered if the driver is known.

**Agreement 46:** Keys may only be handed over to the driver that is mentioned in the contract.

When the keys are handed to the driver, and the renter is not specified, we may assume that the driver also fulfills the role of renter, and fill this in the contract.

## 2.5 Dropping off Cars

This process models the work for the car rental company employee when a car is being dropped off and leading up to the results where the car of the rental has been dropped off (B-R04). *Result: B-R04*

In order to allow checking whether or not the dropped off car is the same car as was rented, the dropped off car must be identified. *P4.1*

**Agreement 48:** Rental cases may specify the car that has actually been dropped off.

A phrase that can be formed is for instance:

The car that has been dropped-off for RC_RTD_262 is 3-RTD-18.

In order to make up the bill for the rental, the date at which the rented car is dropped off must be known.

**Agreement 49:** Rented cars are dropped off on specific dates.

A phrase that can be formed is for instance:

The car rented under RC_RTD_262 has been dropped off on 14-06-2014.

In order to make up the bill for the rental, the branch at which the rented car is dropped off must be known.

**Agreement 50:** Rental cases may specify the branch that the drop-off has taken place.

A phrase that can be formed is for instance:

The car rented under RC_RTD_262 has been dropped off at AMS.

**Agreement 51:** Dropping off a car means: identifying the dropped off car, and registering the branch and date of the drop-off.

**Agreement 52:** When a car has been dropped off, the car is identified, the drop-off date is known, and the branch where the drop-off took place is known.

**Agreement 53:** The car that is dropped off must be the one that has been issued.

## 2.6 Paying Rentals

This process models the work for the car rental company, starting when the rental charge is computed (the renter is presented the bill), and leading up to the result that the rental has ended (B-R05). *Result: B-R05*

Before a payment may be requested, it must be known that the corresponding rules are satisfied. Rental cases that have the property that payment has been requested satisfy these rules. *Slide 30*

**Agreement 54:** Rental cases may have the property 'payment has been requested'.

In order to be able to terminate the rental, it must be known that payment is received.

**Agreement 55:** Payments for rental contracts need to be accepted (or declined).

**Agreement 56:** Payment for a rental may only be accepted after payment is requested.

## 2.7 Ending Rentals

This process models the work for the car rental company employee when a car is being dropped off and leading up to the results where the car of the rental has been dropped off (B-R04) and the rental has ended (B-R02). *Results: B-R02, B-R04*

**Agreement 58:** When a rental has ended, the rented car has been dropped off and the rental has been paid.

## 2.8 Session Initialization

This theme describes how sessions are initialized. Traditionally, this is done by a user-login. However, since this system is only for prototyping purposes, we have chosen to provide the User and Branch interfaces with a box in which the (session) variables that are appropriate for that interface, such as the User (id) or the Branch (id) can be set and/or modified.

Since some computations depend on today's date, we need to ensure such a value is available. However, since this system is only for prototyping purposes, we need a rule that ensures there is a (reasonable) value for today's date, but it is not enforced to be the actual date of today: this allows us to run prototype sessions and change this date if necessary.

**Agreement 59:** Every session must have a value for 'today'

## 2.9 User Interface: Handling New Rentals

This process describes the automated features for filling in or changing the contents of forms that are presented in the interface 'New User Rental'. The assumption is that this interface is provided over the Internet, allowing users to request a rental in advance (see P2:1) from any location of their choosing (e.g. at home).

## 2.10 Branch Interface: Handling New Rentals and Pickups

This process describes the automated features for filling in or changing the contents of forms that are presented in the interface 'New Branch Rental'. The assumption is that this interface is only provided within branch offices, allowing EU-Rent employees to create new rental applications for 'walk in customers' (see P2:1).

When a rental request in a branch is filled in, and they keys have already been handed over, the request is considered to be submitted.

When a rental request is submitted by a branch, this branch will play the role of pick-up branch.

When a rental request (for which the rental has not started) is being processed by a branch, the contracted start date is automatically adjusted to the date of today.

## 2.11 Branch Interface: Handling Drop-offs and Payment

This process describes the automated features for filling in or changing the contents of forms that are presented in the interface 'Drop-off (Car)'. The assumption is that this interface is only provided within branch offices, allowing EU-Rent employees to handle the dropping off of cars and obtaining rental payments.

In order to be sure that the car that is presented for a drop-off should be processed, it must be verified that there is a rental contract for this car for which the rental has started but is not yet ended.

**Agreement 68:** A car can only be returned if it is actually in the possession of the renter or driver

Handling a dropped-off car means that payment for the associated rental is to be obtained.

When a car is returned to a branch, this branch will play the role of drop-off branch.

When a car is returned to a branch, that date is the drop-off date.

# Chapter 3

# Diagnosis

This chapter provides an analysis of the Ampersand script of 'EURent'. This analysis is intended for the authors of this script. It can be used to complete the script or to improve possible flaws.

EURent does not specify which roles may change the contents of which relations.

EURent assigns rules to roles. The following table shows the rules that are being maintained by a given role.

| rule | ExecEngine | Developer | User | Branch |
|---|---|---|---|---|
| Promising rental requests | × | | | |
| Compute max rental duration | × | | | |
| Starting the rental | × | | | |
| Auto fill in renter in rental contract | × | | | |
| Dropping off Cars | × | | | |
| Ending Rentals | × | | | |
| Initialize today's date | × | | | |
| Submit rental request | | | × | |
| Fill in default renter | × | | | |
| Complete branch rental request | | | | × |
| Hand the car keys to the driver | | | | × |
| Auto submit new branch request | × | | | |
| Fill in default renter (at a branch) | × | | | |
| The branch that fills in the request is the pick-up branch | × | | | |
| The contracted start date is set to today | × | | | |
| Car drop-off handling | | | | × |
| Return cars to drop-off branch | × | | | |
| Drop-off date is date of car return | × | | | |

Concepts Car, Integer, Date, and Person remain without a purpose.

The purpose of relations *maxRentalDuration*, *rcUserRequestedQ*, *rcBranchRequestedQ*, *rcCarHasBeenDroppedOff*, *rcMaxRentalDuration*, *sessionUser*, *sessionToday*, *sessionNewUserRC*, *sessionBranch*, *sessionNewBranchRC*, and *sessionDroppedoffCar* is not documented.

Relations *branchLocation*, *brand*, *model*, and *rentalHasBeenPickedUp* are not used in any rule.

Figure 3.1 shows a conceptual diagram with all relations declared in 'EU-Rent'.

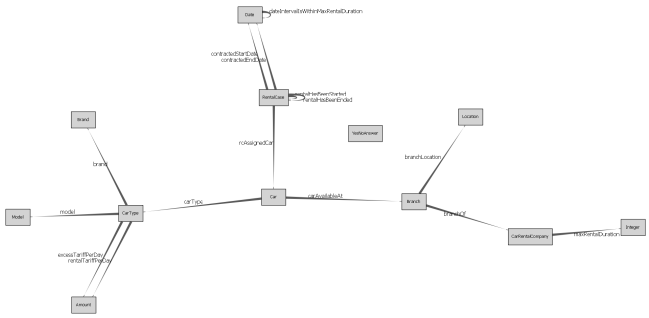

Figure 3.1: Concept diagram of the rules in EU-RentDiagnosisConceptualDiagram

Figure 3.2 shows a conceptual diagram with all relations declared in 'Rental Contracts'.

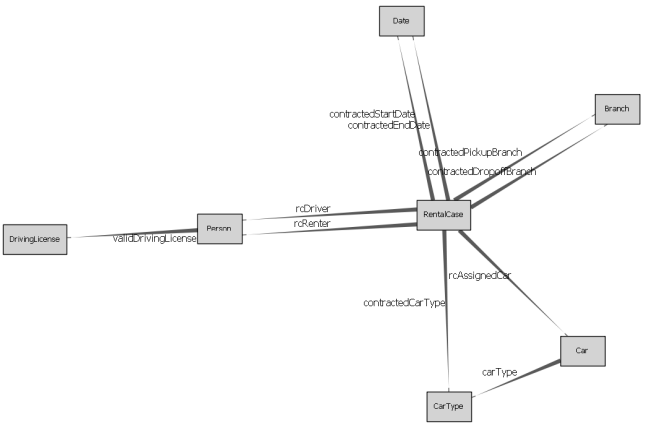


Figure 3.2: Concept diagram of the rules in Rental ContractsDiagnosisConceptualDiagram

On line numbers 139, 191, 228, 239, 251, 347, and 367 of file .\EURent Ontology.adl rules are defined without documenting their purpose. On line number 214 of file .\EURent Ontology.adl and on line numbers 163, 175, 183, 251, 257, and 264 of file .\EURent BRANCH interface.adl rules are defined, the meaning

of which is documented by means of computer generated language. On line numbers 160 and 360 of file .\EURent Ontology.adl, on line numbers 79 and 85 of file .\EURent RENTER interface.adl, and on line numbers 153, 157, and 169 of file .\EURent BRANCH interface.adl rules are defined without any explanation.

The table below shows for each theme (i.e. process or pattern) the number of relations and rules, followed by the number and percentage that have a reference. Relations declared in multiple themes are counted multiple times.

| Theme | Relations | With reference | % | Rules | With |
|---|---|---|---|---|---|
| EU-Rent | 10 | 7 | 70% | 4 | |
| Rental Contracts | 9 | 8 | 88% | 2 | |
| Promising Rentals | 3 | 1 | 33% | 3 | |
| Starting Rentals | 3 | 2 | 66% | 5 | |
| Dropping off Cars | 4 | 1 | 25% | 3 | |
| Billing Rentals | 8 | 7 | 87% | 6 | |
| Paying Rentals | 1 | 0 | 0% | 1 | |
| Ending Rentals | 1 | 1 | 100% | 2 | |
| Enforcing maximum rental duration | 2 | 0 | 0% | 1 | |
| Compute total rental charge | 4 | 0 | 0% | 3 | |
| Compute number of regular days (period) | 3 | 0 | 0% | 3 | |
| Compute tariffed (regular or excess) charge | 3 | 0 | 0% | 4 | |
| Compute number of excess days (period) | 3 | 0 | 0% | 3 | |
| Distance computations | 2 | 0 | 0% | 1 | |
| Developer rules | 0 | 0 | - | 1 | |
| Session Initialization | 0 | 0 | - | 1 | |
| Computing Projected Costs | 2 | 0 | 0% | 4 | |
| User Interface: Handling New Rentals | 0 | 0 | - | 2 | |
| Branch Interface: Handling New Rentals and Pickups | 0 | 0 | - | 6 | |
| Branch Interface: Handling Drop-offs and Payment | 0 | 0 | - | 4 | |
| Entire context | 66 | 27 | 40% | 59 | |

The following table shows which rules are not linked to a role within a particular process. This has as consequence that these rule(s) will be maintained by the computer.

| process | rule |
|---|---|
| Promising Rentals | Promised rental requests |
| Starting Rentals | Started rentals, Rentable cars, Keys must be handed o |
| Dropping off Cars | Dropped off Cars, Dropped-off car type integrity, UNI |
| Paying Rentals | Rental payment amount is known |
| Ending Rentals | Ended Rentals |
| Branch Interface: Handling Drop-offs and Payment | Dropped off car sanity check |

The role-rule assignments in any of the described processes have been assigned to rules within that same process.

The population in this script does not specify any work in progress.

The population in this script violates no rule.

# Chapter 4

# Conceptual Analysis

This chapter defines the formal language, in which functional requirements of 'EURent' can be analysed and expressed.The purpose of this formalisation is to obtain a buildable specification. This chapter allows an independent professional with sufficient background to check whether the agreements made correspond to the formal rules and definitions.

This document specifies automated support for the EU-Rent example as described in 'DEMO-3 Way of Working (version 3, 1 September 2009)' by Jan L.G. Dietz. The purpose of the effort that resulted in this document is to provide case material to support statements regarding the extent that the DEMO approach and the Ampersand approach interfere and/or support one another.

We use the notation 'slide n' to refer to a specific slide in the DEMO-3 document mentioned above. In this notation, n is the slide number that can be found at the bottom of the slide. We use 'Slide n,m' to refer to slides n and m.

We use the notation 'Px:y', to refer to a specific sentence in the EU-Rent description of slide 3. In this notation, x identifies the paragraph number, and y identifies the sentence in that paragraph. Occasionally, the letter 'a' or 'b' may be appended to indicate the first or second part of (long) sentences. The notation 'Px:y-z' is used to refer to sentences y through z of paragraph x.

P2:1 states: "A car may be rented by a reservation in advance or by a 'walk-in' customer on the day of renting". The Note on slide 10 says that there is no difference between these two. We will follow this idea so as not to digress too much from the case. The consequence of this is that making a reservation in advance does not mean that there is a higher chance that a car of the requested type will be available.

## 4.1 EU-Rent

This pattern models the organizational structure of rental companies (limited to EU-Rent), as well as company-wide policies such as the maximum rental duration and rental and penalty tariffs.

Figure 4.1 shows a conceptual diagram of this pattern.

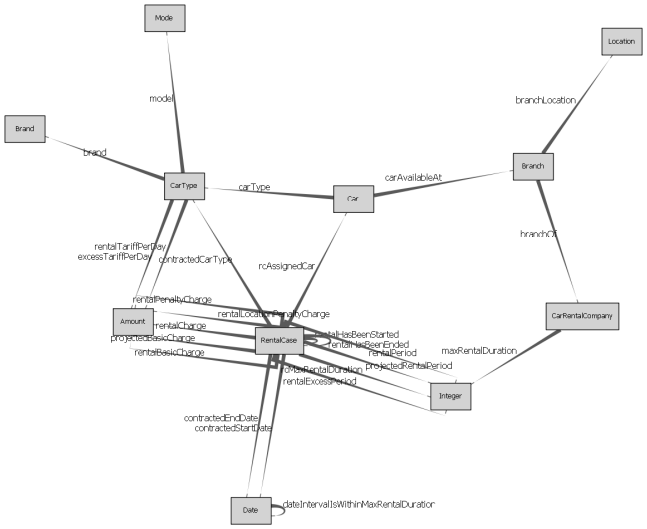


Figure 4.1: Concept diagram of EU-Rent

The definitions of concepts can be found in the glossary.

### 4.1.1 Declared relations

This section itemizes the declared relations with properties and a meaning.

EU-Rent is a company that rents cars to persons, operating from geographically dispersed braches. Therefore, we must know what branches exist with EU-Rent. *P1:1*

For this purpose, the following function has been defined

$$branchOf \quad : \quad Branch \rightarrow CarRentalCompany \tag{4.1}$$

Every branch is part of a car rental company.

EU-Rent operates from geographically dispersed braches. We need to know where such locations are in order to compute penalty charges for drivers that drop off their car at a location other than is contracted, because such charges depend on the distance between the actual and the contracted drop-off branch. *P1:1, P4:5*

For this purpose, the following function has been defined

$$branchLocation \quad : \quad Branch \rightarrow Location \tag{4.2}$$

Every branch operates from a geographical location.

Since only cars that are available at the pick-up branch may be rented, the availability of these cars at the branches must be known. *P3.4*

For this purpose, the following univalent relation has been defined

$$carAvailableAt \quad : \quad Car \times Branch \tag{4.3}$$

It is known which cars are available at a branch.

In order for the renter/driver to specify the car (s)he wants to rent, but also to correctly compute rental charges, the type of every car must be known.

For this purpose, the following function has been defined

$$carType \quad : \quad Car \rightarrow CarType \tag{4.4}$$

Every car is of a specific type (brand, model).

The cars of EU-Rent are divided in car types (brands and models). *P1:2a*

For this purpose, the following function has been defined

$$brand \quad : \quad CarType \rightarrow Brand \tag{4.5}$$

A cartype has a specific brand.

The cars of EU-Rent are divided in car types (brands and models). *P1:2a*

For this purpose, the following function has been defined

$$model \quad : \quad CarType \rightarrow Model \tag{4.6}$$

A cartype has a specific model.

For every car type there is a particular rental tariff per day. *P1:2b*

For this purpose, the following function has been defined

$$rentalTariffPerDay \quad : \quad CarType \rightarrow Amount \tag{4.7}$$

All car types have a specified rental tariff (Euros/day).

In order to compute the penalty charge for exceeding the contracted rental duration, for each type of car it is specified what the excess charge per day will be.

For this purpose, the following function has been defined

$$excessTariffPerDay \quad : \quad CarType \rightarrow Amount \tag{4.8}$$

All car types have a specified excess tariff (Euro/day)

The following relation has been defined

$$maxRentalDuration \quad : \quad CarRentalCompany \times Integer \tag{4.9}$$

Rental companies must have specified the maximum duration of a rental.

Since EURent has specified a maximum duration for a rental, rental contracts must state whether or not the period between the specified pick-up and drop-off dates exceeds this maximum duration. *P2:3*

For this purpose, the following relation has been defined

$$dateIntervalIsWithinMaxRentalDuration \quad : \quad Date \times Date \tag{4.10}$$

the date interval (e.g.: [start date,end date]) is within the maximum rental duration as specified by EURent.

In order to keep track of the cars that EU-Rent owns, every case must specify the car that is being rented.

For this purpose, the following univalent relation has been defined

$$rcAssignedCar \quad : \quad RentalCase \times Car \tag{4.11}$$

Rental contracts specify the car that is (to be) issued to the driver.

During the lifetime of a rental, i.e. between the start and end of a rental, the renter has the right to make use of the rented car. For this reason, it is necessary to know which rentals have been started. Other reasons include that from the time of the start of a rental, payment is due, and the car that is mentioned in the rental case is no longer available for rent. *P4:2*

The transaction result B-R01 ([rental] has been started) must be modeled. *Slides 4-5*

For this purpose, the following relation has been defined

$$rentalHasBeenStarted \quad : \quad RentalCase \times RentalCase \tag{4.12}$$

Rental cases may have the property 'rental has been started'.

During the lifetime of a rental, i.e. between the start and end of a rental, the renter has the right to make use of the rented car. For this reason, it is necessary to know which rentals have been ended. Other reasons include that at the time a rental is ended *P4:2*

- the bill can be made up,
- payment can be requested, and
- the returned car is again available for rent.

The transaction result B-R02 ([rental] has been ended) must be modeled. *Slides 4-5*

Slide 26 states that the rental ends after the rental has been paid. According to slide 4, P4:2, the renter has the right to make use of the rented car between the start and end of a rental. However, when rental payment is stated, it must be checked that 'everything is ok' (slide 30), which takes time. In that time, according to Slide 4, P4:2, the renter still has the right to make use of the rented car, and if he does so, it is undefined what will happen. *Slides 26, 30*

The transaction result B-R02 ([rental] has been ended) must be modeled. *Slides 4-5*

Slide 26 states that the rental ends after the rental has been paid. According to slide 4, P4:2, the renter has the right to make use of the rented car between the start and end of a rental. However, when rental payment is stated, it must be checked that 'everything is ok' (slide 30), which takes time. In that time, according to Slide 4, P4:2, the renter still has the right to make use of the rented car, and if he does so, it is undefined what will happen. *Slides 26, 30*

For this purpose, the following relation has been defined

$$\mathit{rentalHasBeenEnded} \quad : \quad \mathit{RentalCase} \times \mathit{RentalCase} \tag{4.13}$$

Rental cases may have the property 'rental has been ended'.

In order to compute the correct charge for renting a car, the start date must be known. Note that the meaning of this date depends on whether or not the rental has already started. If the rental has not yet started, it is the date that the rental is foreseen to start. If the rental has started, it is the date on which the rental actually started. *P2:2*

For this purpose, the following univalent relation has been defined

$$\mathit{contractedStartDate} \quad : \quad \mathit{RentalCase} \times \mathit{Date} \tag{4.14}$$

Rental contracts may specify the actual (and contractual) start date of the rental.

In order to determine whether or not a penalty has to be paid for a late drop-off, the end date before which the car will be dropped off must be contractually administrated. *P2:2*

For this purpose, the following univalent relation has been defined

$$\mathit{contractedEndDate} \quad : \quad \mathit{RentalCase} \times \mathit{Date} \tag{4.15}$$

Rental contracts may specify the (contractual) end date of the rental.

### 4.1.2 Formal rules

This section itemizes the formal rules with a reference to the shared language of stakeholders for the sake of traceability.

While our scope is limited to EU-Rent, we need to explicitly model it as a company in order to be able to define company policy that holds for all branches. An example of this would be the maximum rental period. *P2:3*
Therefore the following requirement has been defined in section 2.1 p. 8:
The system is limited to branches that are part of EU-Rent.
This is formalized - using relations 5.10 - as

$$branchOf \vdash branchOf;' tEU - Rent' \tag{4.16}$$

In order to ensure that cars are not lost 'administratively', every car must be accounted for.
Therefore the following requirement has been defined in section 2.1 p. 9:
All cars must either be rented, or in stock at one of the branches.
This is formalized - using relations 5.13, 4.12, 4.13, 5.16 - as

$$I_{Car} \vdash rcAssignedCar^{\smile}; (rentalHasBeenStarted \cap \overline{rentalHasBeenEnded}); rcAssignedCar \cup carAvailableAt; \tag{4.17}$$

Since EURent has specified a maximum duration for a rental, it must be checked (computed) whether or not the period between the specified pick-up and drop-off dates exceeds this maximum duration. *P2:3*
Therefore the following requirement has been defined in section 2.1 p. 9:
The difference between the contracted end date and start date may bot exceed the maximum duration for rentals.
This is formalized - using relations 5.3, 5.4, 4.10 - as

$$contractedStartDate^{\smile}; contractedEndDate \vdash dateIntervalIsWithinMaxRentalDuration \tag{4.18}$$

In order to prevent errors from occurring when Yes/No answers are answered differently, it is necessary to check whether such answers are either 'Yes' or 'No'.
Therefore the following requirement has been defined in section 2.1 p. 9:
A Yes/No answer may only take the values 'Yes' or 'No'.
This is formalized - using relations - as

$$I_{YesNoAnswer} \vdash' tYes' \cup' tNo' \tag{4.19}$$

## 4.2 Rental Contracts

This pattern defines the contents of rental contracts and any constraints that must apply. It was decided not to introduce a specific concept 'RentalContract' because such an information object was also not mentioned in the slides.

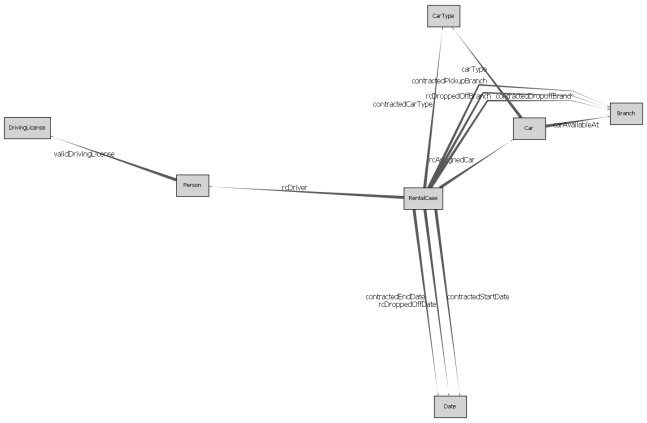


Figure 4.2: Concept diagram of Rental Contracts

Figure 4.2 shows a conceptual diagram of this pattern.

The definitions of concepts can be found in the glossary.

### 4.2.1 Declared relations

This section itemizes the declared relations with properties and a meaning.

In order to compute the correct charge for renting a car, the start date must be known. Note that the meaning of this date depends on whether or not the rental has already started. If the rental has not yet started, it is the date that the rental is foreseen to start. If the rental has started, it is the date on which the rental actually started. *P2:2*
For this purpose, the following univalent relation has been defined

$$contractedStartDate \quad : \quad RentalCase \times Date \tag{4.20}$$

Rental contracts may specify the actual (and contractual) start date of the rental.

In order to determine whether or not a penalty has to be paid for a late drop-off, the end date before which the car will be dropped off must be contractually administrated. *P2:2*
For this purpose, the following univalent relation has been defined

$$contractedEndDate \quad : \quad RentalCase \times Date \tag{4.21}$$

Rental contracts may specify the (contractual) end date of the rental.

Since the daily charges depend on the car type, the contract must mention what type of car is (going to be) rented. *P2:2*
For this purpose, the following univalent relation has been defined

$$contractedCarType \quad : \quad RentalCase \times CarType \tag{4.22}$$

Rental contracts may specify the car type of the rental.

Drivers can only rent cars that are available at the pick-up branch. Therefore, it must be known which branch this is. *P2:2*
For this purpose, the following univalent relation has been defined

$$contractedPickupBranch \quad : \quad RentalCase \times Branch \tag{4.23}$$

Rental contracts may specify the branch where the rental starts (i.e.: the car is picked up).

In order to allow branches to plan their stock of available cars, it helps to know what cars will be dropped off at what branch. *P2:2*
For this purpose, the following univalent relation has been defined

$$contractedDropoffBranch \quad : \quad RentalCase \times Branch \tag{4.24}$$

Rental contracts may specify the branch where the rental supposedly ends (i.e.: the car is dropped off).

The person that will be held accountable for the rent, in particular for the payment thereof, must be administered. *P3.1*
For this purpose, the following univalent relation has been defined

$$rcRenter \quad : \quad RentalCase \times Person \tag{4.25}$$

The person who rents the car is called the renter.

The person that will be held driving the rented car, must be administered, allowing amongst others that his driving license is checked. *P3.2*
For this purpose, the following univalent relation has been defined

$$rcDriver \quad : \quad RentalCase \times Person \tag{4.26}$$

The person who is going to drive is called the driver.

Since rentals may only be started if the driver has a valid driving license, the number of such a license will be registered. Registration must imply that the license is valid. *P3.3*
For this purpose, the following relation has been defined

$$validDrivingLicense \quad : \quad Person \times DrivingLicense \tag{4.27}$$

A person may have a valid driving license.

In order to keep track of the cars that EU-Rent owns, every case must specify the car that is being rented.
For this purpose, the following univalent relation has been defined

$$rcAssignedCar \quad : \quad RentalCase \times Car \tag{4.28}$$

Rental contracts specify the car that is (to be) issued to the driver.

In order for the renter/driver to specify the car (s)he wants to rent, but also to correctly compute rental charges, the type of every car must be known. For this purpose, the following function has been defined

$$carType \quad : \quad Car \rightarrow CarType \tag{4.29}$$

Every car is of a specific type (brand, model).

### 4.2.2 Formal rules

This section itemizes the formal rules with a reference to the shared language of stakeholders for the sake of traceability.

Whenever the driver in a rental contract is known, his/her driving license must be checked for validity. If it is valid, the license number must be registered. Therefore the following requirement has been defined in section 2.2 p. 11: Drivers must have a valid driving license. *P3.3*
This is formalized - using relations 5.6, 4.27 - as

$$rcDriver \vdash rcDriver; (I_{Person} \cap validDrivingLicense; validDrivingLicense^{\smile}) \tag{4.30}$$

In order to ensure that the information contents of the cases are valid, it must be checked whether the car that is issued is of the type that is mentioned in the contract.
Therefore the following requirement has been defined in section 2.2 p. 11: The type of a rented car must be the same as the type mentioned in the contract.
This is formalized - using relations 5.13, 5.5, 5.17 - as

$$rcAssignedCar \vdash contractedCarType; carType^{\smile} \tag{4.31}$$

# Chapter 5

# Process Analysis

This document specifies automated support for the EU-Rent example as described in 'DEMO-3 Way of Working (version 3, 1 September 2009)' by Jan L.G. Dietz. The purpose of the effort that resulted in this document is to provide case material to support statements regarding the extent that the DEMO approach and the Ampersand approach interfere and/or support one another.

We use the notation 'slide n' to refer to a specific slide in the DEMO-3 document mentioned above. In this notation, n is the slide number that can be found at the bottom of the slide. We use 'Slide n,m' to refer to slides n and m.

We use the notation 'Px:y', to refer to a specific sentence in the EU-Rent description of slide 3. In this notation, x identifies the paragraph number, and y identifies the sentence in that paragraph. Occasionally, the letter 'a' or 'b' may be appended to indicate the first or second part of (long) sentences. The notation 'Px:y-z' is used to refer to sentences y through z of paragraph x.

P2:1 states: "A car may be rented by a reservation in advance or by a 'walk-in' customer on the day of renting". The Note on slide 10 says that there is no difference between these two. We will follow this idea so as not to digress too much from the case. The consequence of this is that making a reservation in advance does not mean that there is a higher chance that a car of the requested type will be available.

EURent does not specify which roles may change the contents of which relations.

EURent assigns rules to roles. The following table shows the rules that are being maintained by a given role.

| Role | Rule |
|---|---|
| ExecEngine | Promising rental requests<br>Compute max rental duration<br>Starting the rental<br>Auto fill in renter in rental contract<br>Dropping off Cars<br>Rental period computation<br>Basic charge computation<br>Excess period computation<br>Excess charge computation<br>Location penalty computation<br>Requesting payment<br>Ending Rentals<br>Trigger interval computation<br>Trigger rental charge computation<br>Compute rental charge<br>Trigger rental period computation<br>Compute number of days in period<br>Trigger regular charge computation<br>Trigger excess charge computation<br>Compute charge based on number of days<br>Trigger excess period computation<br>Compute number of excess period days<br>Initialize today's date<br>Trigger projected rental period computation<br>projectedRentalPeriod computation<br>Trigger projected basic charge computation<br>projectedBasicCharge computation<br>Fill in default renter<br>Auto submit new branch request<br>Fill in default renter (at a branch)<br>The branch that fills in the request is the pick-up branch<br>The contracted start date is set to today<br>Return cars to drop-off branch<br>Drop-off date is date of car return |
| Developer | Dummy rule |
| User | Submit rental request |
| Branch | Complete branch rental request<br>Hand the car keys to the driver<br>Car drop-off handling |

## 5.1 Promising Rentals

*B-T01 promised*

This process models the interaction between a renter and/or branch office employee as they prepare a request for obtaining a car rental. The bulk of the work consists of filling in most parts of the contract. The result of the process is that the rental has been promised (B-T01).

Figure 5.1 shows the process model.

Figure 5.1: Process model of Promising RentalstxtProcess

The conceptual diagram of figure 5.2 provides an overview of the language in which this process is expressed.

Figure 5.2: Basic sentences of Promising RentalsConceptualProcess

**Promising rental requests** The rules that need to be satisfied in order for a rental case to have the property 'rental has been promised', are as follows: *Slide 11*

1. the following contractual items must all have been filled in:
   - the pick-up branch;
   - the drop-off branch;
   - the start date;
   - the end date;
   - the car type;
   - the driver;
   - the renter.
2. it must have been ascertained that the driver has a valid driving license.
3. the drop-off branch must have a car available of the type specified in the contract.

Drivers can only rent cars that are available at the pick-up branch. Therefore, it must be known which branch this is. *P2:2*

In order to allow branches to plan their stock of available cars, it helps to know what cars will be dropped off at what branch. *P2:2*

In order to compute the correct charge for renting a car, the start date must be known. Note that the meaning of this date depends on whether or not the rental has already started. If the rental has not yet started, it is the date that the rental is foreseen to start. If the rental has started, it is the date on which the rental actually started. *P2:2*

In order to determine whether or not a penalty has to be paid for a late drop-off, the end date before which the car will be dropped off must be contractually administrated. *P2:2*

Since the daily charges depend on the car type, the contract must mention what type of car is (going to be) rented. *P2:2*

The person that will be held driving the rented car, must be administered, allowing amongst others that his driving license is checked. *P3.2*

The person that will be held accountable for the rent, in particular for the payment thereof, must be administered. *P3.1*

To arrive at the formalization in equation 5.8, the following 7 relations are introduced.

$$\begin{aligned}
\mathit{contractedPickupBranch} &: \mathit{RentalCase} \times \mathit{Branch} && (5.1)\\
\mathit{contractedDropoffBranch} &: \mathit{RentalCase} \times \mathit{Branch} && (5.2)\\
\mathit{contractedStartDate} &: \mathit{RentalCase} \times \mathit{Date} && (5.3)\\
\mathit{contractedEndDate} &: \mathit{RentalCase} \times \mathit{Date} && (5.4)\\
\mathit{contractedCarType} &: \mathit{RentalCase} \times \mathit{CarType} && (5.5)\\
\mathit{rcDriver} &: \mathit{RentalCase} \times \mathit{Person} && (5.6)\\
\mathit{rcRenter} &: \mathit{RentalCase} \times \mathit{Person} && (5.7)
\end{aligned}$$

We also use definitions **??** (*rentalHasBeenPromised* ), **??** (*rcUserRequestedQ* ), and **??** (*rcBranchRequestedQ* ).

Activities that are defined by this rule are finished when:

$$I_{\mathit{RentalCase}} \cap (\mathit{rcUserRequestedQ};' \mathit{tYes}'; \mathit{rcUserRequestedQ}^{\smile} \cup \mathit{rcBranchRequestedQ};' \mathit{tYes}'; \mathit{rcBranchRe} \quad (5.8)$$

This corresponds to 'Promising rental requests' (2.3 op pg. 12).

**Promised rental requests** We use definitions 5.1 (*contractedPickupBranch* ), 5.2 (*contractedDropoffBranch* ), 5.3 (*contractedStartDate* ), 5.4 (*contractedEndDate* ), 5.5 (*contractedCarType* ), 5.6 (*rcDriver* ), 5.7 (*rcRenter* ), **??** (*rentalHasBeenPromised* ), **??** (*rcUserRequestedQ* ), and **??** (*rcBranchRequestedQ* ).

This means:

$$\mathit{rentalHasBeenPromised} \vdash (\mathit{rcUserRequestedQ};' \mathit{tYes}'; \mathit{rcUserRequestedQ}^{\smile} \cup \mathit{rcBranchRequestedQ};' \mathit{tYes}' \quad (5.9)$$

**Compute max rental duration** EU-Rent is a company that rents cars to persons, operating from geographically dispersed braches. Therefore, we must know what branches exist with EU-Rent. *P1:1*

To arrive at the formalization in equation 5.12, the following two relations are introduced.

$$\begin{aligned}
\mathit{branchOf} &: \mathit{Branch} \to \mathit{CarRentalCompany} && (5.10)\\
\mathit{maxRentalDuration} &: \mathit{CarRentalCompany} \times \mathit{Integer} && (5.11)
\end{aligned}$$

We also use definitions 5.1 (*contractedPickupBranch* ) and **??** (*rcMaxRentalDuration* ).

Activities that are defined by this rule are finished when:

$$\mathit{contractedPickupBranch}; \mathit{branchOf}; \mathit{maxRentalDuration} \vdash \mathit{rcMaxRentalDuration} \quad (5.12)$$

This corresponds to 'Compute max rental duration' (**??** op pg. **??**).

## 5.2 Starting Rentals

This process models the work for the car rental company employee, starting with a filled in rental request and leading up to the result that the car of a rental has been picked up (B-R03) and the rental has started (B-R01). *Results: B-R01, B-R03*

Note that since the transactional parts as stated in slides 11 and 18 are manual, they are not modeled here.

Figure 5.3 shows the process model.

Figure 5.3: Process model of Starting RentalstxtProcess

The conceptual diagram of figure 5.4 provides an overview of the language in which this process is expressed.

Figure 5.4: Basic sentences of Starting RentalsConceptualProcess

**Starting the rental** The rules that need to be satisfied in order for a rental case to have the property 'rental has been started', are as follows: *Slides 4-5,18*

1. the rental case has the property 'rental has been promised'.
2. a car (of the type as listed in the contract) has been assigned to the rental case;
3. keys of that car are handed to the driver, which we assume to imply that
   - the driver has picked up the car at the contracted start date;
   - the driver has promised to drop off the car according to the contractual constraints.

In order to keep track of the cars that EU-Rent owns, every case must specify the car that is being rented.

In order to formalize this, a relation rcAssignedCar is introduced (5.13):

$$rcAssignedCar \quad : \quad RentalCase \times Car \tag{5.13}$$

We also use definitions 5.1 (*contractedPickupBranch* ), **??** (*rentalHasBeenPromised* ), 4.12 (*rentalHasBeenStarted* ), and **??** (*rcKeysHandedOverQ* ) to formalize requirement 2.4 (page 13):

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rentalHasBeenPromised \cap rcAssignedCar; rcAssignedCar^{\smile} \cap rcKeysHandedOverQ;' tYes'; r \tag{5.14}$$

**Started rentals** We use definitions 5.13 (*rcAssignedCar* ), **??** (*rentalHasBeenPromised* ), 4.12 (*rentalHasBeenStarted* ), and **??** (*rcKeysHandedOverQ* ).

This means:

$$rentalHasBeenStarted \vdash rentalHasBeenPromised \cap rcAssignedCar; rcAssignedCar^{\smile} \cap rcKeysHandedOver \tag{5.15}$$

**Rentable cars** The type of car that is requested can only be one for which the pick-up branch has cars available. *P3.4*

Since only cars that are available at the pick-up branch may be rented, the availability of these cars at the branches must be known. *P3.4*

In order for the renter/driver to specify the car (s)he wants to rent, but also to correctly compute rental charges, the type of every car must be known.

To arrive at the formalization in equation 5.18, the following two relations are introduced.

$$carAvailableAt \quad : \quad Car \times Branch \tag{5.16}$$

$$carType \quad : \quad Car \to CarType \tag{5.17}$$

We also use definitions 5.1 (*contractedPickupBranch* ), 5.5 (*contractedCarType* ), **??** (*rentalHasBeenPromised* ), and **??** (*rcKeysHandedOverQ* ).

This means:

$$contractedPickupBranch^{\smile}; (I_{RentalCase} \cap rentalHasBeenPromised \cap \overline{(rcKeysHandedOverQ;' tYes'; rcKey} \tag{5.18}$$

This corresponds to the requirement on page 13:

Rentals may only be promised if a car of the type specified in the contract is available at the pick-up branch.

**Keys must be handed over to driver** For sanity reasons, the question of whether or not the keys are handed over can only be answered if the driver is known.

We use definitions 5.6 (*rcDriver* ) and **??** (*rcKeysHandedOverQ* ).

This means:

$$I_{RentalCase} \cap rcKeysHandedOverQ;' tYes'; rcKeysHandedOverQ^{\smile} \vdash rcDriver; rcDriver^{\smile} \tag{5.19}$$

**Auto fill in renter in rental contract** When the keys are handed to the driver, and the renter is not specified, we may assume that the driver also fulfills the role of renter, and fill this in the contract.

We use definitions 5.6 (*rcDriver* ), 5.7 (*rcRenter* ), and **??** (*rcKeysHandedOverQ* ).

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rcKeysHandedOverQ;' tYes'; rcKeysHandedOverQ^{\smile} \vdash rcRenter; rcRenter^{\smile} \tag{5.20}$$

## 5.3 Dropping off Cars

This process models the work for the car rental company employee when a car is being dropped off and leading up to the results where the car of the rental has been dropped off (B-R04). *Result: B-R04*

Figure 5.5 shows the process model.

Figure 5.5: Process model of Dropping off CarstxtProcess

The conceptual diagram of figure 5.6 provides an overview of the language in which this process is expressed.

Figure 5.6: Basic sentences of Dropping off CarsConceptualProcess

**Dropping off Cars** We use definitions 4.12 (*rentalHasBeenStarted* ), **??** (*rcCarHasBeenDroppedOff* ), **??** (*rcDroppedOffCar* ), **??** (*rcDroppedOffDate* ), and **??** (*rcDroppedOffBranch* ).
Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rentalHasBeenStarted \cap rcDroppedOffCar; rcDroppedOffCar^{\smile} \cap rcDroppedOffDate; rcDropp \tag{5.21}$$

**Dropped off Cars** We use definitions 4.12 (*rentalHasBeenStarted* ), **??** (*rcCarHasBeenDroppedOff* ), **??** (*rcDroppedOffCar* ), **??** (*rcDroppedOffDate* ), and **??** (*rcDroppedOffBranch* ).
This means:

$$rcCarHasBeenDroppedOff \vdash rentalHasBeenStarted \cap rcDroppedOffCar; rcDroppedOffCar^{\smile} \cap rcDroppedO \tag{5.22}$$

**Dropped-off car type integrity** We use definitions 5.13 (*rcAssignedCar* ) and **??** (*rcDroppedOffCar* ).
This means:

$$rcDroppedOffCar \vdash rcAssignedCar \tag{5.23}$$

## 5.4 Paying Rentals

This process models the work for the car rental company, starting when the rental charge is computed (the renter is presented the bill), and leading up to the result that the rental has ended (B-R05).

*Result: B-R05*

Figure 5.7 shows the process model.

Figure 5.7: Process model of Paying RentalstxtProcess

The conceptual diagram of figure 5.8 provides an overview of the language in which this process is expressed.

Figure 5.8: Basic sentences of Paying RentalsConceptualProcess

**Rental payment amount is known** We use definitions **??** (*paymentHasBeenRequested* ) and **??** (*rentalIsPaidQ* ).
This means:

$$I_{RentalCase} \cap rentalIsPaidQ;' tYes'; rentalIsPaidQ^{\smile} \vdash paymentHasBeenRequested \tag{5.24}$$

## 5.5 Ending Rentals

This process models the work for the car rental company employee when a car is being dropped off and leading up to the results where the car of the rental has been dropped off (B-R04) and the rental has ended (B-R02).

*Results: B-R02, B-R04*

Figure 5.9 shows the process model.

Figure 5.9: Process model of Ending RentalstxtProcess

The conceptual diagram of figure 5.10 provides an overview of the language in which this process is expressed.

**Ending Rentals** We use definitions **??** (*rcCarHasBeenDroppedOff* ), **??** (*rentalIsPaidQ* ), and 4.13 (*rentalHasBeenEnded* ).
Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rcCarHasBeenDroppedOff \cap rentalIsPaidQ;' tYes'; rentalIsPaidQ^{\smile} \vdash rentalHasBeenEnded \tag{5.25}$$

Figure 5.10: Basic sentences of Ending RentalsConceptualProcess

**Ended Rentals** We use definitions **??** (*rcCarHasBeenDroppedOff* ), **??** (*rentalIsPaidQ* ), and 4.13 (*rentalHasBeenEnded* ).
This means:

$$rentalHasBeenEnded \vdash rcCarHasBeenDroppedOff \cap rentalIsPaidQ;' tYes';rentalIsPaidQ^{\smile} \tag{5.26}$$

## 5.6 Session Initialization

This theme describes how sessions are initialized. Traditionally, this is done by a user-login. However, since this system is only for prototyping purposes, we have chosen to provide the User and Branch interfaces with a box in which the (session) variables that are appropriate for that interface, such as the User (id) or the Branch (id) can be set and/or modified.

Figure 5.11 shows the process model.

Figure 5.11: Process model of Session InitializationtxtProcess

The conceptual diagram of figure 5.12 provides an overview of the language in which this process is expressed.

Figure 5.12: Basic sentences of Session InitializationConceptualProcess

**Initialize today's date** Since some computations depend on today's date, we need to ensure such a value is available. However, since this system is only for prototyping purposes, we need a rule that ensures there is a (reasonable) value for today's date, but it is not enforced to be the actual date of today: this allows us to run prototype sessions and change this date if necessary. In order to formalize this, a relation sessionToday is introduced (5.27):

$$sessionToday \quad : \quad SESSION \times Date \tag{5.27}$$

Activities that are defined by this rule are finished when:

$$I_{SESSION} \vdash sessionToday;sessionToday^{\smile} \tag{5.28}$$

## 5.7 User Interface: Handling New Rentals

This process describes the automated features for filling in or changing the contents of forms that are presented in the interface 'New User Rental'. The assumption is that this interface is provided over the Internet, allowing users to request a rental in advance (see P2:1) from any location of their choosing (e.g. at home).

Figure 5.13 shows the process model.

Figure 5.13: Process model of User Interface: Handling New RentalstxtProcess

The conceptual diagram of figure 5.14 provides an overview of the language in which this process is expressed.

Figure 5.14: Basic sentences of User Interface: Handling New RentalsConceptualProcess

**Submit rental request** In order to formalize this, a relation sessionNewUserRC is introduced (5.29):

$$sessionNewUserRC \quad : \quad SESSION \times RentalCase \tag{5.29}$$

Beside that, we use definition **??** (rcUserRequestedQ) to formalize requirement **??** (page **??**):
Activities that are defined by this rule are finished when:

$$'t_SESSION'; sessionNewUserRC \vdash sessionNewUserRC; rcUserRequestedQ;' tYes'; V_{YesNoAnswer_{imes}} \tag{5.30}$$

**Fill in default renter** In order to formalize this, a relation sessionUser is introduced (5.31):

$$sessionUser \quad : \quad SESSION \times Person \tag{5.31}$$

We also use definitions 5.29 ($sessionNewUserRC$ ), 5.7 ($rcRenter$ ), and **??** ($rcUserRequestedQ$ ) to formalize requirement **??** (page **??**):
Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rcUserRequestedQ;' tYes'; rcUserRequestedQ^{\smile} \vdash rcRenter; rcRenter^{\smile} \tag{5.32}$$

## 5.8 Branch Interface: Handling New Rentals and Pickups

This process describes the automated features for filling in or changing the contents of forms that are presented in the interface 'New Branch Rental'. The assumption is that this interface is only provided within branch offices, allowing EU-Rent employees to create new rental applications for 'walk in customers' (see P2:1).

Figure 5.15 shows the process model.

Figure 5.15: Process model of Branch Interface: Handling New Rentals and PickupstxtProcess

The conceptual diagram of figure 5.16 provides an overview of the language in which this process is expressed.

Figure 5.16: Basic sentences of Branch Interface: Handling New Rentals and PickupsConceptualProcess

**Complete branch rental request** In order to formalize this, a relation sessionNewBranchRC is introduced (5.33):

$$sessionNewBranchRC \quad : \quad SESSION \times RentalCase \tag{5.33}$$

Beside that, we use definition **??** (rcBranchRequestedQ) to formalize requirement **??** (page **??**):
Activities that are defined by this rule are finished when:

$$'t_SESSION'; sessionNewBranchRC \vdash sessionNewBranchRC; rcBranchRequestedQ;' tYes'; V_{YesNoAns} \tag{5.34}$$

**Hand the car keys to the driver** We use definitions 5.33 (*sessionNewBranchRC* ), 5.13 (*rcAssignedCar* ), 5.6 (*rcDriver* ), **??** (*rentalHasBeenPromised* ), and **??** (*rcKeysHandedOverQ* ).
Activities that are defined by this rule are finished when:

$$'t_SESSION'; sessionNewBranchRC; (rentalHasBeenPromised \cap rcAssignedCar; rcAssignedCar^{\smile}) \vdash sess \tag{5.35}$$

**Auto submit new branch request** When a rental request in a branch is filled in, and they keys have already been handed over, the request is considered to be submitted.
We use definitions 5.33 (*sessionNewBranchRC* ), 5.13 (*rcAssignedCar* ), **??** (*rcBranchRequestedQ* ), and **??** (*rcKeysHandedOverQ* ).

Activities that are defined by this rule are finished when:

$$sessionNewBranchRC; (I_{RentalCase} \cap rcAssignedCar; rcAssignedCar^{\smile}); rcKeysHandedOverQ;' tYes' \vdash s \tag{5.36}$$

**Fill in default renter (at a branch)** We use definitions 5.6 (*rcDriver* ), 5.7 (*rcRenter* ), and **??** (*rcBranchRequestedQ* ).
Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rcBranchRequestedQ;' tYes'; rcBranchRequestedQ^{\smile} \cap rcDriver; rcDriver^{\smile} \vdash rcRenter; rcR \tag{5.37}$$

**The branch that fills in the request is the pick-up branch** When a rental request is submitted by a branch, this branch will play the role of pick-up branch.
In order to formalize this, a relation sessionBranch is introduced (5.38):

$$sessionBranch \quad : \quad SESSION \times Branch \tag{5.38}$$

We also use definitions 5.33 (*sessionNewBranchRC* ), 5.1 (*contractedPickupBranch* ), and **??** (*rcBranchRequestedQ* ) to formalize requirement **??** (page **??**):
Activities that are defined by this rule are finished when:

$$(I_{RentalCase} \cap rcBranchRequestedQ;' tYes'; rcBranchRequestedQ^{\smile}); sessionNewBranchRC^{\smile};' t_S ESSIO \tag{5.39}$$

**The contracted start date is set to today** When a rental request (for which the rental has not started) is being processed by a branch, the contracted start date is automatically adjusted to the date of today.
We use definitions 5.33 (*sessionNewBranchRC* ), 5.27 (*sessionToday* ), 5.3 (*contractedStartDate* ), and **??** (*rcBranchRequestedQ* ).
Activities that are defined by this rule are finished when:

$$(I_{RentalCase} \cap rcBranchRequestedQ;' tYes'; rcBranchRequestedQ^{\smile}); sessionNewBranchRC^{\smile};' t_S ESSIO \tag{5.40}$$

## 5.9 Branch Interface: Handling Drop-offs and Payment

This process describes the automated features for filling in or changing the contents of forms that are presented in the interface 'Drop-off (Car)'. The assumption is that this interface is only provided within branch offices, allowing EU-Rent employees to handle the dropping off of cars and obtaining rental payments.

Figure 5.17 shows the process model.

The conceptual diagram of figure 5.18 provides an overview of the language in which this process is expressed.

Figure 5.17: Process model of Branch Interface: Handling Drop-offs and PaymenttxtProcess

Figure 5.18: Basic sentences of Branch Interface: Handling Drop-offs and PaymentConceptualProcess

**Dropped off car sanity check** In order to be sure that the car that is presented for a drop-off should be processed, it must be verified that there is a rental contract for this car for which the rental has started but is not yet ended.
In order to formalize this, a relation sessionDroppedoffCar is introduced (5.41):

$$sessionDroppedoffCar \quad : \quad SESSION \times Car \tag{5.41}$$

We also use definitions 5.16 (*carAvailableAt* ), 5.13 (*rcAssignedCar* ), 4.12 (*rentalHasBeenStarted* ), and 4.13 (*rentalHasBeenEnded* ) to formalize requirement 2.11 (page 17):
This means:

$$'t_SESSION'; sessionDroppedoffCar \vdash sessionDroppedoffCar; (I_{Car} \cap rcAssignedCar^{\smile}; (rentalHasBeenS \tag{5.42}$$

**Car drop-off handling** Handling a dropped-off car means that payment for the associated rental is to be obtained.
We use definitions 5.41 (*sessionDroppedoffCar* ), 5.13 (*rcAssignedCar* ), **??** (*rcCarHasBeenDroppedOff* ), **??** (*rentalIsPaidQ* ), and 4.13 (*rentalHasBeenEnded* ).
Activities that are defined by this rule are finished when:

$$'t_SESSION'; sessionDroppedoffCar; rcAssignedCar^{\smile}; (I_{RentalCase} \cap rcCarHasBeenDroppedOff \cap \overline{rental} \tag{5.43}$$

**Return cars to drop-off branch** When a car is returned to a branch, this branch will play the role of drop-off branch.
We use definitions 5.41 (*sessionDroppedoffCar* ), 5.38 (*sessionBranch* ), 5.16 (*carAvailableAt* ), 5.13 (*rcAssignedCar* ), and **??** (*rcDroppedOffBranch* ).
Activities that are defined by this rule are finished when:

$$rcAssignedCar; (I_{Car} \cap \overline{(carAvailableAt; carAvailableAt^{\smile})}); sessionDroppedoffCar^{\smile}; sessionBranch \vdash rcI \tag{5.44}$$

**Drop-off date is date of car return** When a car is returned to a branch, that date is the drop-off date.

We use definitions 5.41 (*sessionDroppedoffCar* ), 5.27 (*sessionToday* ), 5.16 (*carAvailableAt* ), 5.13 (*rcAssignedCar* ), and **??** (*rcDroppedOffDate* ).
Activities that are defined by this rule are finished when:

$$rcAssignedCar; (I_{Car} \cap \overline{(carAvailableAt; carAvailableAt^{\smile})}); sessionDroppedoffCar^{\smile}; sessionToday \vdash rcD \tag{5.45}$$

# Chapter 6

# Data structure

This chapter contains the result of the data analisys. It is structured as follows:

We start with the classification model, followed by a list of all relations, that are the foundation of the rest of the analisys. Finally, the logical and technical data model are discussed.

## 6.1 Classifications

No classifications have been defined

## 6.2 Fact types

This section enumerates the fact types, that have been used in the design of the datastructure. For each fact type its name, the source and target concept and the properties are documented.

***branchOf*** : ***Branch*** × ***CarRentalCompany*** Every branch is part of a car rental company.

**Properties**: UNI, TOT

***branchLocation*** : ***Branch*** × ***Location*** Every branch operates from a geographical location.

**Properties**: UNI, TOT

***carAvailableAt*** : ***Car*** × ***Branch*** It is known which cars are available at a branch.

**Properties**: UNI, TOT

***carType*** : ***Car*** × ***CarType*** Every car is of a specific type (brand, model).

**Properties**: UNI, TOT

***brand*** : ***CarType*** × ***Brand*** A cartype has a specific brand.

**Properties**: UNI, TOT

***model*** : ***CarType*** × ***Model*** A cartype has a specific model.

**Properties**: UNI, TOT

***rentalTariffPerDay*** : ***CarType*** × ***Amount*** All car types have a specified rental tariff (Euros/day).

**Properties**: UNI, TOT

***excessTariffPerDay*** : ***CarType*** × ***Amount*** All car types have a specified excess tariff (Euro/day)

**Properties**: UNI, TOT

***maxRentalDuration*** : ***CarRentalCompany*** × ***Integer*** Rental companies must have specified the maximum duration of a rental.

**Properties**: --

***dateIntervalIsWithinMaxRentalDuration*** : ***Date*** × ***Date*** the date interval (e.g.: [start date,end date]) is within the maximum rental duration as specified by EURent.

**Properties**: --

***contractedStartDate*** : ***RentalCase*** × ***Date*** Rental contracts may specify the actual (and contractual) start date of the rental.

**Properties**: UNI

***contractedEndDate*** : ***RentalCase*** × ***Date*** Rental contracts may specify the (contractual) end date of the rental.

**Properties**: UNI

***contractedCarType*** : ***RentalCase*** × ***CarType*** Rental contracts may specify the car type of the rental.

**Properties**: UNI

***contractedPickupBranch*** : ***RentalCase*** × ***Branch*** Rental contracts may specify the branch where the rental starts (i.e.: the car is picked up).

**Properties**: UNI

***contractedDropoffBranch*** : ***RentalCase*** × ***Branch*** Rental contracts may specify the branch where the rental supposedly ends (i.e.: the car is dropped off).

**Properties**: UNI

***rcRenter*** : ***RentalCase*** × ***Person*** The person who rents the car is called the renter.

**Properties**: UNI

***rcDriver*** : ***RentalCase*** × ***Person*** The person who is going to drive is called the driver.

**Properties**: UNI

***validDrivingLicense*** : ***Person*** × ***DrivingLicense*** A person may have a valid driving license.

**Properties**: --

***rcAssignedCar*** : ***RentalCase*** × ***Car*** Rental contracts specify the car that is (to be) issued to the driver.

**Properties**: UNI, SUR

***rentalHasBeenPromised*** : ***RentalCase*** × ***RentalCase*** Rental cases may have the property 'rental has been promised'

**Properties**: --

***rcUserRequestedQ*** : ***RentalCase*** × ***YesNoAnswer*** A user has requested a new rental to be started, and has provided all necessary information for that.

**Properties**: --

***rcBranchRequestedQ*** : ***RentalCase*** × ***YesNoAnswer*** A branch office has requested a new rental to be started, and has provided all necessary information for that.

**Properties**: --

***rentalHasBeenPickedUp*** : ***RentalCase*** × ***RentalCase*** Rental cases may have the property 'rental has been started'.

**Properties**: --

***rentalHasBeenStarted*** : ***RentalCase*** × ***RentalCase*** Rental cases may have the property 'rental has been started'.

**Properties**: --

***rcKeysHandedOverQ*** : ***RentalCase*** × ***YesNoAnswer*** Branches must register the handover of car keys (i.e. the responsibility for the car).

**Properties**: --

***rcCarHasBeenDroppedOff*** : ***RentalCase*** × ***RentalCase*** Rental cases may have the property 'car has been dropped off'.

**Properties**: --

***rcDroppedOffCar*** : ***RentalCase*** × ***Car*** Rental cases may specify the car that has actually been dropped off.

**Properties**: UNI

***rcDroppedOffDate*** : ***RentalCase*** × ***Date*** Rented cars are dropped off on specific dates.

**Properties**: UNI

***rcDroppedOffBranch*** : ***RentalCase*** × ***Branch*** Rental cases may specify the branch that the drop-off has taken place.

**Properties**: UNI

***paymentHasBeenRequested*** : ***RentalCase*** × ***RentalCase*** Rental cases may have the property 'payment has been requested'.

**Properties**: --

***rentalIsPaidQ*** : ***RentalCase*** × ***YesNoAnswer*** Payments for rental contracts need to be accepted (or declined).

**Properties**: --

***rentalHasBeenEnded*** : ***RentalCase*** × ***RentalCase*** Rental cases may have the property 'rental has been ended'.

**Properties**: --

***rcMaxRentalDuration*** : ***RentalCase*** × ***Integer*** Rental contracts may specify the maximum rental duration.

**Properties**: UNI

***sessionUser*** : ***SESSION*** × ***Person*** **Properties**: UNI

***sessionToday*** : ***SESSION*** × ***Date*** **Properties**: UNI

***sessionNewUserRC*** : ***SESSION*** × ***RentalCase*** **Properties**: INJ, UNI

***sessionBranch*** : ***SESSION*** × ***Branch*** **Properties**: UNI

***sessionNewBranchRC*** : ***SESSION*** × ***RentalCase*** **Properties**: UNI

***sessionDroppedoffCar*** : ***SESSION*** × ***Car*** **Properties**: UNI

## 6.3 Logical datamodel

The functional requirements have been translated into a data model. This model is shown by figure 6.1.

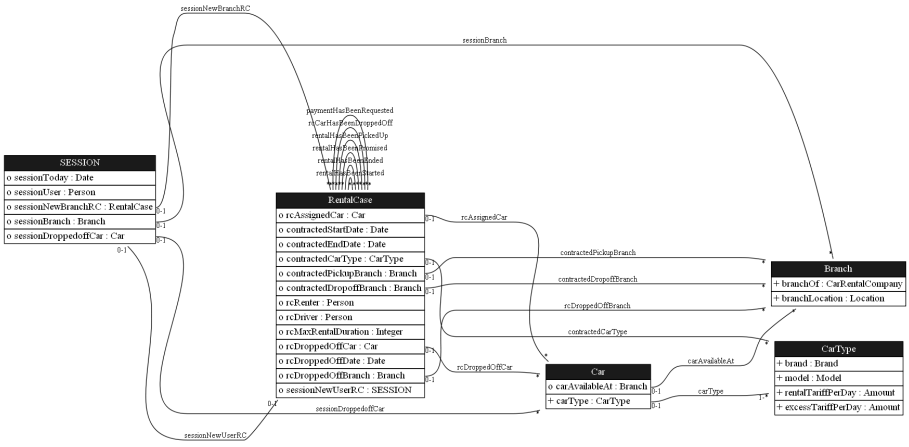


Figure 6.1: Logical data model of EURent

There are five entity types.The details of each entity type are described (in alfabetical order) in the following paragraphs:

### 6.3.1 Entity type: *Branch*

This entity type has the following attributes:

| Attribute | Type | |
|---|---|---|
| Id | Branch | Primary key |
| branchOf | CarRentalCompany | Mandatory |
| branchLocation | Location | Mandatory |

Branch has the following associations:

1. Every *Car* 'carAvailableAt' zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *Car*.
2. Every *RentalCase* 'contractedPickupBranch' zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *RentalCase*.
3. Every *RentalCase* 'contractedDropoffBranch' zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *RentalCase*.
4. Every *RentalCase* 'rcDroppedOffBranch' zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *RentalCase*.
5. Every *SESSION* 'sessionBranch' zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *SESSION*.

### 6.3.2 Entity type: *Car*

This entity type has the following attributes:

| Attribute | Type | |
|---|---|---|
| Id | Car | Primary key |
| carAvailableAt | Branch | Optional |
| carType | CarType | Mandatory |

Car has the following associations:

1. Every *Car* 'carAvailableAt' zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *Car*.
2. Every *Car* must 'carType' at least one *CarType*. For the other way round, for this relation holds that each *CarType* at most one *Car*.
3. Every *RentalCase* 'rcAssignedCar' zero or more *Car*. For the other way round, for this relation holds that each *Car* at most one *RentalCase*.
4. Every *RentalCase* 'rcDroppedOffCar' zero or more *Car*. For the other way round, for this relation holds that each *Car* at most one *RentalCase*.
5. Every *SESSION* 'sessionDroppedoffCar' zero or more *Car*. For the other way round, for this relation holds that each *Car* at most one *SESSION*.

### 6.3.3 Entity type: *CarType*

This entity type has the following attributes:

| Attribute | Type | |
|---|---|---|
| Id | CarType | Primary key |
| brand | Brand | Mandatory |
| model | Model | Mandatory |
| rentalTariffPerDay | Amount | Mandatory |
| excessTariffPerDay | Amount | Mandatory |

CarType has the following associations:

1. Every *Car* must 'carType' at least one *CarType*. For the other way round, for this relation holds that each *CarType* at most one *Car*.
2. Every *RentalCase* 'contractedCarType' zero or more *CarType*. For the other way round, for this relation holds that each *CarType* at most one *RentalCase*.

### 6.3.4 Entity type: *RentalCase*

This entity type has the following attributes:

| Attribute | Type | |
|---|---|---|
| Id | RentalCase | Primary key |
| rcAssignedCar | Car | Optional |
| contractedStartDate | Date | Optional |

| | | |
|---|---|---|
| contractedEndDate | Date | Optional |
| contractedCarType | CarType | Optional |
| contractedPickupBranch | Branch | Optional |
| contractedDropoffBranch | Branch | Optional |
| rcRenter | Person | Optional |
| rcDriver | Person | Optional |
| rcMaxRentalDuration | Integer | Optional |
| rcDroppedOffCar | Car | Optional |
| rcDroppedOffDate | Date | Optional |
| rcDroppedOffBranch | Branch | Optional |
| sessionNewUserRC | SESSION | Optional |

RentalCase has the following associations:

1. Every *RentalCase* 'rcAssignedCar' zero or more *Car*. For the other way round, for this relation holds that each *Car* at most one *RentalCase*.
2. Every *RentalCase* 'rentalHasBeenStarted' zero or more *RentalCase*. For the other way round, for this relation holds that each *RentalCase* zero or more *RentalCase*.
3. Every *RentalCase* 'rentalHasBeenEnded' zero or more *RentalCase*. For the other way round, for this relation holds that each *RentalCase* zero or more *RentalCase*.
4. Every *RentalCase* 'contractedCarType' zero or more *CarType*. For the other way round, for this relation holds that each *CarType* at most one *RentalCase*.
5. Every *RentalCase* 'contractedPickupBranch' zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *RentalCase*.
6. Every *RentalCase* 'contractedDropoffBranch' zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *RentalCase*.
7. Every *RentalCase* 'rentalHasBeenPromised' zero or more *RentalCase*. For the other way round, for this relation holds that each *RentalCase* zero or more *RentalCase*.
8. Every *RentalCase* 'rentalHasBeenPickedUp' zero or more *RentalCase*. For the other way round, for this relation holds that each *RentalCase* zero or more *RentalCase*.

9. Every *RentalCase* 'rcCarHasBeenDroppedOff' zero or more *RentalCase*. For the other way round, for this relation holds that each *RentalCase* zero or more *RentalCase*.

10. Every *RentalCase* 'rcDroppedOffCar' zero or more *Car*. For the other way round, for this relation holds that each *Car* at most one *RentalCase*.

11. Every *RentalCase* 'rcDroppedOffBranch' zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *RentalCase*.

12. Every *RentalCase* 'paymentHasBeenRequested' zero or more *RentalCase*. For the other way round, for this relation holds that each *RentalCase* zero or more *RentalCase*.

13. Every *SESSION* 'sessionNewUserRC' at most one *RentalCase*. For the other way round, for this relation holds that each *RentalCase* at most one *SESSION*.

14. Every *SESSION* 'sessionNewBranchRC' zero or more *RentalCase*. For the other way round, for this relation holds that each *RentalCase* at most one *SESSION*.

### 6.3.5 Entity type: *SESSION*

This entity type has the following attributes:

| Attribute | Type | |
|---|---|---|
| Id | SESSION | Primary key |
| sessionToday | Date | Optional |
| sessionUser | Person | Optional |
| sessionNewBranchRC | RentalCase | Optional |
| sessionBranch | Branch | Optional |
| sessionDroppedoffCar | Car | Optional |

SESSION has the following associations:

1. Every *SESSION* 'sessionNewUserRC' at most one *RentalCase*. For the other way round, for this relation holds that each *RentalCase* at most one *SESSION*.

2. Every *SESSION* 'sessionNewBranchRC' zero or more *RentalCase*. For the other way round, for this relation holds that each *RentalCase* at most one *SESSION*.

3. Every *SESSION* 'sessionBranch' zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *SESSION*.

4. Every *SESSION* 'sessionDroppedoffCar' zero or more *Car*. For the other way round, for this relation holds that each *Car* at most one *SESSION*.

## 6.4 Technical datamodel

The functional requirements have been translated into a technical data model. This model is shown by figure 6.2.

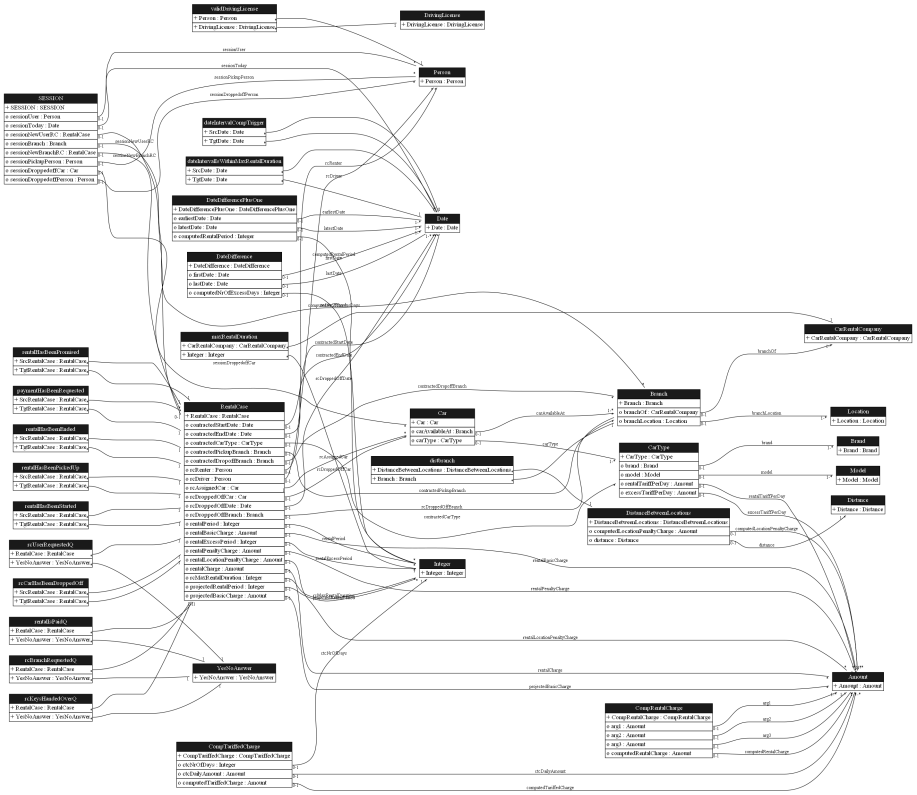

Figure 6.2: Technical data model of EURent

The technical datamodel consists of the following 36tables:

### 6.4.1 Table: Amount

This table has the following 1 fields:

- **Amount**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.

### 6.4.2 Table: Branch

This table has the following 3 fields:

- **Branch**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.
- **branchOf**
  This attribute implements the relation $Branch \xrightarrow{branchOf} CarRentalCompany$.
  `SQLVarchar 255`, Optional.
- **branchLocation**
  This attribute implements the relation $Branch \xrightarrow{branchLocation} Location$.
  `SQLVarchar 255`, Optional.

### 6.4.3 Table: Brand

This table has the following 1 fields:

- **Brand**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.

### 6.4.4 Table: Car

This table has the following 3 fields:

- **Car**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.
- **carAvailableAt**
  This attribute implements the relation $Car \xrightarrow{carAvailableAt} Branch$.
  `SQLVarchar 255`, Optional.
- **carType**
  This attribute implements the relation $Car \xrightarrow{carType} CarType$.
  `SQLVarchar 255`, Optional.

### 6.4.5 Table: CarRentalCompany

This table has the following 1 fields:

- **CarRentalCompany**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.

### 6.4.6 Table: CarType

This table has the following 5 fields:

- **CarType**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.
- **brand**
  This attribute implements the relation $CarType \xrightarrow{brand} Brand$.
  `SQLVarchar 255`, Optional.
- **model**
  This attribute implements the relation $CarType \xrightarrow{model} Model$.
  `SQLVarchar 255`, Optional.
- **rentalTariffPerDay**
  This attribute implements the relation $CarType \xrightarrow{rentalTariffPerDay} Amount$.
  `SQLVarchar 255`, Optional.
- **excessTariffPerDay**
  This attribute implements the relation $CarType \xrightarrow{excessTariffPerDay} Amount$.
  `SQLVarchar 255`, Optional.

### 6.4.7 Table: CompRentalCharge

This table has the following 5 fields:

- **CompRentalCharge**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.
- **arg1**
  This attribute implements the relation $CompRentalCharge \xrightarrow{arg1} Amount$.
  `SQLVarchar 255`, Optional.
- **arg2**
  This attribute implements the relation $CompRentalCharge \xrightarrow{arg2} Amount$.
  `SQLVarchar 255`, Optional.
- **arg3**
  This attribute implements the relation $CompRentalCharge \xrightarrow{arg3} Amount$.
  `SQLVarchar 255`, Optional.
- **computedRentalCharge**
  This attribute implements the relation $CompRentalCharge \xrightarrow{computedRentalCharge} Amount$.
  `SQLVarchar 255`, Optional.

### 6.4.8 Table: CompTariffedCharge

This table has the following 4 fields:

- **CompTariffedCharge**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.
- **ctcNrOfDays**
  This attribute implements the relation $CompTariffedCharge \xrightarrow{ctcNrOfDays} Integer$.
  `SQLVarchar 255`, Optional.
- **ctcDailyAmount**
  This attribute implements the relation $CompTariffedCharge \xrightarrow{ctcDailyAmount} Amount$.
  `SQLVarchar 255`, Optional.
- **computedTariffedCharge**
  This attribute implements the relation $CompTariffedCharge \xrightarrow{computedTariffedCharge} Amount$.
  `SQLVarchar 255`, Optional.

### 6.4.9 Table: Date

This table has the following 1 fields:

- **Date**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.

### 6.4.10 Table: DateDifference

This table has the following 4 fields:

- **DateDifference**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.
- **firstDate**
  This attribute implements the relation $DateDifference \xrightarrow{firstDate} Date$.
  `SQLVarchar 255`, Optional.
- **lastDate**
  This attribute implements the relation $DateDifference \xrightarrow{lastDate} Date$.
  `SQLVarchar 255`, Optional.
- **computedNrOfExcessDays**
  This attribute implements the relation $DateDifference \xrightarrow{computedNrOfExcessDays} Integer$.
  `SQLVarchar 255`, Optional.

### 6.4.11 Table: DateDifferencePlusOne

This table has the following 4 fields:

- **DateDifferencePlusOne**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.
- **earliestDate**
  This attribute implements the relation $DateDifferencePlusOne \xrightarrow{earliestDate} Date$.
  `SQLVarchar 255`, Optional.
- **latestDate**
  This attribute implements the relation $DateDifferencePlusOne \xrightarrow{latestDate} Date$.
  `SQLVarchar 255`, Optional.
- **computedRentalPeriod**
  This attribute implements the relation $DateDifferencePlusOne \xrightarrow{computedRentalPeriod} Integer$.
  `SQLVarchar 255`, Optional.

### 6.4.12 Table: Distance

This table has the following 1 fields:

- **Distance**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.

### 6.4.13 Table: DistanceBetweenLocations

This table has the following 3 fields:

- **DistanceBetweenLocations**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.
- **computedLocationPenaltyCharge**
  This attribute implements the relation $DistanceBetweenLocations \xrightarrow{computedLocationPenaltyCharge} Amou$
  `SQLVarchar 255`, Optional.
- **distance**
  This attribute implements the relation $DistanceBetweenLocations \xrightarrow{distance} Distance$.
  `SQLVarchar 255`, Optional.

### 6.4.14 Table: DrivingLicense

This table has the following 1 fields:

- **DrivingLicense**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.

### 6.4.15 Table: Integer

This table has the following 1 fields:

- **Integer**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.

### 6.4.16 Table: Location

This table has the following 1 fields:

- **Location**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.

### 6.4.17 Table: Model

This table has the following 1 fields:

- **Model**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.

### 6.4.18 Table: Person

This table has the following 1 fields:

- **Person**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.

### 6.4.19 Table: RentalCase

This table has the following 21 fields:

- **RentalCase**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.
- **contractedStartDate**
  This attribute implements the relation $RentalCase \xrightarrow{contractedStartDate} Date.$
  `SQLVarchar 255`, Optional.
- **contractedEndDate**
  This attribute implements the relation $RentalCase \xrightarrow{contractedEndDate} Date.$
  `SQLVarchar 255`, Optional.
- **contractedCarType**
  This attribute implements the relation $RentalCase \xrightarrow{contractedCarType} CarType.$
  `SQLVarchar 255`, Optional.
- **contractedPickupBranch**
  This attribute implements the relation $RentalCase \xrightarrow{contractedPickupBranch} Branch.$
  `SQLVarchar 255`, Optional.
- **contractedDropoffBranch**
  This attribute implements the relation $RentalCase \xrightarrow{contractedDropoffBranch} Branch.$
  `SQLVarchar 255`, Optional.
- **rcRenter**
  This attribute implements the relation $RentalCase \xrightarrow{rcRenter} Person.$
  `SQLVarchar 255`, Optional.
- **rcDriver**
  This attribute implements the relation $RentalCase \xrightarrow{rcDriver} Person.$
  `SQLVarchar 255`, Optional.
- **rcAssignedCar**
  This attribute implements the relation $RentalCase \xrightarrow{rcAssignedCar} Car.$
  `SQLVarchar 255`, Optional.
- **rcDroppedOffCar**
  This attribute implements the relation $RentalCase \xrightarrow{rcDroppedOffCar} Car.$
  `SQLVarchar 255`, Optional.
- **rcDroppedOffDate**
  This attribute implements the relation $RentalCase \xrightarrow{rcDroppedOffDate} Date.$
  `SQLVarchar 255`, Optional.
- **rcDroppedOffBranch**
  This attribute implements the relation $RentalCase \xrightarrow{rcDroppedOffBranch} Branch.$
  `SQLVarchar 255`, Optional.

- **rentalPeriod**
  This attribute implements the relation $RentalCase \xrightarrow{rentalPeriod} Integer$.
  `SQLVarchar 255`, Optional.

- **rentalBasicCharge**
  This attribute implements the relation $RentalCase \xrightarrow{rentalBasicCharge} Amount$.
  `SQLVarchar 255`, Optional.

- **rentalExcessPeriod**
  This attribute implements the relation $RentalCase \xrightarrow{rentalExcessPeriod} Integer$.
  `SQLVarchar 255`, Optional.

- **rentalPenaltyCharge**
  This attribute implements the relation $RentalCase \xrightarrow{rentalPenaltyCharge} Amount$.
  `SQLVarchar 255`, Optional.

- **rentalLocationPenaltyCharge**
  This attribute implements the relation $RentalCase \xrightarrow{rentalLocationPenaltyCharge} Amount$.
  `SQLVarchar 255`, Optional.

- **rentalCharge**
  This attribute implements the relation $RentalCase \xrightarrow{rentalCharge} Amount$.
  `SQLVarchar 255`, Optional.

- **rcMaxRentalDuration**
  This attribute implements the relation $RentalCase \xrightarrow{rcMaxRentalDuration} Integer$.
  `SQLVarchar 255`, Optional.

- **projectedRentalPeriod**
  This attribute implements the relation $RentalCase \xrightarrow{projectedRentalPeriod} Integer$.
  `SQLVarchar 255`, Optional.

- **projectedBasicCharge**
  This attribute implements the relation $RentalCase \xrightarrow{projectedBasicCharge} Amount$.
  `SQLVarchar 255`, Optional.

### 6.4.20 Table: SESSION

This table has the following 9 fields:

- **SESSION**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.

- **sessionUser**
  This attribute implements the relation $SESSION \xrightarrow{sessionUser} Person$.
  `SQLVarchar 255`, Optional.

- **sessionToday**
  This attribute implements the relation $SESSION \xrightarrow{sessionToday} Date$.
  `SQLVarchar 255`, Optional.

- **sessionNewUserRC**
  This attribute implements the relation $SESSION \xrightarrow{sessionNewUserRC} RentalCase.$
  `SQLVarchar 255`, Optional, Unique.

- **sessionBranch**
  This attribute implements the relation $SESSION \xrightarrow{sessionBranch} Branch.$
  `SQLVarchar 255`, Optional.

- **sessionNewBranchRC**
  This attribute implements the relation $SESSION \xrightarrow{sessionNewBranchRC} RentalCase.$
  `SQLVarchar 255`, Optional.

- **sessionPickupPerson**
  This attribute implements the relation $SESSION \xrightarrow{sessionPickupPerson} Person.$
  `SQLVarchar 255`, Optional.

- **sessionDroppedoffCar**
  This attribute implements the relation $SESSION \xrightarrow{sessionDroppedoffCar} Car.$
  `SQLVarchar 255`, Optional.

- **sessionDroppedoffPerson**
  This attribute implements the relation $SESSION \xrightarrow{sessionDroppedoffPerson} Person.$
  `SQLVarchar 255`, Optional.

### 6.4.21 Table: YesNoAnswer

This table has the following 1 fields:

- **YesNoAnswer**
  This attribute is the primary key.
  `SQLVarchar 255`, Mandatory, Unique.

### 6.4.22 Table: dateIntervalCompTrigger

This is a link-table, implementing the relation $Date \xrightarrow{dateIntervalCompTrigger} Date.$
It contains the following columns:

- **SrcDate**
  This attribute is a foreign key to Date
  `SQLVarchar 255`, Mandatory.

- **TgtDate**
  This attribute implements the relation $Date \xrightarrow{dateIntervalCompTrigger} Date.$
  `SQLVarchar 255`, Mandatory.

### 6.4.23 Table: dateIntervalIsWithinMaxRentalDuration

This is a link-table, implementing the relation $Date \xrightarrow{dateIntervalIsWithinMaxRentalDuration} Date$.
It contains the following columns:

- **SrcDate**
  This attribute is a foreign key to Date
  `SQLVarchar 255`, Mandatory.
- **TgtDate**
  This attribute implements the relation $Date \xrightarrow{dateIntervalIsWithinMaxRentalDuration} Date$.
  `SQLVarchar 255`, Mandatory.

### 6.4.24 Table: distbranch

This is a link-table, implementing the relation $DistanceBetweenLocations \xrightarrow{distbranch} Branch$.
It contains the following columns:

- **DistanceBetweenLocations**
  This attribute is the primary key.
  `SQLVarchar 255`, Optional.
- **Branch**
  This attribute implements the relation $DistanceBetweenLocations \xrightarrow{distbranch} Branch$.
  `SQLVarchar 255`, Optional.

### 6.4.25 Table: maxRentalDuration

This is a link-table, implementing the relation $CarRentalCompany \xrightarrow{maxRentalDuration} Integer$.
It contains the following columns:

- **CarRentalCompany**
  This attribute is a foreign key to CarRentalCompany
  `SQLVarchar 255`, Mandatory.
- **Integer**
  This attribute implements the relation $CarRentalCompany \xrightarrow{maxRentalDuration} Integer$.
  `SQLVarchar 255`, Mandatory.

### 6.4.26 Table: paymentHasBeenRequested

This is a link-table, implementing the relation $RentalCase \xrightarrow{paymentHasBeenRequested} RentalCase$.
It contains the following columns:

- **SrcRentalCase**
  This attribute is a foreign key to RentalCase
  `SQLVarchar 255`, Mandatory.

- **TgtRentalCase**
  This attribute implements the relation $RentalCase \xrightarrow{paymentHasBeenRequested} RentalCase$.
  `SQLVarchar 255`, Mandatory.

### 6.4.27 Table: rcBranchRequestedQ

This is a link-table, implementing the relation $RentalCase \xrightarrow{rcBranchRequestedQ} YesNoAnswer$.
It contains the following columns:

- **RentalCase**
  This attribute is a foreign key to RentalCase
  `SQLVarchar 255`, Mandatory.
- **YesNoAnswer**
  This attribute implements the relation $RentalCase \xrightarrow{rcBranchRequestedQ} YesNoAnswer$.
  `SQLVarchar 255`, Mandatory.

### 6.4.28 Table: rcCarHasBeenDroppedOff

This is a link-table, implementing the relation $RentalCase \xrightarrow{rcCarHasBeenDroppedOff} RentalCase$.
It contains the following columns:

- **SrcRentalCase**
  This attribute is a foreign key to RentalCase
  `SQLVarchar 255`, Mandatory.
- **TgtRentalCase**
  This attribute implements the relation $RentalCase \xrightarrow{rcCarHasBeenDroppedOff} RentalCase$.
  `SQLVarchar 255`, Mandatory.

### 6.4.29 Table: rcKeysHandedOverQ

This is a link-table, implementing the relation $RentalCase \xrightarrow{rcKeysHandedOverQ} YesNoAnswer$.
It contains the following columns:

- **RentalCase**
  This attribute is a foreign key to RentalCase
  `SQLVarchar 255`, Mandatory.
- **YesNoAnswer**
  This attribute implements the relation $RentalCase \xrightarrow{rcKeysHandedOverQ} YesNoAnswer$.
  `SQLVarchar 255`, Mandatory.

### 6.4.30 Table: rcUserRequestedQ

This is a link-table, implementing the relation $RentalCase \xrightarrow{rcUserRequestedQ} YesNoAnswer$.
It contains the following columns:

- **RentalCase**
  This attribute is a foreign key to RentalCase
  `SQLVarchar 255`, Mandatory.
- **YesNoAnswer**
  This attribute implements the relation $RentalCase \xrightarrow{rcUserRequestedQ} YesNoAnswer$.
  `SQLVarchar 255`, Mandatory.

### 6.4.31 Table: rentalHasBeenEnded

This is a link-table, implementing the relation $RentalCase \xrightarrow{rentalHasBeenEnded} RentalCase$.
It contains the following columns:

- **SrcRentalCase**
  This attribute is a foreign key to RentalCase
  `SQLVarchar 255`, Mandatory.
- **TgtRentalCase**
  This attribute implements the relation $RentalCase \xrightarrow{rentalHasBeenEnded} RentalCase$.
  `SQLVarchar 255`, Mandatory.

### 6.4.32 Table: rentalHasBeenPickedUp

This is a link-table, implementing the relation $RentalCase \xrightarrow{rentalHasBeenPickedUp} RentalCase$.
It contains the following columns:

- **SrcRentalCase**
  This attribute is a foreign key to RentalCase
  `SQLVarchar 255`, Mandatory.
- **TgtRentalCase**
  This attribute implements the relation $RentalCase \xrightarrow{rentalHasBeenPickedUp} RentalCase$.
  `SQLVarchar 255`, Mandatory.

### 6.4.33 Table: rentalHasBeenPromised

This is a link-table, implementing the relation $RentalCase \xrightarrow{rentalHasBeenPromised} RentalCase$.
It contains the following columns:

- **SrcRentalCase**
  This attribute is a foreign key to RentalCase
  `SQLVarchar 255`, Mandatory.

- **TgtRentalCase**
  This attribute implements the relation $RentalCase \xrightarrow{rentalHasBeenPromised} RentalCase$.
  `SQLVarchar 255`, Mandatory.

### 6.4.34 Table: rentalHasBeenStarted

This is a link-table, implementing the relation $RentalCase \xrightarrow{rentalHasBeenStarted} RentalCase$.
It contains the following columns:

- **SrcRentalCase**
  This attribute is a foreign key to RentalCase
  `SQLVarchar 255`, Mandatory.
- **TgtRentalCase**
  This attribute implements the relation $RentalCase \xrightarrow{rentalHasBeenStarted} RentalCase$.
  `SQLVarchar 255`, Mandatory.

### 6.4.35 Table: rentalIsPaidQ

This is a link-table, implementing the relation $RentalCase \xrightarrow{rentalIsPaidQ} YesNoAnswer$.
It contains the following columns:

- **RentalCase**
  This attribute is a foreign key to RentalCase
  `SQLVarchar 255`, Mandatory.
- **YesNoAnswer**
  This attribute implements the relation $RentalCase \xrightarrow{rentalIsPaidQ} YesNoAnswer$.
  `SQLVarchar 255`, Mandatory.

### 6.4.36 Table: validDrivingLicense

This is a link-table, implementing the relation $Person \xrightarrow{validDrivingLicense} DrivingLicense$.
It contains the following columns:

- **Person**
  This attribute is a foreign key to Person
  `SQLVarchar 255`, Mandatory.
- **DrivingLicense**
  This attribute implements the relation $Person \xrightarrow{validDrivingLicense} DrivingLicense$.
  `SQLVarchar 255`, Mandatory.

# Chapter 7

# ECA rules (Flash points)

This chapter lists the ECA rules.

ECA rules:
temporarily not documented

```
ON INSERT Delta IN branchOf[Branch*CarRentalCompany] EXECUTE    -- (ECA rule 1)
BLOCK
(CANNOT CHANGE 'EU-Rent'[CarRentalCompany] FROM EURent branches)
```

------ Derivation ----->

```
BLOCK
(CANNOT CHANGE 'EU-Rent'[CarRentalCompany] FROM EURent branches)
```

<------End Derivation --

```
ON DELETE Delta FROM branchOf[Branch*CarRentalCompany] EXECUTE    -- (ECA rule 2
ONE OF DELETE FROM branchOf[Branch*CarRentalCompany]
        SELECTFROM -((branchOf /\ -Delta);'EU-Rent'[CarRentalCompany]) /\ branch

       (TO MAINTAIN  -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURe
       DELETE FROM branchOf[Branch*CarRentalCompany]
        SELECTFROM ((-branchOf /\ branchOf;'EU-Rent'[CarRentalCompany]) \/ (Delt

       (TO MAINTAIN  -(branchOf;'EU-Rent'[CarRentalCompany]) \/ branchOf FROM EU
       DELETE FROM Isn{detyp=Branch}
        SELECTFROM -((branchOf /\ -Delta);'EU-Rent'[CarRentalCompany];(branchOf

       (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branchOf
```

```
                DELETE FROM Isn{detyp=Branch}
                 SELECTFROM -((branchOf /\ -Delta);(branchOf /\ -Delta)~) /\ I[Branch]

                (TO MAINTAIN  -I[Branch] \/ branchOf;I[CarRentalCompany];branchOf~ FROM U
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branc
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branc
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branc
          (MAINTAINING -(branchOf~;branchOf) \/ I[CarRentalCompany] FROM UNI branchOf::Bra
          (MAINTAINING -I[Branch] \/ branchOf;branchOf~ FROM TOT branchOf::Branch*CarRenta
```

------ Derivation ----->

```
     ONE OF DELETE FROM branchOf[Branch*CarRentalCompany]
             SELECTFROM -((branchOf /\ -Delta);'EU-Rent'[CarRentalCompany]) /\ branchOf

            (TO MAINTAIN  -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent br
            DELETE FROM branchOf[Branch*CarRentalCompany]
             SELECTFROM ((-branchOf /\ branchOf;'EU-Rent'[CarRentalCompany]) \/ (Delta /\

            (TO MAINTAIN  -(branchOf;'EU-Rent'[CarRentalCompany]) \/ branchOf FROM EURent
            DELETE FROM Isn{detyp=Branch}
             SELECTFROM -((branchOf /\ -Delta);'EU-Rent'[CarRentalCompany];(branchOf /\ -D

            (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branchOf~ FRO
            DELETE FROM Isn{detyp=Branch}
             SELECTFROM -((branchOf /\ -Delta);(branchOf /\ -Delta)~) /\ I[Branch]

            (TO MAINTAIN  -I[Branch] \/ branchOf;I[CarRentalCompany];branchOf~ FROM UNI br
       (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
       (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
       (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
       (MAINTAINING -(branchOf~;branchOf) \/ I[CarRentalCompany] FROM UNI branchOf::Branch*C
       (MAINTAINING -I[Branch] \/ branchOf;branchOf~ FROM TOT branchOf::Branch*CarRentalComp
```

<------End Derivation --

```
          ON INSERT Delta IN branchLocation[Branch*Location] EXECUTE    -- (ECA rule 3)
          ONE OF INSERT INTO Isn{detyp=Location}
                  SELECTFROM ((branchLocation \/ Delta)~;branchLocation /\ -I[Location]) \

                 (TO MAINTAIN  -(branchLocation~;branchLocation) \/ I[Location] FROM UNI b
                 INSERT INTO Isn{detyp=Branch}
                  SELECTFROM (Delta;Delta~ /\ I[Branch]) - I[Branch]

                 INSERT INTO Isn{detyp=Location}
                  SELECTFROM (Delta~;Delta /\ I[Location]) - I[Location]
```

```
        (MAINTAINING -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLoc
        (MAINTAINING -I[Branch] \/ branchLocation;branchLocation~ FROM TOT branchLocatio
```

------ Derivation ----->

```
    ONE OF INSERT INTO Isn{detyp=Location}
            SELECTFROM ((branchLocation \/ Delta)~;branchLocation /\ -I[Location]) \/ ((b

           (TO MAINTAIN  -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branch
           INSERT INTO Isn{detyp=Branch}
            SELECTFROM (Delta;Delta~ /\ I[Branch]) - I[Branch]

           INSERT INTO Isn{detyp=Location}
            SELECTFROM (Delta~;Delta /\ I[Location]) - I[Location]

    (MAINTAINING -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLocation
    (MAINTAINING -I[Branch] \/ branchLocation;branchLocation~ FROM TOT branchLocation::Br
```

<------End Derivation --

```
        ON DELETE Delta FROM branchLocation[Branch*Location] EXECUTE    -- (ECA rule 4)
        DELETE FROM Isn{detyp=Branch}
         SELECTFROM -((branchLocation /\ -Delta);(branchLocation /\ -Delta)~) /\ I[Branc

        (TO MAINTAIN  -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLo
        (TO MAINTAIN  -I[Branch] \/ branchLocation;branchLocation~ FROM TOT branchLocati
```

------ Derivation ----->

```
    DELETE FROM Isn{detyp=Branch}
     SELECTFROM -((branchLocation /\ -Delta);(branchLocation /\ -Delta)~) /\ I[Branch]

    (TO MAINTAIN  -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLocatio
    (TO MAINTAIN  -I[Branch] \/ branchLocation;branchLocation~ FROM TOT branchLocation::B
```

<------End Derivation --

```
        ON INSERT Delta IN carAvailableAt[Car*Branch] EXECUTE    -- (ECA rule 5)
        ALL of INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
                SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;(carAvailableAt \/ I

               (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
               INSERT INTO Isn{detyp=Branch}
                SELECTFROM (rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableA
```

```
                (TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailab
                (TO MAINTAIN  -(carAvailableAt~;carAvailableAt) \/ I[Branch] FROM UNI car
                INSERT INTO rcDroppedOffDate[RentalCase*Date]
                 SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;(carAvailableAt \/

                (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
                INSERT INTO Isn{detyp=Date}
                 SELECTFROM rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;(

                (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailable
                INSERT INTO Isn{detyp=Car}
                 SELECTFROM (Delta;Delta~ /\ I[Car]) - I[Car]

          (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
          (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
          (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
          (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
          (MAINTAINING -(carAvailableAt~;carAvailableAt) \/ I[Branch] FROM UNI carAvailabl
```

------ Derivation ----->

```
     ALL of INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
             SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;(carAvailableAt \/ Delta

            (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se
            INSERT INTO Isn{detyp=Branch}
             SELECTFROM (rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;(ca

            (TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;
            (TO MAINTAIN  -(carAvailableAt~;carAvailableAt) \/ I[Branch] FROM UNI carAvail
            INSERT INTO rcDroppedOffDate[RentalCase*Date]
             SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;(carAvailableAt \/ Delta

            (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se
            INSERT INTO Isn{detyp=Date}
             SELECTFROM rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;(carAv

            (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;ca
            INSERT INTO Isn{detyp=Car}
             SELECTFROM (Delta;Delta~ /\ I[Car]) - I[Car]

     (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
     (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
     (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
     (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
     (MAINTAINING -(carAvailableAt~;carAvailableAt) \/ I[Branch] FROM UNI carAvailableAt::
```

<------End Derivation --

```
ON DELETE Delta FROM carAvailableAt[Car*Branch] EXECUTE    -- (ECA rule 6)
ALL of DELETE FROM Isn{detyp=Car}
        SELECTFROM -((carAvailableAt /\ -Delta);(carAvailableAt /\ -Delta)~) /\ -

       (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~
       ONE OF DELETE FROM contractedPickupBranch[RentalCase*Branch]
               SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised /\ -(rcKeysHand

              (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM contractedPickupBranch;(-((carAvailableAt /\ -Delta)~;(

              (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
              DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM contractedPickupBranch;(-((carAvailableAt /\ -Delta)~;(

              (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
              ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM contractedPickupBranch;(-
                     THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                           SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                          (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase]
                     PICK a,b FROM rcKeysHandedOverQ~;contractedPickupBranch;(-(
                     THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                    THEN BLOCK
                                         (CANNOT CHANGE 'Yes'[YesNoAnswer] FR
                                    PICK a,b FROM 'Yes'[YesNoAnswer];('a'[Yes
                                    THEN INSERT INTO rcKeysHandedOverQ[Rental
                                          SELECTFROM 'b'[RentalCase]*'a'[Yes

                                               (TO MAINTAIN  -(contractedPickupBra
                                 (MAINTAINING -(contractedPickupBranch~;(I[Rental
                                 NEW x:YesNoAnswer;
                                   ALL of BLOCK
                                          (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM
                                          INSERT INTO rcKeysHandedOverQ[RentalCas
                                           SELECTFROM 'b'[RentalCase]*'a'[YesNoA

                                          (TO MAINTAIN  -(contractedPickupBranch
                                     (MAINTAINING -(contractedPickupBranch~;(I[Ren
                                 (MAINTAINING -(contractedPickupBranch~;(I[Rental
                           (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /
              (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasB
              NEW x:YesNoAnswer;
                ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                        SELECTFROM (contractedPickupBranch;(-((carAvailableAt /\

                       (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\
                       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswe
```

```
                                        THEN BLOCK
                                             (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Rentab
                                        PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]
                                        THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesN
                                              SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                                             (TO MAINTAIN  -(contractedPickupBranch~;(I[Re
                                   (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\
                             (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalH
                          (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasB
                          DELETE FROM contractedCarType[RentalCase*CarType]
                           SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised~ /\ -(rcKeysHa

                          (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHa
                 (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPro
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rentall
        (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /
```

------ Derivation ----->

```
ALL of DELETE FROM Isn{detyp=Car}
        SELECTFROM -((carAvailableAt /\ -Delta);(carAvailableAt /\ -Delta)~) /\ -(rcA

       (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(ren
       ONE OF DELETE FROM contractedPickupBranch[RentalCase*Branch]
               SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised /\ -(rcKeysHandedOv

              (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeen
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM contractedPickupBranch;(-((carAvailableAt /\ -Delta)~;carTy

              (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeen
              DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM contractedPickupBranch;(-((carAvailableAt /\ -Delta)~;carTy

              (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeen
              ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM contractedPickupBranch;(-((ca
                     THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                           SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                          (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ r
                     PICK a,b FROM rcKeysHandedOverQ~;contractedPickupBranch;(-((carA
                     THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNo
                                        THEN BLOCK
                                             (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM R
                                        PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAn
                                        THEN INSERT INTO rcKeysHandedOverQ[RentalCase
                                              SELECTFROM 'b'[RentalCase]*'a'[YesNoAns
```

```
                                                    (TO MAINTAIN  -(contractedPickupBranch~;
                                              (MAINTAINING -(contractedPickupBranch~;(I[RentalCase
                                              NEW x:YesNoAnswer;
                                                ALL of BLOCK
                                                       (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Rent
                                                       INSERT INTO rcKeysHandedOverQ[RentalCase*Ye
                                                        SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer

                                                       (TO MAINTAIN  -(contractedPickupBranch~;(I[
                                                (MAINTAINING -(contractedPickupBranch~;(I[RentalCa
                                              (MAINTAINING -(contractedPickupBranch~;(I[RentalCase
                                    (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ re
                          (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
                          NEW x:YesNoAnswer;
                            ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                                    SELECTFROM (contractedPickupBranch;(-((carAvailableAt /\ -Del

                                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rent
                                   ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*(c
                                          THEN BLOCK
                                               (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Rentable ca
                                          PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*(con
                                          THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnsw
                                                SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                                               (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalC
                                   (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ renta
                            (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBee
                          (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
                          DELETE FROM contractedCarType[RentalCase*CarType]
                           SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised~ /\ -(rcKeysHandedO

                          (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeen
                 (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
          (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rentalHasBe
          (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\ -(r
```

<------End Derivation --

```
     ON INSERT Delta IN carType[Car*CarType] EXECUTE    -- (ECA rule 7)
     ONE OF INSERT INTO Isn{detyp=CarType}
             SELECTFROM (contractedCarType~;rcAssignedCar;carType /\ -I[CarType]) \/

            (TO MAINTAIN  -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] F
            INSERT INTO contractedCarType[RentalCase*CarType]
             SELECTFROM (rcAssignedCar;carType /\ -contractedCarType) \/ (rcAssignedC
```

```
                (TO MAINTAIN  -(rcAssignedCar;carType) \/ contractedCarType FROM Rented ca
                INSERT INTO rentalBasicCharge[RentalCase*Amount]
                 SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTa

                (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rental
                INSERT INTO Isn{detyp=Amount}
                 SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCa

                (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssigne
                INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
                 SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;exc

                (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
                INSERT INTO Isn{detyp=Amount}
                 SELECTFROM (rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAs

                (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ r
                INSERT INTO Isn{detyp=CarType}
                 SELECTFROM ((carType \/ Delta)~;carType /\ -I[CarType]) \/ ((carType \/ I

                (TO MAINTAIN  -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*Car
                INSERT INTO Isn{detyp=Car}
                 SELECTFROM (Delta;Delta~ /\ I[Car]) - I[Car]

                INSERT INTO Isn{detyp=CarType}
                 SELECTFROM (Delta~;Delta /\ I[CarType]) - I[CarType]

        (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type in
        (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type in
        (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type in
        (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPe
        (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPe
        (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTa
        (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTa
        (MAINTAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
        (MAINTAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)
```

------ Derivation ----->

```
    ONE OF INSERT INTO Isn{detyp=CarType}
            SELECTFROM (contractedCarType~;rcAssignedCar;carType /\ -I[CarType]) \/ (cont

           (TO MAINTAIN  -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] FROM R
           INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM (rcAssignedCar;carType /\ -contractedCarType) \/ (rcAssignedCar;De

           (TO MAINTAIN  -(rcAssignedCar;carType) \/ contractedCarType FROM Rented car ty
           INSERT INTO rentalBasicCharge[RentalCase*Amount]
```

```
 SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP

(TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTari
INSERT INTO Isn{detyp=Amount}
 SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;ca

(TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT

(TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;exce
INSERT INTO Isn{detyp=Amount}
 SELECTFROM (rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAssign

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
INSERT INTO Isn{detyp=CarType}
 SELECTFROM ((carType \/ Delta)~;carType /\ -I[CarType]) \/ ((carType \/ Delta

(TO MAINTAIN  -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
INSERT INTO Isn{detyp=Car}
 SELECTFROM (Delta;Delta~ /\ I[Car]) - I[Car]

INSERT INTO Isn{detyp=CarType}
 SELECTFROM (Delta~;Delta /\ I[CarType]) - I[CarType]

(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
(MAINTAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)
```

<------End Derivation --

```
ON DELETE Delta FROM carType[Car*CarType] EXECUTE    -- (ECA rule 8)
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM -(contractedCarType;(carType /\ -Delta)~) /\ rcAssignedCar

       (TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FROM Rented ca
       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM rcAssignedCar;(-(carType /\ -Delta) /\ rcAssignedCar~;contrac

       (TO MAINTAIN  -(contractedCarType~;rcAssignedCar) \/ carType~ FROM Rented
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM contractedCarType;(-(carType /\ -Delta)~ /\ contractedCarType
```

```
(TO MAINTAIN  -(contractedCarType~;rcAssignedCar) \/ carType~ FROM Rented
DELETE FROM contractedPickupBranch[RentalCase*Branch]
 SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised /\ -(rcKeysHandedOver

(TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPr
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM contractedPickupBranch;(-(carAvailableAt~;(carType /\ -Delta)

(TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPr
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
 SELECTFROM contractedPickupBranch;(-(carAvailableAt~;(carType /\ -Delta)

(TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPr
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM contractedPickupBranch;(-(carAv
       THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
             SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ ren
       PICK a,b FROM rcKeysHandedOverQ~;contractedPickupBranch;(-(carAvai
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAn
                           THEN BLOCK
                                (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Ren
                           PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnsw
                           THEN INSERT INTO rcKeysHandedOverQ[RentalCase*Y
                                 SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswe

                                (TO MAINTAIN  -(contractedPickupBranch~;(I
                     (MAINTAINING -(contractedPickupBranch~;(I[RentalCase]
                     NEW x:YesNoAnswer;
                       ALL of BLOCK
                              (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Rentab
                              INSERT INTO rcKeysHandedOverQ[RentalCase*YesN
                               SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]*

                              (TO MAINTAIN  -(contractedPickupBranch~;(I[Re
                       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase
                     (MAINTAINING -(contractedPickupBranch~;(I[RentalCase]
              (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ renta
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPro
NEW x:YesNoAnswer;
  ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
          SELECTFROM (contractedPickupBranch;(-(carAvailableAt~;(carType

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentall
         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*(con
                THEN BLOCK
                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Rentable cars
                PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*(contr
                THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer
```

```
                                SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                              (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCas
                     (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalH
                (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
              (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPro
              DELETE FROM contractedCarType[RentalCase*CarType]
               SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised~ /\ -(rcKeysHandedOve

              (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPr
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;(carType /\ -D

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
              DELETE FROM rentalPeriod[RentalCase*Integer]
               SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;(carType /\ -D

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
              DELETE FROM rentalPeriod[RentalCase*Integer]
               SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;(carType /\ -De

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
              DELETE FROM rentalExcessPeriod[RentalCase*Integer]
               SELECTFROM (-((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;(carType

              (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
              DELETE FROM rentalExcessPeriod[RentalCase*Integer]
               SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalExcess

              (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;(carType

              (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
              DELETE FROM Isn{detyp=Car}
               SELECTFROM -((carType /\ -Delta);(carType /\ -Delta)~) /\ I[Car]

              (TO MAINTAIN  -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::Ca
       (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
       (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /
       (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[R
```

```
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rent
(MAINTAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
(MAINTAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)
```

------ Derivation ----->

```
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM -(contractedCarType;(carType /\ -Delta)~) /\ rcAssignedCar

       (TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car typ
       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM rcAssignedCar;(-(carType /\ -Delta) /\ rcAssignedCar~;contractedCa

       (TO MAINTAIN  -(contractedCarType~;rcAssignedCar) \/ carType~ FROM Rented car
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM contractedCarType;(-(carType /\ -Delta)~ /\ contractedCarType~;rcA

       (TO MAINTAIN  -(contractedCarType~;rcAssignedCar) \/ carType~ FROM Rented car
       DELETE FROM contractedPickupBranch[RentalCase*Branch]
        SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised /\ -(rcKeysHandedOverQ;'Ye

       (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromise
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM contractedPickupBranch;(-(carAvailableAt~;(carType /\ -Delta)) /\

       (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromise
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM contractedPickupBranch;(-(carAvailableAt~;(carType /\ -Delta)) /\

       (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromise
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM contractedPickupBranch;(-(carAvailab
              THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                    SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHa
              PICK a,b FROM rcKeysHandedOverQ~;contractedPickupBranch;(-(carAvailable
              THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAnswer]
                                   THEN BLOCK
                                        (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Rentable
                                   PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnswer]*'
                                   THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoA
                                         SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                                        (TO MAINTAIN  -(contractedPickupBranch~;(I[Rent
                              (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ re
                              NEW x:YesNoAnswer;
                                ALL of BLOCK
                                       (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Rentable ca
```

```
                                    INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnsw
                                     SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]*'x'[Y

                                    (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalC
                              (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\
                           (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ re
                     (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
NEW x:YesNoAnswer;
  ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
          SELECTFROM (contractedPickupBranch;(-(carAvailableAt~;(carType /\ -D

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBe
         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*(contract
                THEN BLOCK
                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Rentable cars)
                PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*(contracted
                THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                      SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                     (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\
         (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBee
  (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromis
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised~ /\ -(rcKeysHandedOverQ;'Y

(TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromise
DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;(carType /\ -Delta)

(TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod~ /\

(TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM rentalPeriod[RentalCase*Integer]
 SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;(carType /\ -Delta)

(TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM rentalPeriod[RentalCase*Integer]
 SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod~ /\

(TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;(carType /\ -Delta);

(TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
 SELECTFROM (-((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;(carType /\ -
```

```
            (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
            DELETE FROM rentalExcessPeriod[RentalCase*Integer]
             SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalExcessPerio

            (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
            DELETE FROM Isn{detyp=RentalCase}
             SELECTFROM -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;(carType /\ -D

            (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
            DELETE FROM Isn{detyp=Car}
             SELECTFROM -((carType /\ -Delta);(carType /\ -Delta)~) /\ I[Car]

            (TO MAINTAIN  -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::Car*Car
      (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
      (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
      (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\ -(r
      (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Rental
      (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExc
      (MAINTAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
      (MAINTAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)
```

<------End Derivation --

```
          ON INSERT Delta IN brand[CarType*Brand] EXECUTE    -- (ECA rule 9)
          ONE OF INSERT INTO Isn{detyp=Brand}
                  SELECTFROM ((brand \/ Delta)~;brand /\ -I[Brand]) \/ ((brand \/ Delta)~;

                 (TO MAINTAIN  -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
                 INSERT INTO Isn{detyp=CarType}
                  SELECTFROM (Delta;Delta~ /\ I[CarType]) - I[CarType]

                 INSERT INTO Isn{detyp=Brand}
                  SELECTFROM (Delta~;Delta /\ I[Brand]) - I[Brand]

          (MAINTAINING -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
          (MAINTAINING -I[CarType] \/ brand;brand~ FROM TOT brand::CarType*Brand)
```

------ Derivation ----->

```
      ONE OF INSERT INTO Isn{detyp=Brand}
              SELECTFROM ((brand \/ Delta)~;brand /\ -I[Brand]) \/ ((brand \/ Delta)~;Delta

            (TO MAINTAIN  -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
            INSERT INTO Isn{detyp=CarType}
             SELECTFROM (Delta;Delta~ /\ I[CarType]) - I[CarType]
```

```
          INSERT INTO Isn{detyp=Brand}
           SELECTFROM (Delta~;Delta /\ I[Brand]) - I[Brand]

    (MAINTAINING -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
    (MAINTAINING -I[CarType] \/ brand;brand~ FROM TOT brand::CarType*Brand)
```

<------End Derivation --

```
        ON DELETE Delta FROM brand[CarType*Brand] EXECUTE    -- (ECA rule 10)
        DELETE FROM Isn{detyp=CarType}
         SELECTFROM -((brand /\ -Delta);(brand /\ -Delta)~) /\ I[CarType]

        (TO MAINTAIN  -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
        (TO MAINTAIN  -I[CarType] \/ brand;brand~ FROM TOT brand::CarType*Brand)
```

------ Derivation ----->

```
    DELETE FROM Isn{detyp=CarType}
     SELECTFROM -((brand /\ -Delta);(brand /\ -Delta)~) /\ I[CarType]

    (TO MAINTAIN  -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
    (TO MAINTAIN  -I[CarType] \/ brand;brand~ FROM TOT brand::CarType*Brand)
```

<------End Derivation --

```
        ON INSERT Delta IN model[CarType*Model] EXECUTE    -- (ECA rule 11)
        ONE OF INSERT INTO Isn{detyp=Model}
                SELECTFROM ((model \/ Delta)~;model /\ -I[Model]) \/ ((model \/ Delta)~;
               (TO MAINTAIN  -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
               INSERT INTO Isn{detyp=CarType}
                SELECTFROM (Delta;Delta~ /\ I[CarType]) - I[CarType]

               INSERT INTO Isn{detyp=Model}
                SELECTFROM (Delta~;Delta /\ I[Model]) - I[Model]

        (MAINTAINING -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
        (MAINTAINING -I[CarType] \/ model;model~ FROM TOT model::CarType*Model)
```

------ Derivation ----->

```
    ONE OF INSERT INTO Isn{detyp=Model}
            SELECTFROM ((model \/ Delta)~;model /\ -I[Model]) \/ ((model \/ Delta)~;Delta
```

```
          (TO MAINTAIN  -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
          INSERT INTO Isn{detyp=CarType}
           SELECTFROM (Delta;Delta~ /\ I[CarType]) - I[CarType]

          INSERT INTO Isn{detyp=Model}
           SELECTFROM (Delta~;Delta /\ I[Model]) - I[Model]

     (MAINTAINING -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
     (MAINTAINING -I[CarType] \/ model;model~ FROM TOT model::CarType*Model)
```

<------End Derivation --

```
          ON DELETE Delta FROM model[CarType*Model] EXECUTE    -- (ECA rule 12)
          DELETE FROM Isn{detyp=CarType}
           SELECTFROM -((model /\ -Delta);(model /\ -Delta)~) /\ I[CarType]

          (TO MAINTAIN  -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
          (TO MAINTAIN  -I[CarType] \/ model;model~ FROM TOT model::CarType*Model)
```

------ Derivation ----->

```
     DELETE FROM Isn{detyp=CarType}
      SELECTFROM -((model /\ -Delta);(model /\ -Delta)~) /\ I[CarType]

     (TO MAINTAIN  -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
     (TO MAINTAIN  -I[CarType] \/ model;model~ FROM TOT model::CarType*Model)
```

<------End Derivation --

```
          ON INSERT Delta IN rentalTariffPerDay[CarType*Amount] EXECUTE    -- (ECA rule 13
          ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
                  SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTa

                 (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;renta
                 INSERT INTO Isn{detyp=Amount}
                  SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedC

                 (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
                 INSERT INTO projectedBasicCharge[RentalCase*Amount]
                  SELECTFROM ((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;ren

                 (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;
                 INSERT INTO Isn{detyp=Amount}
                  SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\
```

```
                (TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
                INSERT INTO Isn{detyp=Amount}
                 SELECTFROM ((rentalTariffPerDay \/ Delta)~;rentalTariffPerDay /\ -I[Amou

                (TO MAINTAIN  -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM
                INSERT INTO Isn{detyp=CarType}
                 SELECTFROM (Delta;Delta~ /\ I[CarType]) - I[CarType]

                INSERT INTO Isn{detyp=Amount}
                 SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

          (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
          (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
          (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
          (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
          (MAINTAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI ren
          (MAINTAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT renta
```

------ Derivation ----->

```
    ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
            SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP

           (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTari
           INSERT INTO Isn{detyp=Amount}
            SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;ca

           (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
           INSERT INTO projectedBasicCharge[RentalCase*Amount]
            SELECTFROM ((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa

           (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
           INSERT INTO Isn{detyp=Amount}
            SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ cont

           (TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
           INSERT INTO Isn{detyp=Amount}
            SELECTFROM ((rentalTariffPerDay \/ Delta)~;rentalTariffPerDay /\ -I[Amount])

           (TO MAINTAIN  -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI
           INSERT INTO Isn{detyp=CarType}
            SELECTFROM (Delta;Delta~ /\ I[CarType]) - I[CarType]

           INSERT INTO Isn{detyp=Amount}
            SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

    (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
    (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
```

```
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI rentalTa
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rentalTar
```

<------End Derivation --

```
ON DELETE Delta FROM rentalTariffPerDay[CarType*Amount] EXECUTE    -- (ECA rule
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;(renta

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM rentalPeriod[RentalCase*Integer]
        SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;(renta

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM rentalPeriod[RentalCase*Integer]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;(rental

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM (-((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;(

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;projectedRen

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
       DELETE FROM projectedRentalPeriod[RentalCase*Integer]
        SELECTFROM (-((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;(

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
       DELETE FROM projectedRentalPeriod[RentalCase*Integer]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;projectedRen

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;(r

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
```

```
            DELETE FROM Isn{detyp=CarType}
             SELECTFROM -((rentalTariffPerDay /\ -Delta);(rentalTariffPerDay /\ -Delt

            (TO MAINTAIN  -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPer
          (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[R
          (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;pro
          (MAINTAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI ren
          (MAINTAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rent
```

------ Derivation ----->

```
    ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
            SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;(rentalTari

           (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
           DELETE FROM rcAssignedCar[RentalCase*Car]
            SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod~ /\

           (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
           DELETE FROM rentalPeriod[RentalCase*Integer]
            SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;(rentalTari

           (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
           DELETE FROM rentalPeriod[RentalCase*Integer]
            SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod~ /\

           (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
           DELETE FROM Isn{detyp=RentalCase}
            SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;(rentalTarif

           (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
           DELETE FROM contractedCarType[RentalCase*CarType]
            SELECTFROM (-((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;(renta

           (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
           DELETE FROM contractedCarType[RentalCase*CarType]
            SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;projectedRentalPe

           (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
           DELETE FROM projectedRentalPeriod[RentalCase*Integer]
            SELECTFROM (-((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;(renta

           (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
           DELETE FROM projectedRentalPeriod[RentalCase*Integer]
            SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;projectedRentalPe

           (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
           DELETE FROM Isn{detyp=RentalCase}
```

```
 SELECTFROM -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;(rental

(TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM Isn{detyp=CarType}
 SELECTFROM -((rentalTariffPerDay /\ -Delta);(rentalTariffPerDay /\ -Delta)~)

(TO MAINTAIN  -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerDay~
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Rental
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
(MAINTAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI rentalTa
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rentalTar
```

<------End Derivation --

```
ON INSERT Delta IN excessTariffPerDay[CarType*Amount] EXECUTE    -- (ECA rule 15
ONE OF INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;ex

       (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcA

       (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM ((excessTariffPerDay \/ Delta)~;excessTariffPerDay /\ -I[Amou

       (TO MAINTAIN  -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM
       INSERT INTO Isn{detyp=CarType}
        SELECTFROM (Delta;Delta~ /\ I[CarType]) - I[CarType]

       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINTAINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI exc
(MAINTAINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT exce
```

------ Derivation ----->

```
ONE OF INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT

       (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;exce
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAssign
```

```
          (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
          INSERT INTO Isn{detyp=Amount}
           SELECTFROM ((excessTariffPerDay \/ Delta)~;excessTariffPerDay /\ -I[Amount])

          (TO MAINTAIN  -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI
          INSERT INTO Isn{detyp=CarType}
           SELECTFROM (Delta;Delta~ /\ I[CarType]) - I[CarType]

          INSERT INTO Isn{detyp=Amount}
           SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

     (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
     (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
     (MAINTAINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI excessTa
     (MAINTAINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT excessTar
```

<------End Derivation --

```
          ON DELETE Delta FROM excessTariffPerDay[CarType*Amount] EXECUTE    -- (ECA rule
          ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
                  SELECTFROM (-((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;

                 (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
                 DELETE FROM rentalExcessPeriod[RentalCase*Integer]
                  SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalExcess

                 (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
                 DELETE FROM Isn{detyp=RentalCase}
                  SELECTFROM -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;(

                 (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
                 DELETE FROM Isn{detyp=CarType}
                  SELECTFROM -((excessTariffPerDay /\ -Delta);(excessTariffPerDay /\ -Delt

                 (TO MAINTAIN  -I[CarType] \/ excessTariffPerDay;I[Amount];excessTariffPer
          (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rent
          (MAINTAINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI exc
          (MAINTAINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT exce
```

------ Derivation ----->

```
     ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
             SELECTFROM (-((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;(exce

            (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
            DELETE FROM rentalExcessPeriod[RentalCase*Integer]
             SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalExcessPerio
```

```
          (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
          DELETE FROM Isn{detyp=RentalCase}
           SELECTFROM -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;(exces

          (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
          DELETE FROM Isn{detyp=CarType}
           SELECTFROM -((excessTariffPerDay /\ -Delta);(excessTariffPerDay /\ -Delta)~)

          (TO MAINTAIN  -I[CarType] \/ excessTariffPerDay;I[Amount];excessTariffPerDay~
     (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExc
     (MAINTAINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI excessTa
     (MAINTAINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT excessTar
```

<------End Derivation --

```
          ON INSERT Delta IN maxRentalDuration[CarRentalCompany*Integer] EXECUTE    -- (EC
          ALL of INSERT INTO rcMaxRentalDuration[RentalCase*Integer]
                  SELECTFROM (contractedPickupBranch;branchOf;maxRentalDuration /\ -rcMaxR

                 (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcM
                 INSERT INTO Isn{detyp=Integer}
                  SELECTFROM (rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRenta

                 (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxR
                 INSERT INTO Isn{detyp=CarRentalCompany}
                  SELECTFROM (Delta;Delta~ /\ I[CarRentalCompany]) - I[CarRentalCompany]

          (MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentall
          (MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentall
```

------ Derivation ----->

```
     ALL of INSERT INTO rcMaxRentalDuration[RentalCase*Integer]
             SELECTFROM (contractedPickupBranch;branchOf;maxRentalDuration /\ -rcMaxRental

            (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRen
            INSERT INTO Isn{detyp=Integer}
             SELECTFROM (rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRentalDur

            (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRental
            INSERT INTO Isn{detyp=CarRentalCompany}
             SELECTFROM (Delta;Delta~ /\ I[CarRentalCompany]) - I[CarRentalCompany]

     (MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDurat
     (MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDurat
```

<------End Derivation --

```
ON INSERT Delta IN dateIntervalIsWithinMaxRentalDuration[Date*Date] EXECUTE    --
INSERT INTO Isn{detyp=Date}
 SELECTFROM (Delta;Delta~ /\ I[Date]) - I[Date] \/ (Delta~;Delta /\ I[Date]) - I
```

------ Derivation ----->

```
INSERT INTO Isn{detyp=Date}
 SELECTFROM (Delta;Delta~ /\ I[Date]) - I[Date] \/ (Delta~;Delta /\ I[Date]) - I[Date
```

<------End Derivation --

```
ON DELETE Delta FROM dateIntervalIsWithinMaxRentalDuration[Date*Date] EXECUTE
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM contractedEndDate;((-dateIntervalIsWithinMaxRentalDuration~ /

       (TO MAINTAIN  -(contractedStartDate~;contractedEndDate) \/ dateIntervalIs
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM contractedStartDate;((-dateIntervalIsWithinMaxRentalDuration

       (TO MAINTAIN  -(contractedStartDate~;contractedEndDate) \/ dateIntervalIs
(MAINTAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMa
```

------ Derivation ----->

```
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM contractedEndDate;((-dateIntervalIsWithinMaxRentalDuration~ /\ con

       (TO MAINTAIN  -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithi
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM contractedStartDate;((-dateIntervalIsWithinMaxRentalDuration /\ co

       (TO MAINTAIN  -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithi
(MAINTAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMaxRent
```

<------End Derivation --

```
ON INSERT Delta IN contractedStartDate[RentalCase*Date] EXECUTE    -- (ECA rule
ONE OF INSERT INTO dateIntervalIsWithinMaxRentalDuration[Date*Date]
```

```
 SELECTFROM (contractedStartDate \/ Delta)~;contractedEndDate /\ -dateInte

(TO MAINTAIN  -(contractedStartDate~;contractedEndDate) \/ dateIntervalIs
INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
 SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
 SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
INSERT INTO contractedStartDate[RentalCase*Date]
 SELECTFROM rentalHasBeenPromised~;(contractedStartDate \/ Delta) /\ -con

(TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised) \/ contracted
INSERT INTO Isn{detyp=Date}
 SELECTFROM ((contractedStartDate \/ Delta)~;rentalHasBeenPromised;contra

(TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised;contractedStar
INSERT INTO contractedStartDate[RentalCase*Date]
 SELECTFROM (rentalHasBeenPromised;contractedStartDate /\ -contractedStar

(TO MAINTAIN  -(rentalHasBeenPromised;contractedStartDate) \/ contractedS
INSERT INTO rentalPeriod[RentalCase*Integer]
 SELECTFROM ((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;lates

(TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;la
INSERT INTO Isn{detyp=Integer}
 SELECTFROM (rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppe

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRenta
       THEN INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ c
       PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRenta
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Date]*'
                          THEN INSERT INTO dateIntervalCompTrigger[Date*Da
                                SELECTFROM 'a'[Date]*'b'[Date]

                               (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxR
                          PICK a,b FROM dateIntervalCompTrigger~;('a'[Dat
                          THEN INSERT INTO contractedEndDate[RentalCase*Da
                                SELECTFROM 'b'[RentalCase]*'a'[Date]

                               (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxR
                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration
                    NEW x:Date;
                      ALL of INSERT INTO dateIntervalCompTrigger[Date*Date
```

```
                                    SELECTFROM 'a'[Date]*'b'[RentalCase]*'x'[Dat

                                   (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRenta
                                   INSERT INTO contractedEndDate[RentalCase*Date
                                    SELECTFROM 'b'[RentalCase]*'a'[Date]*'x'[Dat

                                   (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRenta
                             (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDurati
                          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration
                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ co
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDa
NEW x:Date;
  ALL of INSERT INTO contractedStartDate[RentalCase*Date]
          SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra

         (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ cont
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Date]*((rc
                       THEN INSERT INTO dateIntervalCompTrigger[Date*Date
                             SELECTFROM 'a'[Date]*'b'[Date]

                            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRenta
                          PICK a,b FROM dateIntervalCompTrigger~;('x'[Date]*
                          THEN INSERT INTO contractedEndDate[RentalCase*Date
                             SELECTFROM 'b'[RentalCase]*'a'[Date]

                            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRenta
                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /
                    NEW x:Date;
                      ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
                              SELECTFROM 'x'[Date]*((rcMaxRentalDuration;rcMa

                             (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDu
                             INSERT INTO contractedEndDate[RentalCase*Date]
                              SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDura

                             (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDu
                      (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~
                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /
           (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
  (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEnd
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDa
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((contractedStartDate \/ Delta
       THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
             SELECTFROM 'a'[Date]*'b'[Date]

            (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMa
       PICK a,b FROM dateIntervalCompTrigger~;(((contractedStartDate \/ D
       THEN INSERT INTO contractedEndDate[RentalCase*Date]
             SELECTFROM 'b'[RentalCase]*'a'[Date]
```

```
            (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMa
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurati
INSERT INTO dateIntervalCompTrigger[Date*Date]
 SELECTFROM ((contractedStartDate \/ Delta)~;rcMaxRentalDuration;rcMaxRen

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurat
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRenta
       THEN INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM 'a'[RentalCase]*'b'[Date]

             (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;cont
       PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRenta
       THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
             SELECTFROM 'a'[Date]*'b'[Date]

             (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;cont
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffDate;rcDroppedOff
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                   THEN INSERT INTO contractedStartDate[Ren
                                         SELECTFROM 'a'[RentalCase]*'b'[Dat

                                        (TO MAINTAIN  -(rcDroppedOffDate;rc
                                   PICK a,b FROM contractedStartDate~;('a'[
                                   THEN INSERT INTO earliestDate[DateDiffer
                                         SELECTFROM 'b'[DateDifferencePlusO

                                             (TO MAINTAIN  -(rcDroppedOffDate;rc
                                 (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                 NEW x:Date;
                                   ALL of INSERT INTO contractedStartDate[Rental
                                           SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                             (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                             INSERT INTO earliestDate[DateDifferenc
                                              SELECTFROM 'b'[DateDifferencePlusOne]

                                             (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                   (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDa
                                 (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                   THEN INSERT INTO rcDroppedOffDate[Rental
                                         SELECTFROM 'a'[RentalCase]*'b'[Dat

                                        (TO MAINTAIN  -(rcDroppedOffDate;rc
                                   PICK a,b FROM rcDroppedOffDate~;('a'[Ren
                                   THEN INSERT INTO latestDate[DateDifferen
                                         SELECTFROM 'b'[DateDifferencePlusO
```

```
                                                (TO MAINTAIN  -(rcDroppedOffDate;rc
                                          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                          NEW x:Date;
                                            ALL of INSERT INTO rcDroppedOffDate[RentalCas
                                                    SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                                    (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                                    INSERT INTO latestDate[DateDifferenceP
                                                     SELECTFROM 'b'[DateDifferencePlusOne]

                                                    (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                              (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDa
                                            (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
                             (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contract
                        PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;rcD
                        THEN BLOCK
                             (CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigg
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedEndDate;contractedE
        THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                          THEN INSERT INTO contractedStartDate[Rent
                                                SELECTFROM 'a'[RentalCase]*'b'[Dat

                                                (TO MAINTAIN  -(contractedEndDate;c
                                          PICK a,b FROM contractedStartDate~;('a'[
                                          THEN INSERT INTO earliestDate[DateDiffer
                                                SELECTFROM 'b'[DateDifferencePlusO

                                                (TO MAINTAIN  -(contractedEndDate;c
                                          (MAINTAINING -(contractedEndDate;contractedEndD
                                          NEW x:Date;
                                            ALL of INSERT INTO contractedStartDate[Rental
                                                    SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                                    (TO MAINTAIN  -(contractedEndDate;cont
                                                    INSERT INTO earliestDate[DateDifferenc
                                                     SELECTFROM 'b'[DateDifferencePlusOne]

                                                    (TO MAINTAIN  -(contractedEndDate;cont
                                              (MAINTAINING -(contractedEndDate;contractedEnd
                                            (MAINTAINING -(contractedEndDate;contractedEndD
                                  (MAINTAINING -(contractedEndDate;contractedEndDate~ /\
                                  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                          THEN INSERT INTO contractedEndDate[Rental
                                                SELECTFROM 'a'[RentalCase]*'b'[Dat

                                                (TO MAINTAIN  -(contractedEndDate;c
                                          PICK a,b FROM contractedEndDate~;('a'[Re
                                          THEN INSERT INTO latestDate[DateDifferen
```

```
                                                    SELECTFROM 'b'[DateDifferencePlusO
                                                  (TO MAINTAIN  -(contractedEndDate;c
                                          (MAINTAINING -(contractedEndDate;contractedEndD
                                          NEW x:Date;
                                            ALL of INSERT INTO contractedEndDate[RentalCa
                                                    SELECTFROM 'a'[RentalCase]*'b'[DateDi
                                                  (TO MAINTAIN  -(contractedEndDate;cont
                                                  INSERT INTO latestDate[DateDifferenceP
                                                   SELECTFROM 'b'[DateDifferencePlusOne]
                                                  (TO MAINTAIN  -(contractedEndDate;cont
                                            (MAINTAINING -(contractedEndDate;contractedEn
                                          (MAINTAINING -(contractedEndDate;contractedEndD
                                    (MAINTAINING -(contractedEndDate;contractedEndDate~ /\
                               (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contra
                         PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;con
                         THEN BLOCK
                               (CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigg
                    (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDat
                    INSERT INTO projectedRentalPeriod[RentalCase*Integer]
                     SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;late

                    (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate;l
                    INSERT INTO Isn{detyp=Integer}
                     SELECTFROM (projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\

                    (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
                    INSERT INTO Isn{detyp=Date}
                     SELECTFROM (contractedStartDate \/ Delta)~;(I[RentalCase] /\ rcBranchReq

                    (TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
                    INSERT INTO Isn{detyp=Date}
                     SELECTFROM ((contractedStartDate \/ Delta)~;contractedStartDate /\ -I[Da

                    (TO MAINTAIN  -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM
                    INSERT INTO Isn{detyp=RentalCase}
                     SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                    INSERT INTO Isn{detyp=Date}
                     SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

(MAINTAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMa
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
```

```
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contra
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINTAINING -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI con
```

------ Derivation ----->

```
ONE OF INSERT INTO dateIntervalIsWithinMaxRentalDuration[Date*Date]
        SELECTFROM (contractedStartDate \/ Delta)~;contractedEndDate /\ -dateInterval

       (TO MAINTAIN  -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithi
       INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM rentalHasBeenPromised~;(contractedStartDate \/ Delta) /\ -contract

       (TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised) \/ contractedStart
       INSERT INTO Isn{detyp=Date}
        SELECTFROM ((contractedStartDate \/ Delta)~;rentalHasBeenPromised;contractedS

       (TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised;contractedStartDate
       INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM (rentalHasBeenPromised;contractedStartDate /\ -contractedStartDate

       (TO MAINTAIN  -(rentalHasBeenPromised;contractedStartDate) \/ contractedStartD
       INSERT INTO rentalPeriod[RentalCase*Integer]
        SELECTFROM ((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate

       (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestD
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM (rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffD

       (TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDropped0
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRentalDur
```

```
        THEN INSERT INTO contractedStartDate[RentalCase*Date]
              SELECTFROM 'a'[RentalCase]*'b'[Date]

             (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
        PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRentalDur
        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Date]*'b'[Re
                            THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
                                  SELECTFROM 'a'[Date]*'b'[Date]

                                 (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRental
                            PICK a,b FROM dateIntervalCompTrigger~;('a'[Date]*'b
                            THEN INSERT INTO contractedEndDate[RentalCase*Date]
                                  SELECTFROM 'b'[RentalCase]*'a'[Date]

                                 (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRental
                       (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
                       NEW x:Date;
                         ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
                                 SELECTFROM 'a'[Date]*'b'[RentalCase]*'x'[Date]

                                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDur
                                INSERT INTO contractedEndDate[RentalCase*Date]
                                 SELECTFROM 'b'[RentalCase]*'a'[Date]*'x'[Date]

                                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDur
                         (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /
                       (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
                  (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contrac
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;c
NEW x:Date;
  ALL of INSERT INTO contractedStartDate[RentalCase*Date]
          SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE

          (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contracte
          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Date]*((rcMaxRe
                        THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
                              SELECTFROM 'a'[Date]*'b'[Date]

                             (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDur
                        PICK a,b FROM dateIntervalCompTrigger~;('x'[Date]*((rcM
                        THEN INSERT INTO contractedEndDate[RentalCase*Date]
                              SELECTFROM 'b'[RentalCase]*'a'[Date]

                             (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDur
                   (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ con
                   NEW x:Date;
                     ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
                             SELECTFROM 'x'[Date]*((rcMaxRentalDuration;rcMaxRent

                            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDurati
```

```
                                INSERT INTO contractedEndDate[RentalCase*Date]
                                 SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration

                                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDurati
                           (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ c
                          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ con
                 (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contracted
          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;c
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((contractedStartDate \/ Delta)~;rc
       THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
             SELECTFROM 'a'[Date]*'b'[Date]

            (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
       PICK a,b FROM dateIntervalCompTrigger~;(((contractedStartDate \/ Delta)
       THEN INSERT INTO contractedEndDate[RentalCase*Date]
             SELECTFROM 'b'[RentalCase]*'a'[Date]

            (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~ /
INSERT INTO dateIntervalCompTrigger[Date*Date]
 SELECTFROM ((contractedStartDate \/ Delta)~;rcMaxRentalDuration;rcMaxRentalDu

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRentalDur
       THEN INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
       PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRentalDur
       THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
             SELECTFROM 'a'[Date]*'b'[Date]

            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate /\ c
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffDate;rcDroppedOffDate~
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                THEN INSERT INTO contractedStartDate[RentalCa
                                      SELECTFROM 'a'[RentalCase]*'b'[Date]

                                     (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                PICK a,b FROM contractedStartDate~;('a'[Renta
                                THEN INSERT INTO earliestDate[DateDifferenceP
                                      SELECTFROM 'b'[DateDifferencePlusOne]*'

                                     (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                           NEW x:Date;
                             ALL of INSERT INTO contractedStartDate[RentalCase*
                                    SELECTFROM 'a'[RentalCase]*'b'[DateDiffere
```

```
                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                        INSERT INTO earliestDate[DateDifferencePlus
                                         SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                        THEN INSERT INTO rcDroppedOffDate[RentalCase*
                                             SELECTFROM 'a'[RentalCase]*'b'[Date]

                                             (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                        PICK a,b FROM rcDroppedOffDate~;('a'[RentalCa
                                        THEN INSERT INTO latestDate[DateDifferencePlu
                                             SELECTFROM 'b'[DateDifferencePlusOne]*'

                                                (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                      (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                      NEW x:Date;
                                        ALL of INSERT INTO rcDroppedOffDate[RentalCase*Dat
                                                SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                        INSERT INTO latestDate[DateDifferencePlusOn
                                         SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
                      (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSta
                PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;rcDroppe
                THEN BLOCK
                     (CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigger re
           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contr
          ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedEndDate;contractedEndDat
                THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                        THEN INSERT INTO contractedStartDate[RentalCa
                                             SELECTFROM 'a'[RentalCase]*'b'[Date]

                                             (TO MAINTAIN  -(contractedEndDate;contra
                                        PICK a,b FROM contractedStartDate~;('a'[Renta
                                        THEN INSERT INTO earliestDate[DateDifferenceP
                                             SELECTFROM 'b'[DateDifferencePlusOne]*'

                                                (TO MAINTAIN  -(contractedEndDate;contra
                                      (MAINTAINING -(contractedEndDate;contractedEndDate~
                                      NEW x:Date;
```

```
                                    ALL of INSERT INTO contractedStartDate[RentalCase*
                                            SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                           (TO MAINTAIN  -(contractedEndDate;contracte
                                           INSERT INTO earliestDate[DateDifferencePlus
                                            SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

                                           (TO MAINTAIN  -(contractedEndDate;contracte
                                     (MAINTAINING -(contractedEndDate;contractedEndDate
                                   (MAINTAINING -(contractedEndDate;contractedEndDate~
                              (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ cont
                             ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                         THEN INSERT INTO contractedEndDate[RentalCase
                                               SELECTFROM 'a'[RentalCase]*'b'[Date]

                                              (TO MAINTAIN  -(contractedEndDate;contra
                                         PICK a,b FROM contractedEndDate~;('a'[RentalC
                                         THEN INSERT INTO latestDate[DateDifferencePlu
                                               SELECTFROM 'b'[DateDifferencePlusOne]*'

                                           (TO MAINTAIN  -(contractedEndDate;contra
                                   (MAINTAINING -(contractedEndDate;contractedEndDate~
                                   NEW x:Date;
                                     ALL of INSERT INTO contractedEndDate[RentalCase*Da
                                            SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                           (TO MAINTAIN  -(contractedEndDate;contracte
                                           INSERT INTO latestDate[DateDifferencePlusOn
                                            SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

                                           (TO MAINTAIN  -(contractedEndDate;contracte
                                     (MAINTAINING -(contractedEndDate;contractedEndDate
                                   (MAINTAINING -(contractedEndDate;contractedEndDate~
                              (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ cont
                         (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedS
                    PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;contract
                    THEN BLOCK
                         (CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigger pr
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;con
INSERT INTO projectedRentalPeriod[RentalCase*Integer]
 SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat

(TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate;latest
INSERT INTO Isn{detyp=Integer}
 SELECTFROM (projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ cont

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
INSERT INTO Isn{detyp=Date}
 SELECTFROM (contractedStartDate \/ Delta)~;(I[RentalCase] /\ rcBranchRequeste
```

```
        (TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
        INSERT INTO Isn{detyp=Date}
         SELECTFROM ((contractedStartDate \/ Delta)~;contractedStartDate /\ -I[Date])

        (TO MAINTAIN  -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI
        INSERT INTO Isn{detyp=RentalCase}
         SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

        INSERT INTO Isn{detyp=Date}
         SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

(MAINTAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMaxRent
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI contract
```

<------End Derivation --

```
    ON DELETE Delta FROM contractedStartDate[RentalCase*Date] EXECUTE    -- (ECA rul
    ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
            SELECTFROM -((contractedStartDate /\ -Delta);(contractedStartDate /\ -De

           (TO MAINTAIN  -rentalHasBeenPromised \/ contractedStartDate;contractedSta
           ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
                   SELECTFROM rentalHasBeenPromised;(-(contractedStartDate /\ -Delta

                  (TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised) \/ con
                  DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                   SELECTFROM contractedStartDate;(-(contractedStartDate /\ -Delta)~

                  (TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised) \/ con
           (MAINTAINING -(contractedStartDate~;rentalHasBeenPromised) \/ contractedS
           ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
```

```
 SELECTFROM ((-contractedStartDate /\ rentalHasBeenPromised;contra

(TO MAINTAIN  -(rentalHasBeenPromised;contractedStartDate) \/ cont
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM rentalHasBeenPromised~;((-contractedStartDate /\ renta

(TO MAINTAIN  -(rentalHasBeenPromised;contractedStartDate) \/ cont
(MAINTAINING -(rentalHasBeenPromised;contractedStartDate) \/ contractedSt
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTri

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM (-(contractedEndDate;dateIntervalCompTrigger~;(contrac

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTri

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM (-(contractedEndDate;dateIntervalCompTrigger~;(contrac

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTri

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-(contractedEndDate;dateIntervalCompTrigger~;(contrac

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((contractedStartDate /\ -Delta);dateIntervalCompTrig

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndD
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTri

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM contractedEndDate;(-(dateIntervalCompTrigger~;(contrac

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;(-((contracte

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM contractedEndDate[RentalCase*Date]
```

```
 SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTri

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedEndDate;(-(dateIntervalCompTrigger~;(contrac

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedEndDate;contractedEndDate~;(-((contractedSta

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTri

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM contractedEndDate;(-(dateIntervalCompTrigger~;(contrac

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedStartDate;contractedStartDate~;(-((contracte

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM -((contractedStartDate /\ -Delta);dateIntervalCompTrig

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM (-(((contractedStartDate /\ -Delta);earliestDate~ /\ r

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;(

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-(((contractedStartDate /\ -Delta);earliestDate~ /\ r

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;(

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -(((contractedStartDate /\ -Delta);earliestDate~ /\ rc

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;
ONE OF DELETE FROM contractedEndDate[RentalCase*Date]
```

```
 SELECTFROM (-(((contractedStartDate /\ -Delta);earliestDate~ /\ c

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;(

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-(((contractedStartDate /\ -Delta);earliestDate~ /\ c

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;(

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -(((contractedStartDate /\ -Delta);earliestDate~ /\ co

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDat
ONE OF DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM ((-contractedStartDate /\ (I[RentalCase] /\ rcBranchRe

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAn
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM ((-contractedStartDate /\ (I[RentalCase] /\ rcBranchRe

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAn
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionToday;(

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAn
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
 SELECTFROM '_SESSION'[SESSION];sessionToday;((-contractedStartDat

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAn
DELETE FROM sessionToday[SESSION*Date]
 SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(I[RentalCase]

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAn
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rc
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contr
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
```

------ Derivation ----->

```
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -((contractedStartDate /\ -Delta);(contractedStartDate /\ -Delta)~

       (TO MAINTAIN  -rentalHasBeenPromised \/ contractedStartDate;contractedStartDat
       ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM rentalHasBeenPromised;(-(contractedStartDate /\ -Delta) /\

              (TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised) \/ contract
              DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM contractedStartDate;(-(contractedStartDate /\ -Delta)~ /\ c

              (TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised) \/ contract
       (MAINTAINING -(contractedStartDate~;rentalHasBeenPromised) \/ contractedStartD
       ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM ((-contractedStartDate /\ rentalHasBeenPromised;contractedS

              (TO MAINTAIN  -(rentalHasBeenPromised;contractedStartDate) \/ contracte
              DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM rentalHasBeenPromised~;((-contractedStartDate /\ rentalHasB

              (TO MAINTAIN  -(rentalHasBeenPromised;contractedStartDate) \/ contracte
       (MAINTAINING -(rentalHasBeenPromised;contractedStartDate) \/ contractedStartDa
       ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
               SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTrigger;

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
              DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
               SELECTFROM (-(contractedEndDate;dateIntervalCompTrigger~;(contractedSt

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTrigger;

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM (-(contractedEndDate;dateIntervalCompTrigger~;(contractedSt

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
              DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTrigger;

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
              DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM (-(contractedEndDate;dateIntervalCompTrigger~;(contractedSt

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
              DELETE FROM Isn{detyp=RentalCase}
```

```
        SELECTFROM -((contractedStartDate /\ -Delta);dateIntervalCompTrigger;c

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;c
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
        SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTrigger)

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
       DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
        SELECTFROM contractedEndDate;(-(dateIntervalCompTrigger~;(contractedSt

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;(-((contractedStar

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTrigger)

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM contractedEndDate;(-(dateIntervalCompTrigger~;(contractedSt

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM contractedEndDate;contractedEndDate~;(-((contractedStartDat

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTrigger)

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM contractedEndDate;(-(dateIntervalCompTrigger~;(contractedSt

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM contractedStartDate;contractedStartDate~;(-((contractedStar

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM -((contractedStartDate /\ -Delta);dateIntervalCompTrigger)

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate /\ c
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-(((contractedStartDate /\ -Delta);earliestDate~ /\ rcDrop

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
       DELETE FROM rcDroppedOffDate[RentalCase*Date]
```

```
 SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;(contr

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-(((contractedStartDate /\ -Delta);earliestDate~ /\ rcDrop

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;(contr

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -(((contractedStartDate /\ -Delta);earliestDate~ /\ rcDropp

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contr
ONE OF DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM (-(((contractedStartDate /\ -Delta);earliestDate~ /\ contra

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;(contr

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-(((contractedStartDate /\ -Delta);earliestDate~ /\ contra

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;(contr

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -(((contractedStartDate /\ -Delta);earliestDate~ /\ contrac

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;con
ONE OF DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM ((-contractedStartDate /\ (I[RentalCase] /\ rcBranchRequest

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM ((-contractedStartDate /\ (I[RentalCase] /\ rcBranchRequest

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionToday;((-con

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
```

```
                 SELECTFROM '_SESSION'[SESSION];sessionToday;((-contractedStartDate~ /\

                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
                DELETE FROM sessionToday[SESSION*Date]
                 SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(I[RentalCase] /\ rc

                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
          (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranc
    (MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
    (MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
    (MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
    (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted
    (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
```

<------End Derivation --

```
    ON INSERT Delta IN contractedEndDate[RentalCase*Date] EXECUTE    -- (ECA rule 23
    ONE OF INSERT INTO dateIntervalIsWithinMaxRentalDuration[Date*Date]
            SELECTFROM (contractedStartDate~;contractedEndDate /\ -dateIntervalIsWit

           (TO MAINTAIN  -(contractedStartDate~;contractedEndDate) \/ dateIntervalIs
           INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
            SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp

           (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
           INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
            SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp

           (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
           INSERT INTO contractedEndDate[RentalCase*Date]
            SELECTFROM rentalHasBeenPromised~;(contractedEndDate \/ Delta) /\ -contr

           (TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised) \/ contractedEn
           INSERT INTO Isn{detyp=Date}
            SELECTFROM ((contractedEndDate \/ Delta)~;rentalHasBeenPromised;contract

           (TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised;contractedEndDat
           INSERT INTO contractedEndDate[RentalCase*Date]
            SELECTFROM (rentalHasBeenPromised;contractedEndDate /\ -contractedEndDat

           (TO MAINTAIN  -(rentalHasBeenPromised;contractedEndDate) \/ contractedEnd
           INSERT INTO rentalExcessPeriod[RentalCase*Integer]
            SELECTFROM ((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~)

           (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDat
```

```
INSERT INTO Isn{detyp=Integer}
 SELECTFROM (rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contracte

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRenta
       THEN INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ c
       PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRenta
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Date]*'
                           THEN INSERT INTO dateIntervalCompTrigger[Date*Da
                                 SELECTFROM 'a'[Date]*'b'[Date]

                                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxR
                           PICK a,b FROM dateIntervalCompTrigger~;('a'[Dat
                           THEN INSERT INTO contractedEndDate[RentalCase*Da
                                 SELECTFROM 'b'[RentalCase]*'a'[Date]

                                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxR
                     (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration
                     NEW x:Date;
                       ALL of INSERT INTO dateIntervalCompTrigger[Date*Date
                                SELECTFROM 'a'[Date]*'b'[RentalCase]*'x'[Dat

                               (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRenta
                               INSERT INTO contractedEndDate[RentalCase*Date
                                SELECTFROM 'b'[RentalCase]*'a'[Date]*'x'[Dat

                               (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRenta
                       (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDurati
                     (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration
            (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ co
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDa
NEW x:Date;
  ALL of INSERT INTO contractedStartDate[RentalCase*Date]
          SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra

         (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ cont
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Date]*((rc
                       THEN INSERT INTO dateIntervalCompTrigger[Date*Date
                             SELECTFROM 'a'[Date]*'b'[Date]

                            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRenta
                       PICK a,b FROM dateIntervalCompTrigger~;('x'[Date]*
                       THEN INSERT INTO contractedEndDate[RentalCase*Date
                             SELECTFROM 'b'[RentalCase]*'a'[Date]

                            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRenta
                  (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /
```

```
                NEW x:Date;
                  ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
                          SELECTFROM 'x'[Date]*((rcMaxRentalDuration;rcMa

                         (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalD
                         INSERT INTO contractedEndDate[RentalCase*Date]
                          SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDur

                         (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalD
                  (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~
                 (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contr
  (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEn
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndD
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedStartDate~;rcMaxRen
       THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
             SELECTFROM 'a'[Date]*'b'[Date]

            (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMa
       PICK a,b FROM dateIntervalCompTrigger~;((contractedStartDate~;rcMa
       THEN INSERT INTO contractedEndDate[RentalCase*Date]
             SELECTFROM 'b'[RentalCase]*'a'[Date]

            (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMa
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurati
INSERT INTO dateIntervalCompTrigger[Date*Date]
 SELECTFROM (contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurat
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRenta
       THEN INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;cont
       PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRenta
       THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
             SELECTFROM 'a'[Date]*'b'[Date]

            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;cont
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffDate;rcDroppedOff
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                  THEN INSERT INTO contractedEndDate[Renta
                                        SELECTFROM 'a'[RentalCase]*'b'[Dat

                                       (TO MAINTAIN  -(rcDroppedOffDate;rc
                                  PICK a,b FROM contractedEndDate~;('a'[Re
                                  THEN INSERT INTO firstDate[DateDifferenc
                                        SELECTFROM 'b'[DateDifference]*'a'
```

```
                                        (TO MAINTAIN  -(rcDroppedOffDate;rc
                                    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                    NEW x:Date;
                                      ALL of INSERT INTO contractedEndDate[RentalCa
                                              SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                              (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                              INSERT INTO firstDate[DateDifference*D
                                               SELECTFROM 'b'[DateDifference]*'a'[Re

                                              (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffD
                                    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
                                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                        THEN INSERT INTO rcDroppedOffDate[Rental
                                             SELECTFROM 'a'[RentalCase]*'b'[Dat

                                             (TO MAINTAIN  -(rcDroppedOffDate;rc
                                        PICK a,b FROM rcDroppedOffDate~;('a'[Ren
                                        THEN INSERT INTO lastDate[DateDifference
                                             SELECTFROM 'b'[DateDifference]*'a'

                                             (TO MAINTAIN  -(rcDroppedOffDate;rc
                                    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                    NEW x:Date;
                                      ALL of INSERT INTO rcDroppedOffDate[RentalCas
                                              SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                              (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                              INSERT INTO lastDate[DateDifference*Da
                                               SELECTFROM 'b'[DateDifference]*'a'[Re

                                              (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffD
                                    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
                            (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contract
                        PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedO
                        THEN BLOCK
                            (CANNOT CHANGE V[DateDifference*RentalCase] FROM Trigger exce
                    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;co
                    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedEndDate;(contracted
                        THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                        THEN INSERT INTO contractedStartDate[Ren
                                             SELECTFROM 'a'[RentalCase]*'b'[Dat

                                             (TO MAINTAIN  -(contractedEndDate;c
                                        PICK a,b FROM contractedStartDate~;('a'[
                                        THEN INSERT INTO earliestDate[DateDiffer
```

```
                                                SELECTFROM 'b'[DateDifferencePlusO
                                                (TO MAINTAIN  -(contractedEndDate;c
                                        (MAINTAINING -(contractedEndDate;contractedEndD
                                        NEW x:Date;
                                          ALL of INSERT INTO contractedStartDate[Rental
                                                  SELECTFROM 'a'[RentalCase]*'b'[DateDi
                                                (TO MAINTAIN  -(contractedEndDate;cont
                                                INSERT INTO earliestDate[DateDifferenc
                                                 SELECTFROM 'b'[DateDifferencePlusOne]
                                                (TO MAINTAIN  -(contractedEndDate;cont
                                          (MAINTAINING -(contractedEndDate;contractedEnd
                                        (MAINTAINING -(contractedEndDate;contractedEndD
                                  (MAINTAINING -(contractedEndDate;contractedEndDate~ /\
                                  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                          THEN INSERT INTO contractedEndDate[Rental
                                                SELECTFROM 'a'[RentalCase]*'b'[Date

                                                (TO MAINTAIN  -(contractedEndDate;c
                                          PICK a,b FROM contractedEndDate~;('a'[Re
                                          THEN INSERT INTO latestDate[DateDifferen
                                                SELECTFROM 'b'[DateDifferencePlusO

                                                (TO MAINTAIN  -(contractedEndDate;c
                                        (MAINTAINING -(contractedEndDate;contractedEndD
                                        NEW x:Date;
                                          ALL of INSERT INTO contractedEndDate[RentalCa
                                                  SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                                (TO MAINTAIN  -(contractedEndDate;cont
                                                INSERT INTO latestDate[DateDifferenceP
                                                 SELECTFROM 'b'[DateDifferencePlusOne]

                                                (TO MAINTAIN  -(contractedEndDate;cont
                                          (MAINTAINING -(contractedEndDate;contractedEnd
                                        (MAINTAINING -(contractedEndDate;contractedEndD
                                  (MAINTAINING -(contractedEndDate;contractedEndDate~ /\
                        (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contra
                PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;con
                THEN BLOCK
                        (CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigg
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDat
INSERT INTO projectedRentalPeriod[RentalCase*Integer]
 SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;late

(TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate;l
INSERT INTO Isn{detyp=Integer}
 SELECTFROM (projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\
```

```
                (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
                INSERT INTO Isn{detyp=Date}
                 SELECTFROM ((contractedEndDate \/ Delta)~;contractedEndDate /\ -I[Date])

                (TO MAINTAIN  -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI
                INSERT INTO Isn{detyp=RentalCase}
                 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                INSERT INTO Isn{detyp=Date}
                 SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

          (MAINTAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMa
          (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
          (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
          (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
          (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
          (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
          (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
          (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
          (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
          (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contr
          (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
          (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
          (MAINTAINING -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI contrac
```

------ Derivation ----->

```
    ONE OF INSERT INTO dateIntervalIsWithinMaxRentalDuration[Date*Date]
            SELECTFROM (contractedStartDate~;contractedEndDate /\ -dateIntervalIsWithinMa

           (TO MAINTAIN  -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithi
           INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
            SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con

           (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
           INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
            SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con

           (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
           INSERT INTO contractedEndDate[RentalCase*Date]
            SELECTFROM rentalHasBeenPromised~;(contractedEndDate \/ Delta) /\ -contracted
```

```
(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised) \/ contractedEndDate
INSERT INTO Isn{detyp=Date}
 SELECTFROM ((contractedEndDate \/ Delta)~;rentalHasBeenPromised;contractedEnd

(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised;contractedEndDate) \/
INSERT INTO contractedEndDate[RentalCase*Date]
 SELECTFROM (rentalHasBeenPromised;contractedEndDate /\ -contractedEndDate) \/

(TO MAINTAIN  -(rentalHasBeenPromised;contractedEndDate) \/ contractedEndDate
INSERT INTO rentalExcessPeriod[RentalCase*Integer]
 SELECTFROM ((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp

(TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);c
INSERT INTO Isn{detyp=Integer}
 SELECTFROM (rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEndD

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRentalDur
       THEN INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
       PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRentalDur
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Date]*'b'[Re
                           THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
                                 SELECTFROM 'a'[Date]*'b'[Date]

                                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRental
                           PICK a,b FROM dateIntervalCompTrigger~;('a'[Date]*'b
                           THEN INSERT INTO contractedEndDate[RentalCase*Date]
                                 SELECTFROM 'b'[RentalCase]*'a'[Date]

                                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRental
                     (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
                     NEW x:Date;
                       ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
                                SELECTFROM 'a'[Date]*'b'[RentalCase]*'x'[Date]

                               (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDur
                               INSERT INTO contractedEndDate[RentalCase*Date]
                                SELECTFROM 'b'[RentalCase]*'a'[Date]*'x'[Date]

                               (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDur
                       (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /
                     (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
            (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contrac
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;c
NEW x:Date;
  ALL of INSERT INTO contractedStartDate[RentalCase*Date]
          SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
```

```
          (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contracte
          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Date]*((rcMaxRe
                       THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
                             SELECTFROM 'a'[Date]*'b'[Date]

                            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDur
                       PICK a,b FROM dateIntervalCompTrigger~;('x'[Date]*((rcM
                       THEN INSERT INTO contractedEndDate[RentalCase*Date]
                             SELECTFROM 'b'[RentalCase]*'a'[Date]

                                  (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDur
                  (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ con
                  NEW x:Date;
                    ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
                            SELECTFROM 'x'[Date]*((rcMaxRentalDuration;rcMaxRent

                           (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDurati
                           INSERT INTO contractedEndDate[RentalCase*Date]
                            SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration

                           (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDurati
                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ c
                  (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ con
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contracted
  (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;c
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedStartDate~;rcMaxRentalDu
       THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
             SELECTFROM 'a'[Date]*'b'[Date]

            (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
       PICK a,b FROM dateIntervalCompTrigger~;((contractedStartDate~;rcMaxRent
       THEN INSERT INTO contractedEndDate[RentalCase*Date]
             SELECTFROM 'b'[RentalCase]*'a'[Date]

            (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~ /
INSERT INTO dateIntervalCompTrigger[Date*Date]
 SELECTFROM (contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~;con

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRentalDur
       THEN INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
       PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRentalDur
       THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
             SELECTFROM 'a'[Date]*'b'[Date]
```

```
            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate /\ c
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffDate;rcDroppedOffDate~
      THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                  THEN INSERT INTO contractedEndDate[RentalCase
                                        SELECTFROM 'a'[RentalCase]*'b'[Date]

                                       (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                  PICK a,b FROM contractedEndDate~;('a'[RentalC
                                  THEN INSERT INTO firstDate[DateDifference*Dat
                                        SELECTFROM 'b'[DateDifference]*'a'[Date

                                          (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                NEW x:Date;
                                  ALL of INSERT INTO contractedEndDate[RentalCase*Da
                                          SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                            (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                            INSERT INTO firstDate[DateDifference*Date]
                                            SELECTFROM 'b'[DateDifference]*'a'[RentalC

                                          (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                            (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
                           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                  THEN INSERT INTO rcDroppedOffDate[RentalCase*
                                        SELECTFROM 'a'[RentalCase]*'b'[Date]

                                       (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                  PICK a,b FROM rcDroppedOffDate~;('a'[RentalCa
                                  THEN INSERT INTO lastDate[DateDifference*Date
                                        SELECTFROM 'b'[DateDifference]*'a'[Date

                                          (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                NEW x:Date;
                                  ALL of INSERT INTO rcDroppedOffDate[RentalCase*Dat
                                          SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                            (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                            INSERT INTO lastDate[DateDifference*Date]
                                            SELECTFROM 'b'[DateDifference]*'a'[RentalC

                                          (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                            (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
```

```
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
    PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedOffDat
    THEN BLOCK
        (CANNOT CHANGE V[DateDifference*RentalCase] FROM Trigger excess pe
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contrac
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedEndDate;(contractedEndDa
    THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                        THEN INSERT INTO contractedStartDate[RentalCa
                             SELECTFROM 'a'[RentalCase]*'b'[Date]

                             (TO MAINTAIN  -(contractedEndDate;contra
                        PICK a,b FROM contractedStartDate~;('a'[Renta
                        THEN INSERT INTO earliestDate[DateDifferenceP
                             SELECTFROM 'b'[DateDifferencePlusOne]*'

                                (TO MAINTAIN  -(contractedEndDate;contra
                    (MAINTAINING -(contractedEndDate;contractedEndDate~
                    NEW x:Date;
                      ALL of INSERT INTO contractedStartDate[RentalCase*
                              SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                               (TO MAINTAIN  -(contractedEndDate;contracte
                               INSERT INTO earliestDate[DateDifferencePlus
                                SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

                               (TO MAINTAIN  -(contractedEndDate;contracte
                      (MAINTAINING -(contractedEndDate;contractedEndDate
                    (MAINTAINING -(contractedEndDate;contractedEndDate~
                (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ cont
                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                        THEN INSERT INTO contractedEndDate[RentalCase
                             SELECTFROM 'a'[RentalCase]*'b'[Date]

                             (TO MAINTAIN  -(contractedEndDate;contra
                        PICK a,b FROM contractedEndDate~;('a'[RentalC
                        THEN INSERT INTO latestDate[DateDifferencePlu
                             SELECTFROM 'b'[DateDifferencePlusOne]*'

                                (TO MAINTAIN  -(contractedEndDate;contra
                    (MAINTAINING -(contractedEndDate;contractedEndDate~
                    NEW x:Date;
                      ALL of INSERT INTO contractedEndDate[RentalCase*Da
                              SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                               (TO MAINTAIN  -(contractedEndDate;contracte
                               INSERT INTO latestDate[DateDifferencePlusOn
                                SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

                               (TO MAINTAIN  -(contractedEndDate;contracte
                      (MAINTAINING -(contractedEndDate;contractedEndDate
```

```
                                        (MAINTAINING -(contractedEndDate;contractedEndDate~
                                   (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ cont
                              (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedS
                         PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;contract
                         THEN BLOCK
                              (CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigger pr
                    (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;con
                    INSERT INTO projectedRentalPeriod[RentalCase*Integer]
                     SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat

                    (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate;latest
                    INSERT INTO Isn{detyp=Integer}
                     SELECTFROM (projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ cont

                    (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
                    INSERT INTO Isn{detyp=Date}
                     SELECTFROM ((contractedEndDate \/ Delta)~;contractedEndDate /\ -I[Date]) \/ (

                    (TO MAINTAIN  -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI cont
                    INSERT INTO Isn{detyp=RentalCase}
                     SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                    INSERT INTO Isn{detyp=Date}
                     SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

               (MAINTAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMaxRent
               (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
               (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
               (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
               (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
               (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
               (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
               (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
               (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
               (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
               (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
               (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
               (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
               (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
               (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted
               (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
               (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
               (MAINTAINING -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI contractedEn
```

<------End Derivation --

```
     ON DELETE Delta FROM contractedEndDate[RentalCase*Date] EXECUTE    -- (ECA rule
     ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
```

```
 SELECTFROM -((contractedEndDate /\ -Delta);(contractedEndDate /\ -Delta)

(TO MAINTAIN  -rentalHasBeenPromised \/ contractedEndDate;contractedEndDa
ONE OF DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM rentalHasBeenPromised;(-(contractedEndDate /\ -Delta)

       (TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised) \/ contra
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM contractedEndDate;(-(contractedEndDate /\ -Delta)~ /\

       (TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised) \/ contra
(MAINTAINING -(contractedEndDate~;rentalHasBeenPromised) \/ contractedEndD
ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM ((-contractedEndDate /\ rentalHasBeenPromised;contract

       (TO MAINTAIN  -(rentalHasBeenPromised;contractedEndDate) \/ contra
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM rentalHasBeenPromised~;((-contractedEndDate /\ rentalH

       (TO MAINTAIN  -(rentalHasBeenPromised;contractedEndDate) \/ contra
(MAINTAINING -(rentalHasBeenPromised;contractedEndDate) \/ contractedEndDa
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
        SELECTFROM (-(contractedStartDate;dateIntervalCompTrigger;(contra

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
       DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
        SELECTFROM (-((contractedEndDate /\ -Delta);dateIntervalCompTrigg

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-(contractedStartDate;dateIntervalCompTrigger;(contra

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-((contractedEndDate /\ -Delta);dateIntervalCompTrigg

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-(contractedStartDate;dateIntervalCompTrigger;(contra

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-((contractedEndDate /\ -Delta);dateIntervalCompTrigg

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -(contractedStartDate;dateIntervalCompTrigger;(contrac

       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDa
```

```
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;(-((contracte

       (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
       DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
        SELECTFROM contractedStartDate;(-(dateIntervalCompTrigger;(contra

       (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
       DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
        SELECTFROM (-((contractedEndDate /\ -Delta);dateIntervalCompTrigg

       (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM contractedEndDate;contractedEndDate~;(-((contractedEndD

       (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM contractedStartDate;(-(dateIntervalCompTrigger;(contra

       (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-((contractedEndDate /\ -Delta);dateIntervalCompTrigg

       (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM contractedStartDate;contractedStartDate~;(-((contracte

       (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM contractedStartDate;(-(dateIntervalCompTrigger;(contra

       (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-((contractedEndDate /\ -Delta);dateIntervalCompTrigg

       (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM -((contractedEndDate /\ -Delta);dateIntervalCompTrigge

       (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurati
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-(((contractedEndDate /\ -Delta);firstDate~ /\ rcDrop

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEn
       DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifference];(firstDate;(contracted

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEn
       DELETE FROM contractedEndDate[RentalCase*Date]
```

```
                    SELECTFROM (-(((contractedEndDate /\ -Delta);firstDate~ /\ rcDrop

                   (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEn
                   DELETE FROM contractedEndDate[RentalCase*Date]
                    SELECTFROM (-(V[RentalCase*DateDifference];(firstDate;(contracted

                   (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEn
                   DELETE FROM Isn{detyp=RentalCase}
                    SELECTFROM -(((contractedEndDate /\ -Delta);firstDate~ /\ rcDropp

                   (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEn
           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;co
           ONE OF DELETE FROM contractedEndDate[RentalCase*Date]
                    SELECTFROM (-((contractedStartDate;earliestDate~ /\ (contractedEn

                   (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
                   DELETE FROM contractedEndDate[RentalCase*Date]
                    SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;c

                   (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
                   DELETE FROM contractedStartDate[RentalCase*Date]
                    SELECTFROM (-((contractedStartDate;earliestDate~ /\ (contractedEn

                   (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
                   DELETE FROM contractedStartDate[RentalCase*Date]
                    SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;c

                   (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
                   DELETE FROM Isn{detyp=RentalCase}
                    SELECTFROM -((contractedStartDate;earliestDate~ /\ (contractedEnd

                   (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
          (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDat
    (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
    (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
    (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
    (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contr
```

------ Derivation ----->

```
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -((contractedEndDate /\ -Delta);(contractedEndDate /\ -Delta)~) /\

       (TO MAINTAIN  -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ F
       ONE OF DELETE FROM contractedEndDate[RentalCase*Date]
```

```
 SELECTFROM rentalHasBeenPromised;(-(contractedEndDate /\ -Delta) /\ re

(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised) \/ contracted
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
 SELECTFROM contractedEndDate;(-(contractedEndDate /\ -Delta)~ /\ contr

(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised) \/ contracted
(MAINTAINING -(contractedEndDate~;rentalHasBeenPromised) \/ contractedEndDate~
ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
 SELECTFROM ((-contractedEndDate /\ rentalHasBeenPromised;contractedEnd

(TO MAINTAIN  -(rentalHasBeenPromised;contractedEndDate) \/ contractedE
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM rentalHasBeenPromised~;((-contractedEndDate /\ rentalHasBee

(TO MAINTAIN  -(rentalHasBeenPromised;contractedEndDate) \/ contractedE
(MAINTAINING -(rentalHasBeenPromised;contractedEndDate) \/ contractedEndDate F
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM (-(contractedStartDate;dateIntervalCompTrigger;(contractedE

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM (-((contractedEndDate /\ -Delta);dateIntervalCompTrigger~;c

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM (-(contractedStartDate;dateIntervalCompTrigger;(contractedE

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM (-((contractedEndDate /\ -Delta);dateIntervalCompTrigger~;c

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-(contractedStartDate;dateIntervalCompTrigger;(contractedE

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-((contractedEndDate /\ -Delta);dateIntervalCompTrigger~;c

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -(contractedStartDate;dateIntervalCompTrigger;(contractedEn

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;c
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;(-((contractedEndD

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
```

```
        DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
         SELECTFROM contractedStartDate;(-(dateIntervalCompTrigger;(contractedE

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
         SELECTFROM (-((contractedEndDate /\ -Delta);dateIntervalCompTrigger~)

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM contractedEndDate;contractedEndDate~;(-((contractedEndDate

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM contractedStartDate;(-(dateIntervalCompTrigger;(contractedE

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM (-((contractedEndDate /\ -Delta);dateIntervalCompTrigger~)

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM contractedStartDate;contractedStartDate~;(-((contractedEndD

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM contractedStartDate;(-(dateIntervalCompTrigger;(contractedE

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM (-((contractedEndDate /\ -Delta);dateIntervalCompTrigger~)

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM -((contractedEndDate /\ -Delta);dateIntervalCompTrigger~) /

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~ /
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
         SELECTFROM (-(((contractedEndDate /\ -Delta);firstDate~ /\ rcDroppedOf

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate
        DELETE FROM rcDroppedOffDate[RentalCase*Date]
         SELECTFROM (-(V[RentalCase*DateDifference];(firstDate;(contractedEndDa

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM (-(((contractedEndDate /\ -Delta);firstDate~ /\ rcDroppedOf

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate
        DELETE FROM contractedEndDate[RentalCase*Date]
```

```
                 SELECTFROM (-(V[RentalCase*DateDifference];(firstDate;(contractedEndDa

                (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate
                DELETE FROM Isn{detyp=RentalCase}
                 SELECTFROM -(((contractedEndDate /\ -Delta);firstDate~ /\ rcDroppedOff

                (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate
          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contrac
          ONE OF DELETE FROM contractedEndDate[RentalCase*Date]
                 SELECTFROM (-((contractedStartDate;earliestDate~ /\ (contractedEndDate

                (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
                DELETE FROM contractedEndDate[RentalCase*Date]
                 SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;contra

                (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
                DELETE FROM contractedStartDate[RentalCase*Date]
                 SELECTFROM (-((contractedStartDate;earliestDate~ /\ (contractedEndDate

                (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
                DELETE FROM contractedStartDate[RentalCase*Date]
                 SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;contra

                (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
                DELETE FROM Isn{detyp=RentalCase}
                 SELECTFROM -((contractedStartDate;earliestDate~ /\ (contractedEndDate

                (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
           (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;con
      (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
      (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
      (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
      (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
      (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
      (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
      (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted
```

<------End Derivation --

```
      ON INSERT Delta IN contractedCarType[RentalCase*CarType] EXECUTE    -- (ECA rule
      ONE OF INSERT INTO carType[Car*CarType]
              SELECTFROM rcAssignedCar~;(contractedCarType \/ Delta) /\ -carType

             (TO MAINTAIN  -(contractedCarType~;rcAssignedCar) \/ carType~ FROM Rented
             INSERT INTO Isn{detyp=CarType}
              SELECTFROM (contractedCarType \/ Delta)~;rcAssignedCar;carType /\ -I[Car

             (TO MAINTAIN  -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] F
```

```
INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
 SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
 SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
INSERT INTO contractedCarType[RentalCase*CarType]
 SELECTFROM rentalHasBeenPromised~;(contractedCarType \/ Delta) /\ -contra

(TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised) \/ contractedCa
INSERT INTO Isn{detyp=CarType}
 SELECTFROM ((contractedCarType \/ Delta)~;rentalHasBeenPromised;contract

(TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised;contractedCarTyp
INSERT INTO contractedCarType[RentalCase*CarType]
 SELECTFROM (rentalHasBeenPromised;contractedCarType /\ -contractedCarTyp

(TO MAINTAIN  -(rentalHasBeenPromised;contractedCarType) \/ contractedCar
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedPickupBranch~;(I[Re
       THEN INSERT INTO carAvailableAt[Car*Branch]
             SELECTFROM 'b'[Car]*'a'[Branch]

            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ ren
       PICK a,b FROM carAvailableAt;((contractedPickupBranch~;(I[RentalCa
       THEN INSERT INTO carType[Car*CarType]
             SELECTFROM 'a'[Car]*'b'[CarType]

            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ ren
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPro
NEW x:Car;
  ALL of INSERT INTO carAvailableAt[Car*Branch]
          SELECTFROM 'x'[Car]*((contractedCarType~;(I[RentalCase] /\ renta

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentall
         INSERT INTO carType[Car*CarType]
          SELECTFROM 'x'[Car]*((contractedPickupBranch~;(I[RentalCase] /\

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentall
  (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPro
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedCarType;(contracted
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                  THEN INSERT INTO projectedRentalPeriod[R
                                        SELECTFROM 'a'[RentalCase]*'b'[Int

                                       (TO MAINTAIN  -(contractedCarType;c
                                  PICK a,b FROM projectedRentalPeriod~;('a
                                  THEN INSERT INTO ctcNrOfDays[CompTariffe
```

```
                    SELECTFROM 'b'[CompTariffedCharge]

                 (TO MAINTAIN  -(contractedCarType;c
          (MAINTAINING -(contractedCarType;contractedCarT
          NEW x:Integer;
            ALL of INSERT INTO projectedRentalPeriod[Renta
                    SELECTFROM 'a'[RentalCase]*'b'[CompTa

                   (TO MAINTAIN  -(contractedCarType;cont
                   INSERT INTO ctcNrOfDays[CompTariffedCha
                    SELECTFROM 'b'[CompTariffedCharge]*'a

                   (TO MAINTAIN  -(contractedCarType;cont
            (MAINTAINING -(contractedCarType;contractedCa
          (MAINTAINING -(contractedCarType;contractedCarT
(MAINTAINING -(contractedCarType;contractedCarType~ /\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
       THEN INSERT INTO contractedCarType[Rental
            SELECTFROM 'a'[RentalCase]*'b'[Car

            (TO MAINTAIN  -(contractedCarType;c
       PICK a,b FROM contractedCarType~;('a'[Re
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                          THEN INSERT INTO renta
                               SELECTFROM 'a'[

                              (TO MAINTAIN  -(
                          PICK a,b FROM rentalTa
                          THEN INSERT INTO ctcDa
                               SELECTFROM 'b'[

                                   (TO MAINTAIN  -(
                       (MAINTAINING -(contractedCar
                       NEW x:Amount;
                         ALL of INSERT INTO rentalTa
                                  SELECTFROM 'a'[Car

                                    (TO MAINTAIN  -(con
                                    INSERT INTO ctcDail
                                     SELECTFROM 'b'[Com

                                    (TO MAINTAIN  -(con
                         (MAINTAINING -(contractedCa
                       (MAINTAINING -(contractedCar
            (MAINTAINING -(contractedCarType;co
          (MAINTAINING -(contractedCarType;contractedCarT
          NEW x:CarType;
            ALL of INSERT INTO contractedCarType[RentalCa
                    SELECTFROM 'a'[RentalCase]*'b'[CompTa
```

```
                                                    (TO MAINTAIN  -(contractedCarType;conti
                                                   ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                                 THEN INSERT INTO rentalTa
                                                                       SELECTFROM 'a'[Car

                                                                      (TO MAINTAIN  -(con
                                                                 PICK a,b FROM rentalTari
                                                                 THEN INSERT INTO ctcDail
                                                                       SELECTFROM 'b'[Com

                                                                          (TO MAINTAIN  -(con
                                                            (MAINTAINING -(contractedCarTyp
                                                            NEW x:Amount;
                                                              ALL of INSERT INTO rentalTari
                                                                      SELECTFROM 'x'[CarTyp

                                                                        (TO MAINTAIN  -(contra
                                                                        INSERT INTO ctcDailyAm
                                                                         SELECTFROM 'b'[CompTa

                                                                        (TO MAINTAIN  -(contra
                                                              (MAINTAINING -(contractedCarT
                                                            (MAINTAINING -(contractedCarTyp
                                                     (MAINTAINING -(contractedCarType;contra
                                                (MAINTAINING -(contractedCarType;contractedCa
                                               (MAINTAINING -(contractedCarType;contractedCarT
                                          (MAINTAINING -(contractedCarType;contractedCarType~ /\
                                     (MAINTAINING -(contractedCarType;contractedCarType~ /\ projec
                 PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmoun
                 THEN BLOCK
                      (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeri
INSERT INTO projectedBasicCharge[RentalCase*Amount]
 SELECTFROM ((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;ren

(TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;
INSERT INTO Isn{detyp=Amount}
 SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
INSERT INTO Isn{detyp=CarType}
 SELECTFROM ((contractedCarType \/ Delta)~;contractedCarType /\ -I[CarTyp

(TO MAINTAIN  -(contractedCarType~;contractedCarType) \/ I[CarType] FROM
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{detyp=CarType}
 SELECTFROM (Delta~;Delta /\ I[CarType]) - I[CarType]
```

```
(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;pro
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINTAINING -(contractedCarType~;contractedCarType) \/ I[CarType] FROM UNI cont
```

------ Derivation ----->

```
ONE OF INSERT INTO carType[Car*CarType]
        SELECTFROM rcAssignedCar~;(contractedCarType \/ Delta) /\ -carType

       (TO MAINTAIN  -(contractedCarType~;rcAssignedCar) \/ carType~ FROM Rented car
       INSERT INTO Isn{detyp=CarType}
        SELECTFROM (contractedCarType \/ Delta)~;rcAssignedCar;carType /\ -I[CarType]

       (TO MAINTAIN  -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] FROM R
       INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;(co

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;(co

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       INSERT INTO contractedCarType[RentalCase*CarType]
        SELECTFROM rentalHasBeenPromised~;(contractedCarType \/ Delta) /\ -contracted

       (TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised) \/ contractedCarType
       INSERT INTO Isn{detyp=CarType}
        SELECTFROM ((contractedCarType \/ Delta)~;rentalHasBeenPromised;contractedCar

       (TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised;contractedCarType) \/
       INSERT INTO contractedCarType[RentalCase*CarType]
        SELECTFROM (rentalHasBeenPromised;contractedCarType /\ -contractedCarType) \/

       (TO MAINTAIN  -(rentalHasBeenPromised;contractedCarType) \/ contractedCarType
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedPickupBranch~;(I[RentalC
              THEN INSERT INTO carAvailableAt[Car*Branch]
                    SELECTFROM 'b'[Car]*'a'[Branch]
```

```
            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHa
       PICK a,b FROM carAvailableAt;((contractedPickupBranch~;(I[RentalCase] /
       THEN INSERT INTO carType[Car*CarType]
             SELECTFROM 'a'[Car]*'b'[CarType]

            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHa
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
NEW x:Car;
  ALL of INSERT INTO carAvailableAt[Car*Branch]
          SELECTFROM 'x'[Car]*((contractedCarType~;(I[RentalCase] /\ rentalHas

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBe
         INSERT INTO carType[Car*CarType]
          SELECTFROM 'x'[Car]*((contractedPickupBranch~;(I[RentalCase] /\ rent

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBe
  (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromis
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedCarType;(contractedCarTy
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                  THEN INSERT INTO projectedRentalPeriod[Rental
                                        SELECTFROM 'a'[RentalCase]*'b'[Integer]

                                       (TO MAINTAIN  -(contractedCarType;contra
                                  PICK a,b FROM projectedRentalPeriod~;('a'[Ren
                                  THEN INSERT INTO ctcNrOfDays[CompTariffedChar
                                        SELECTFROM 'b'[CompTariffedCharge]*'a'[

                                           (TO MAINTAIN  -(contractedCarType;contra
                                (MAINTAINING -(contractedCarType;contractedCarType~
                                NEW x:Integer;
                                  ALL of INSERT INTO projectedRentalPeriod[RentalCas
                                          SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

                                         (TO MAINTAIN  -(contractedCarType;contracte
                                         INSERT INTO ctcNrOfDays[CompTariffedCharge*
                                          SELECTFROM 'b'[CompTariffedCharge]*'a'[Ren

                                         (TO MAINTAIN  -(contractedCarType;contracte
                                   (MAINTAINING -(contractedCarType;contractedCarType
                                  (MAINTAINING -(contractedCarType;contractedCarType~
                           (MAINTAINING -(contractedCarType;contractedCarType~ /\ proj
                           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                  THEN INSERT INTO contractedCarType[RentalCase
                                        SELECTFROM 'a'[RentalCase]*'b'[CarType]

                                       (TO MAINTAIN  -(contractedCarType;contra
                                  PICK a,b FROM contractedCarType~;('a'[RentalC
                                  THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
```

```
                                                    THEN INSERT INTO rentalTar
                                                          SELECTFROM 'a'[CarTy

                                                         (TO MAINTAIN  -(contr
                                                    PICK a,b FROM rentalTariff
                                                    THEN INSERT INTO ctcDailyA
                                                          SELECTFROM 'b'[CompT

                                                               (TO MAINTAIN  -(contr
                                                  (MAINTAINING -(contractedCarType;
                                                  NEW x:Amount;
                                                    ALL of INSERT INTO rentalTariff
                                                            SELECTFROM 'a'[CarType]

                                                             (TO MAINTAIN  -(contract
                                                            INSERT INTO ctcDailyAmou
                                                             SELECTFROM 'b'[CompTari

                                                             (TO MAINTAIN  -(contract
                                                      (MAINTAINING -(contractedCarTyp
                                                    (MAINTAINING -(contractedCarType;
                                           (MAINTAINING -(contractedCarType;contrac
                                  (MAINTAINING -(contractedCarType;contractedCarType~
                                 NEW x:CarType;
                                   ALL of INSERT INTO contractedCarType[RentalCase*Ca
                                           SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

                                          (TO MAINTAIN  -(contractedCarType;contracte
                                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                       THEN INSERT INTO rentalTariff
                                                             SELECTFROM 'a'[CarType]

                                                             (TO MAINTAIN  -(contract
                                                       PICK a,b FROM rentalTariffPer
                                                       THEN INSERT INTO ctcDailyAmou
                                                             SELECTFROM 'b'[CompTari

                                                          (TO MAINTAIN  -(contract
                                                (MAINTAINING -(contractedCarType;con
                                                NEW x:Amount;
                                                  ALL of INSERT INTO rentalTariffPer
                                                          SELECTFROM 'x'[CarType]*'a

                                                        (TO MAINTAIN  -(contractedC
                                                        INSERT INTO ctcDailyAmount[
                                                         SELECTFROM 'b'[CompTariffe

                                                        (TO MAINTAIN  -(contractedC
                                                  (MAINTAINING -(contractedCarType;c
                                                (MAINTAINING -(contractedCarType;con
```

```
                                                    (MAINTAINING -(contractedCarType;contracted
                                                (MAINTAINING -(contractedCarType;contractedCarType
                                            (MAINTAINING -(contractedCarType;contractedCarType~
                                        (MAINTAINING -(contractedCarType;contractedCarType~ /\ proj
                                   (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRe
                             PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount;ren
                             THEN BLOCK
                                  (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger proje
                        (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;p
                        INSERT INTO projectedBasicCharge[RentalCase*Amount]
                         SELECTFROM ((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa

                        (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
                        INSERT INTO Isn{detyp=Amount}
                         SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ cont

                        (TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
                        INSERT INTO Isn{detyp=CarType}
                         SELECTFROM ((contractedCarType \/ Delta)~;contractedCarType /\ -I[CarType]) \

                        (TO MAINTAIN  -(contractedCarType~;contractedCarType) \/ I[CarType] FROM UNI c
                        INSERT INTO Isn{detyp=RentalCase}
                         SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                        INSERT INTO Isn{detyp=CarType}
                         SELECTFROM (Delta~;Delta /\ I[CarType]) - I[CarType]

                   (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
                   (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
                   (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
                   (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
                   (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
                   (MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
                   (MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
                   (MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
                   (MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
                   (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\ -(r
                   (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
                   (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
                   (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
                   (MAINTAINING -(contractedCarType~;contractedCarType) \/ I[CarType] FROM UNI contracte
```

<------End Derivation --

```
        ON DELETE Delta FROM contractedCarType[RentalCase*CarType] EXECUTE    -- (ECA ru
        ALL of DELETE FROM rcAssignedCar[RentalCase*Car]
                SELECTFROM -((contractedCarType /\ -Delta);carType~) /\ rcAssignedCar
```

```
(TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FROM Rented ca
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM ((-contractedCarType /\ rcAssignedCar;carType) \/ (Del

       (TO MAINTAIN  -(rcAssignedCar;carType) \/ contractedCarType FROM R
       DELETE FROM carType[Car*CarType]
        SELECTFROM rcAssignedCar~;((-contractedCarType /\ rcAssignedCar;c

       (TO MAINTAIN  -(rcAssignedCar;carType) \/ contractedCarType FROM R
(MAINTAINING -(rcAssignedCar;carType) \/ contractedCarType FROM Rented ca
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
 SELECTFROM -((contractedCarType /\ -Delta);(contractedCarType /\ -Delta)

(TO MAINTAIN  -rentalHasBeenPromised \/ contractedCarType;contractedCarTy
ONE OF DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM rentalHasBeenPromised;(-(contractedCarType /\ -Delta)

       (TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised) \/ contr
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM contractedCarType;(-(contractedCarType /\ -Delta)~ /\

       (TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised) \/ contr
(MAINTAINING -(contractedCarType~;rentalHasBeenPromised) \/ contractedCar
ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM ((-contractedCarType /\ rentalHasBeenPromised;contract

       (TO MAINTAIN  -(rentalHasBeenPromised;contractedCarType) \/ contra
       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM rentalHasBeenPromised~;((-contractedCarType /\ rentalH

       (TO MAINTAIN  -(rentalHasBeenPromised;contractedCarType) \/ contra
(MAINTAINING -(rentalHasBeenPromised;contractedCarType) \/ contractedCarT
ONE OF DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM (-((projectedRentalPeriod;ctcNrOfDays~ /\ (contractedC

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedR
       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;proje

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedR
       DELETE FROM projectedRentalPeriod[RentalCase*Integer]
        SELECTFROM (-((projectedRentalPeriod;ctcNrOfDays~ /\ (contractedC

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedR
       DELETE FROM projectedRentalPeriod[RentalCase*Integer]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;proje

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedR
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((projectedRentalPeriod;ctcNrOfDays~ /\ (contractedCa
```

```
                    (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedR
              (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPer
        (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
        (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
        (MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
        (MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
        (MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
        (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;pro
```

------ Derivation ----->

```
ALL of DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM -((contractedCarType /\ -Delta);carType~) /\ rcAssignedCar

       (TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car typ
       ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM ((-contractedCarType /\ rcAssignedCar;carType) \/ (Delta /\

              (TO MAINTAIN  -(rcAssignedCar;carType) \/ contractedCarType FROM Rented
              DELETE FROM carType[Car*CarType]
               SELECTFROM rcAssignedCar~;((-contractedCarType /\ rcAssignedCar;carTyp

              (TO MAINTAIN  -(rcAssignedCar;carType) \/ contractedCarType FROM Rented
       (MAINTAINING -(rcAssignedCar;carType) \/ contractedCarType FROM Rented car typ
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -((contractedCarType /\ -Delta);(contractedCarType /\ -Delta)~) /\

       (TO MAINTAIN  -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ F
       ONE OF DELETE FROM contractedCarType[RentalCase*CarType]
               SELECTFROM rentalHasBeenPromised;(-(contractedCarType /\ -Delta) /\ re

              (TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised) \/ contracted
              DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM contractedCarType;(-(contractedCarType /\ -Delta)~ /\ contr

              (TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised) \/ contracted
       (MAINTAINING -(contractedCarType~;rentalHasBeenPromised) \/ contractedCarType~
       ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM ((-contractedCarType /\ rentalHasBeenPromised;contractedCar

              (TO MAINTAIN  -(rentalHasBeenPromised;contractedCarType) \/ contractedC
              DELETE FROM contractedCarType[RentalCase*CarType]
               SELECTFROM rentalHasBeenPromised~;((-contractedCarType /\ rentalHasBee

              (TO MAINTAIN  -(rentalHasBeenPromised;contractedCarType) \/ contractedC
       (MAINTAINING -(rentalHasBeenPromised;contractedCarType) \/ contractedCarType F
       ONE OF DELETE FROM contractedCarType[RentalCase*CarType]
```

```
                 SELECTFROM (-((projectedRentalPeriod;ctcNrOfDays~ /\ (contractedCarTyp

                (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRental
                DELETE FROM contractedCarType[RentalCase*CarType]
                 SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;projectedR

                (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRental
                DELETE FROM projectedRentalPeriod[RentalCase*Integer]
                 SELECTFROM (-((projectedRentalPeriod;ctcNrOfDays~ /\ (contractedCarTyp

                (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRental
                DELETE FROM projectedRentalPeriod[RentalCase*Integer]
                 SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;projectedR

                (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRental
                DELETE FROM Isn{detyp=RentalCase}
                 SELECTFROM -((projectedRentalPeriod;ctcNrOfDays~ /\ (contractedCarType

                (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRental
          (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;p
(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
```

<------End Derivation --

```
     ON INSERT Delta IN contractedPickupBranch[RentalCase*Branch] EXECUTE    -- (ECA
     ONE OF INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
             SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp

            (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
            INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
             SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp

            (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
            INSERT INTO contractedPickupBranch[RentalCase*Branch]
             SELECTFROM rentalHasBeenPromised~;(contractedPickupBranch \/ Delta) /\ -

            (TO MAINTAIN  -(contractedPickupBranch~;rentalHasBeenPromised) \/ contrac
            INSERT INTO Isn{detyp=Branch}
             SELECTFROM ((contractedPickupBranch \/ Delta)~;rentalHasBeenPromised;con

            (TO MAINTAIN  -(contractedPickupBranch~;rentalHasBeenPromised;contractedP
            INSERT INTO contractedPickupBranch[RentalCase*Branch]
             SELECTFROM (rentalHasBeenPromised;contractedPickupBranch /\ -contractedP
```

```
(TO MAINTAIN  -(rentalHasBeenPromised;contractedPickupBranch) \/ contract
INSERT INTO rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM (contractedPickupBranch;branchOf;maxRentalDuration /\ -rcMaxR

(TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcM
INSERT INTO Isn{detyp=Integer}
 SELECTFROM (rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRenta

(TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxR
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedPickupBranch \/ Del
       THEN INSERT INTO carAvailableAt[Car*Branch]
             SELECTFROM 'b'[Car]*'a'[Branch]

            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ ren
       PICK a,b FROM carAvailableAt;((contractedPickupBranch \/ Delta)~;(
       THEN INSERT INTO carType[Car*CarType]
             SELECTFROM 'a'[Car]*'b'[CarType]

            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ ren
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPro
NEW x:Car;
  ALL of INSERT INTO carAvailableAt[Car*Branch]
          SELECTFROM 'x'[Car]*(contractedCarType~;(I[RentalCase] /\ renta

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentall
         INSERT INTO carType[Car*CarType]
          SELECTFROM 'x'[Car]*((contractedPickupBranch \/ Delta)~;(I[Renta

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentall
  (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPro
INSERT INTO Isn{detyp=Branch}
 SELECTFROM (contractedPickupBranch \/ Delta)~;(I[RentalCase] /\ rcBranch

(TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequest
INSERT INTO Isn{detyp=Branch}
 SELECTFROM ((contractedPickupBranch \/ Delta)~;contractedPickupBranch /\

(TO MAINTAIN  -(contractedPickupBranch~;contractedPickupBranch) \/ I[Bran
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{detyp=Branch}
 SELECTFROM (Delta~;Delta /\ I[Branch]) - I[Branch]

(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
```

```
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
(MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentall
(MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentall
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINTAINING -(contractedPickupBranch~;contractedPickupBranch) \/ I[Branch] FROM
```

------ Derivation ----->

```
ONE OF INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM rentalHasBeenPromised~;(contractedPickupBranch \/ Delta) /\ -contr

       (TO MAINTAIN  -(contractedPickupBranch~;rentalHasBeenPromised) \/ contractedPi
       INSERT INTO Isn{detyp=Branch}
        SELECTFROM ((contractedPickupBranch \/ Delta)~;rentalHasBeenPromised;contract

       (TO MAINTAIN  -(contractedPickupBranch~;rentalHasBeenPromised;contractedPickup
       INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM (rentalHasBeenPromised;contractedPickupBranch /\ -contractedPickup

       (TO MAINTAIN  -(rentalHasBeenPromised;contractedPickupBranch) \/ contractedPic
       INSERT INTO rcMaxRentalDuration[RentalCase*Integer]
        SELECTFROM (contractedPickupBranch;branchOf;maxRentalDuration /\ -rcMaxRental

       (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRen
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM (rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRentalDur

       (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRental
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedPickupBranch \/ Delta)~;
              THEN INSERT INTO carAvailableAt[Car*Branch]
                    SELECTFROM 'b'[Car]*'a'[Branch]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHa
              PICK a,b FROM carAvailableAt;((contractedPickupBranch \/ Delta)~;(I[Ren
              THEN INSERT INTO carType[Car*CarType]
                    SELECTFROM 'a'[Car]*'b'[CarType]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHa
```

```
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
NEW x:Car;
  ALL of INSERT INTO carAvailableAt[Car*Branch]
          SELECTFROM 'x'[Car]*(contractedCarType~;(I[RentalCase] /\ rentalHasB

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBe
         INSERT INTO carType[Car*CarType]
          SELECTFROM 'x'[Car]*((contractedPickupBranch \/ Delta)~;(I[RentalCas

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBe
  (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromis
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
INSERT INTO Isn{detyp=Branch}
 SELECTFROM (contractedPickupBranch \/ Delta)~;(I[RentalCase] /\ rcBranchReque

(TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'
INSERT INTO Isn{detyp=Branch}
 SELECTFROM ((contractedPickupBranch \/ Delta)~;contractedPickupBranch /\ -I[B

(TO MAINTAIN  -(contractedPickupBranch~;contractedPickupBranch) \/ I[Branch] F
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{detyp=Branch}
 SELECTFROM (Delta~;Delta /\ I[Branch]) - I[Branch]

(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDurat
(MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDurat
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\ -(r
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -(contractedPickupBranch~;contractedPickupBranch) \/ I[Branch] FROM UNI
```

<------End Derivation --

```
ON DELETE Delta FROM contractedPickupBranch[RentalCase*Branch] EXECUTE    -- (EC
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -((contractedPickupBranch /\ -Delta);(contractedPickupBranch

       (TO MAINTAIN  -rentalHasBeenPromised \/ contractedPickupBranch;contracted
       ONE OF DELETE FROM contractedPickupBranch[RentalCase*Branch]
              SELECTFROM rentalHasBeenPromised;(-(contractedPickupBranch /\ -De
```

```
                (TO MAINTAIN  -(contractedPickupBranch~;rentalHasBeenPromised) \/
                DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                 SELECTFROM contractedPickupBranch;(-(contractedPickupBranch /\ -D

                (TO MAINTAIN  -(contractedPickupBranch~;rentalHasBeenPromised) \/
             (MAINTAINING -(contractedPickupBranch~;rentalHasBeenPromised) \/ contract
             ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                 SELECTFROM ((-contractedPickupBranch /\ rentalHasBeenPromised;con

                (TO MAINTAIN  -(rentalHasBeenPromised;contractedPickupBranch) \/ c
                DELETE FROM contractedPickupBranch[RentalCase*Branch]
                 SELECTFROM rentalHasBeenPromised~;((-contractedPickupBranch /\ re

                (TO MAINTAIN  -(rentalHasBeenPromised;contractedPickupBranch) \/ c
             (MAINTAINING -(rentalHasBeenPromised;contractedPickupBranch) \/ contracte
             ONE OF DELETE FROM Isn{detyp=RentalCase}
                 SELECTFROM ((-contractedPickupBranch /\ (I[RentalCase] /\ rcBranc

                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAn
                DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
                 SELECTFROM ((-contractedPickupBranch /\ (I[RentalCase] /\ rcBranc

                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAn
                DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
                 SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionBranch;

                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAn
                DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
                 SELECTFROM '_SESSION'[SESSION];sessionBranch;((-contractedPickupB

                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAn
                DELETE FROM sessionBranch[SESSION*Branch]
                 SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(I[RentalCase]

                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAn
             (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rc
          (MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
          (MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
          (MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
          (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
```

------ Derivation ----->

```
     ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
             SELECTFROM -((contractedPickupBranch /\ -Delta);(contractedPickupBranch /\ -D

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedPickupBranch;contractedPicku
            ONE OF DELETE FROM contractedPickupBranch[RentalCase*Branch]
```

```
                 SELECTFROM rentalHasBeenPromised;(-(contractedPickupBranch /\ -Delta)

                (TO MAINTAIN  -(contractedPickupBranch~;rentalHasBeenPromised) \/ contr
                DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                 SELECTFROM contractedPickupBranch;(-(contractedPickupBranch /\ -Delta)

                (TO MAINTAIN  -(contractedPickupBranch~;rentalHasBeenPromised) \/ contr
          (MAINTAINING -(contractedPickupBranch~;rentalHasBeenPromised) \/ contractedPic
          ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                 SELECTFROM ((-contractedPickupBranch /\ rentalHasBeenPromised;contract

                (TO MAINTAIN  -(rentalHasBeenPromised;contractedPickupBranch) \/ contra
                DELETE FROM contractedPickupBranch[RentalCase*Branch]
                 SELECTFROM rentalHasBeenPromised~;((-contractedPickupBranch /\ rentalH

                (TO MAINTAIN  -(rentalHasBeenPromised;contractedPickupBranch) \/ contra
          (MAINTAINING -(rentalHasBeenPromised;contractedPickupBranch) \/ contractedPick
          ONE OF DELETE FROM Isn{detyp=RentalCase}
                 SELECTFROM ((-contractedPickupBranch /\ (I[RentalCase] /\ rcBranchRequ

                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
                DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
                 SELECTFROM ((-contractedPickupBranch /\ (I[RentalCase] /\ rcBranchRequ

                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
                DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
                 SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionBranch;((-co

                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
                DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
                 SELECTFROM '_SESSION'[SESSION];sessionBranch;((-contractedPickupBranch

                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
                DELETE FROM sessionBranch[SESSION*Branch]
                 SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(I[RentalCase] /\ rc

                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
           (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranc
     (MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
     (MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
     (MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
     (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
```

<------End Derivation --

```
     ON INSERT Delta IN contractedDropoffBranch[RentalCase*Branch] EXECUTE    -- (ECA
     ONE OF INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
            SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp
```

```
(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
 SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
INSERT INTO contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM rentalHasBeenPromised~;(contractedDropoffBranch \/ Delta) /\

(TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised) \/ contra
INSERT INTO Isn{detyp=Branch}
 SELECTFROM ((contractedDropoffBranch \/ Delta)~;rentalHasBeenPromised;co

(TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised;contracted
INSERT INTO contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM (rentalHasBeenPromised;contractedDropoffBranch /\ -contracted

(TO MAINTAIN  -(rentalHasBeenPromised;contractedDropoffBranch) \/ contrac
INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;d

(TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranc
INSERT INTO Isn{detyp=Amount}
 SELECTFROM (rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffBranch;distbranch
       THEN INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
             SELECTFROM 'a'[RentalCase]*'b'[Amount]

            (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedD
       PICK a,b FROM rentalLocationPenaltyCharge~;((rcDroppedOffBranch;di
       THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLoca
             SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

            (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedD
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
NEW x:Amount;
  ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
          SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropof

         (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDrop
         INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocatio
          SELECTFROM ((distbranch;rcDroppedOffBranch~ /\ distbranch;contra

         (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDrop
  (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranc
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
INSERT INTO Isn{detyp=Branch}
 SELECTFROM ((contractedDropoffBranch \/ Delta)~;contractedDropoffBranch
```

```
                (TO MAINTAIN  -(contractedDropoffBranch~;contractedDropoffBranch) \/ I[Br
                INSERT INTO Isn{detyp=RentalCase}
                 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                INSERT INTO Isn{detyp=Branch}
                 SELECTFROM (Delta~;Delta /\ I[Branch]) - I[Branch]

          (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
          (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
          (MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoff
          (MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoff
          (MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoff
          (MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoff
          (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbra
          (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbra
          (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbra
          (MAINTAINING -(contractedDropoffBranch~;contractedDropoffBranch) \/ I[Branch] FR
```

------ Derivation ----->

```
    ONE OF INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
            SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con

           (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
           INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
            SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con

           (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
           INSERT INTO contractedDropoffBranch[RentalCase*Branch]
            SELECTFROM rentalHasBeenPromised~;(contractedDropoffBranch \/ Delta) /\ -cont

           (TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised) \/ contractedD
           INSERT INTO Isn{detyp=Branch}
            SELECTFROM ((contractedDropoffBranch \/ Delta)~;rentalHasBeenPromised;contrac

           (TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised;contractedDropo
           INSERT INTO contractedDropoffBranch[RentalCase*Branch]
            SELECTFROM (rentalHasBeenPromised;contractedDropoffBranch /\ -contractedDropo

           (TO MAINTAIN  -(rentalHasBeenPromised;contractedDropoffBranch) \/ contractedDr
           INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
            SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr

           (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;dis
           INSERT INTO Isn{detyp=Amount}
            SELECTFROM (rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /\ c
```

```
(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffBranch;distbranch~ /\
       THEN INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
             SELECTFROM 'a'[RentalCase]*'b'[Amount]

            (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropof
       PICK a,b FROM rentalLocationPenaltyCharge~;((rcDroppedOffBranch;distbra
       THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations
             SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

            (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropof
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distb
NEW x:Amount;
  ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
          SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBran

         (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBr
         INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Am
          SELECTFROM ((distbranch;rcDroppedOffBranch~ /\ distbranch;contracted

         (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBr
  (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;dis
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distb
INSERT INTO Isn{detyp=Branch}
 SELECTFROM ((contractedDropoffBranch \/ Delta)~;contractedDropoffBranch /\ -I

(TO MAINTAIN  -(contractedDropoffBranch~;contractedDropoffBranch) \/ I[Branch]
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{detyp=Branch}
 SELECTFROM (Delta~;Delta /\ I[Branch]) - I[Branch]

(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranc
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranc
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranc
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranc
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -(contractedDropoffBranch~;contractedDropoffBranch) \/ I[Branch] FROM UN
```

<------End Derivation --

```
ON DELETE Delta FROM contractedDropoffBranch[RentalCase*Branch] EXECUTE    -- (E
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
```

```
                 SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropoffBranch

                (TO MAINTAIN  -rentalHasBeenPromised \/ contractedDropoffBranch;contracte
                ONE OF DELETE FROM contractedDropoffBranch[RentalCase*Branch]
                        SELECTFROM rentalHasBeenPromised;(-(contractedDropoffBranch /\ -D

                       (TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised) \/
                       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                        SELECTFROM contractedDropoffBranch;(-(contractedDropoffBranch /\

                       (TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised) \/
                (MAINTAINING -(contractedDropoffBranch~;rentalHasBeenPromised) \/ contrac
                ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                        SELECTFROM ((-contractedDropoffBranch /\ rentalHasBeenPromised;co

                       (TO MAINTAIN  -(rentalHasBeenPromised;contractedDropoffBranch) \/
                       DELETE FROM contractedDropoffBranch[RentalCase*Branch]
                        SELECTFROM rentalHasBeenPromised~;((-contractedDropoffBranch /\ r

                       (TO MAINTAIN  -(rentalHasBeenPromised;contractedDropoffBranch) \/
                (MAINTAINING -(rentalHasBeenPromised;contractedDropoffBranch) \/ contract
          (MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoff
          (MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoff
          (MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoff
```

------ Derivation ----->

```
     ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
             SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropoffBranch /\

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDrop
            ONE OF DELETE FROM contractedDropoffBranch[RentalCase*Branch]
                    SELECTFROM rentalHasBeenPromised;(-(contractedDropoffBranch /\ -Delta)

                   (TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised) \/ cont
                   DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                    SELECTFROM contractedDropoffBranch;(-(contractedDropoffBranch /\ -Delt

                   (TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised) \/ cont
            (MAINTAINING -(contractedDropoffBranch~;rentalHasBeenPromised) \/ contractedDr
            ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                    SELECTFROM ((-contractedDropoffBranch /\ rentalHasBeenPromised;contrac

                   (TO MAINTAIN  -(rentalHasBeenPromised;contractedDropoffBranch) \/ contr
                   DELETE FROM contractedDropoffBranch[RentalCase*Branch]
                    SELECTFROM rentalHasBeenPromised~;((-contractedDropoffBranch /\ rental

                   (TO MAINTAIN  -(rentalHasBeenPromised;contractedDropoffBranch) \/ contr
```

```
       (MAINTAINING -(rentalHasBeenPromised;contractedDropoffBranch) \/ contractedDro
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranc
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranc
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranc
```

<------End Derivation --

```
ON INSERT Delta IN rcRenter[RentalCase*Person] EXECUTE    -- (ECA rule 31)
ONE OF INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;(rcRenter \/ Delta)~ /\ rcDriver;rcDriver~ /\ contra

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
       INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;(rcRenter \/ Delta)~ /\ rcDriver;rcDriver~ /\ contra

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
       INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM rentalHasBeenPromised~;(rcRenter \/ Delta) /\ -rcRenter

       (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM Promis
       INSERT INTO Isn{detyp=Person}
        SELECTFROM ((rcRenter \/ Delta)~;rentalHasBeenPromised;rcRenter /\ -I[Pe

       (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised;rcRenter) \/ I[Person] FR
       INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM (rentalHasBeenPromised;rcRenter /\ -rcRenter) \/ (rentalHasBe

       (TO MAINTAIN  -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM Promised
       INSERT INTO Isn{detyp=Person}
        SELECTFROM ((rcRenter \/ Delta)~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rc

       (TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
       INSERT INTO Isn{detyp=Person}
        SELECTFROM ((rcRenter \/ Delta)~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcU

       (TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReque
       INSERT INTO Isn{detyp=Person}
        SELECTFROM ((rcRenter \/ Delta)~;rcDriver;rcDriver~;rcRenter /\ (rcRente

       (TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
       INSERT INTO Isn{detyp=Person}
        SELECTFROM ((rcRenter \/ Delta)~;rcRenter /\ -I[Person]) \/ ((rcRenter \

       (TO MAINTAIN  -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::Renta
       INSERT INTO Isn{detyp=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

       INSERT INTO Isn{detyp=Person}
```

```
        SELECTFROM (Delta~;Delta /\ I[Person]) - I[Person]

(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Rent
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
(MAINTAINING -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::RentalCase*Pe
```

------ Derivation ----->

```
ONE OF INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;(rcRenter \/ Delta)~ /\ rcDriver;rcDriver~ /\ contracted

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;(rcRenter \/ Delta)~ /\ rcDriver;rcDriver~ /\ contracted

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM rentalHasBeenPromised~;(rcRenter \/ Delta) /\ -rcRenter

       (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM Promised re
       INSERT INTO Isn{detyp=Person}
        SELECTFROM ((rcRenter \/ Delta)~;rentalHasBeenPromised;rcRenter /\ -I[Person]

       (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised;rcRenter) \/ I[Person] FROM Pr
       INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM (rentalHasBeenPromised;rcRenter /\ -rcRenter) \/ (rentalHasBeenPro

       (TO MAINTAIN  -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM Promised rent
       INSERT INTO Isn{detyp=Person}
        SELECTFROM ((rcRenter \/ Delta)~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysH

       (TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
       INSERT INTO Isn{detyp=Person}
        SELECTFROM ((rcRenter \/ Delta)~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRe

       (TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ
       INSERT INTO Isn{detyp=Person}
        SELECTFROM ((rcRenter \/ Delta)~;rcDriver;rcDriver~;rcRenter /\ (rcRenter \/

       (TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
       INSERT INTO Isn{detyp=Person}
```

```
 SELECTFROM ((rcRenter \/ Delta)~;rcRenter /\ -I[Person]) \/ ((rcRenter \/ Del

(TO MAINTAIN  -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::RentalCase
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{detyp=Person}
 SELECTFROM (Delta~;Delta /\ I[Person]) - I[Person]

(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase]
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
(MAINTAINING -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::RentalCase*Person)
```

<------End Derivation --

```
ON DELETE Delta FROM rcRenter[RentalCase*Person] EXECUTE    -- (ECA rule 32)
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rentalHasBee

      (TO MAINTAIN  -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised
      ONE OF DELETE FROM rcRenter[RentalCase*Person]
              SELECTFROM rentalHasBeenPromised;(-(rcRenter /\ -Delta) /\ rentall

             (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM
             DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
              SELECTFROM rcRenter;(-(rcRenter /\ -Delta)~ /\ rcRenter~;rentalHa

             (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM
      (MAINTAINING -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM Promise
      ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
              SELECTFROM ((-rcRenter /\ rentalHasBeenPromised;rcRenter) \/ (Del

             (TO MAINTAIN  -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM P
             DELETE FROM rcRenter[RentalCase*Person]
              SELECTFROM rentalHasBeenPromised~;((-rcRenter /\ rentalHasBeenPro

             (TO MAINTAIN  -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM P
      (MAINTAINING -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM Promised
      ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
              SELECTFROM (-((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcKe
```

```
(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
 SELECTFROM (-((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcK

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcKey

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM (-((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcUs

(TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequeste
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM (-((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcU

(TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequeste
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcUse

(TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequeste
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I
ONE OF DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM (-((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcDr

(TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[Yes
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM (-((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcD

(TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[Yes
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM (-((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcDr

(TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[Yes
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM (-((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcD

(TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[Yes
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcDri

(TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[Yes
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
```

------ Derivation ----->

```
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rentalHasBeenProm

       (TO MAINTAIN  -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised renta
       ONE OF DELETE FROM rcRenter[RentalCase*Person]
               SELECTFROM rentalHasBeenPromised;(-(rcRenter /\ -Delta) /\ rentalHasBe

              (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM Prom
              DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM rcRenter;(-(rcRenter /\ -Delta)~ /\ rcRenter~;rentalHasBeen

              (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM Prom
       (MAINTAINING -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM Promised ren
       ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM ((-rcRenter /\ rentalHasBeenPromised;rcRenter) \/ (Delta /\

              (TO MAINTAIN  -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM Promis
              DELETE FROM rcRenter[RentalCase*Person]
               SELECTFROM rentalHasBeenPromised~;((-rcRenter /\ rentalHasBeenPromised

              (TO MAINTAIN  -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM Promis
       (MAINTAINING -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM Promised renta
       ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
               SELECTFROM (-((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcKeysHan

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
              DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
               SELECTFROM (-((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcKeysHa

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcKeysHand

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Re
       ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
               SELECTFROM (-((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcUserReq

              (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /
              DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
               SELECTFROM (-((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcUserRe

              (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcUserRequ

              (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /
```

```
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rent
ONE OF DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM (-((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcDriver;

       (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAns
       DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM (-((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcDriver

       (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAns
       DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM (-((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcDriver;

       (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAns
       DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM (-((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcDriver

       (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAns
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcDriver;r

       (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAns
  (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcB
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase]
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
```

<------End Derivation --

```
ON INSERT Delta IN rcDriver[RentalCase*Person] EXECUTE    -- (ECA rule 33)
ALL of INSERT INTO Isn{detyp=Person}
        SELECTFROM ((rcDriver \/ Delta)~;rcDriver /\ -I[Person]) \/ ((rcDriver \

       (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense;
       (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised;rcDriver) \/ I[Person] FR
       (TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
       (TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
       (TO MAINTAIN  -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::Renta
       INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;(rcDriver \/ Delta)~ /\ contr

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
       INSERT INTO rcDriver[RentalCase*Person]
        SELECTFROM (rentalHasBeenPromised~;rcDriver /\ -rcDriver) \/ (rentalHasB
```

```
(TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promis
(TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDriver /\ -(rcDriver
              THEN INSERT INTO rcDriver[RentalCase*Person]
                    SELECTFROM 'a'[RentalCase]*'b'[Person]

                   (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ vali
              PICK a,b FROM rcDriver~;((rcDriver /\ -(rcDriver;(I[Person]
              THEN ALL of INSERT INTO Isn{detyp=Person}
                           SELECTFROM 'a'[Person]*'b'[Person]

                          (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /
                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FRO
                                       THEN INSERT INTO validDrivingLice
                                             SELECTFROM 'a'[Person]*'b'[

                                            (TO MAINTAIN  -rcDriver \/ r
                                       PICK a,b FROM validDrivingLicense
                                       THEN INSERT INTO validDrivingLice
                                             SELECTFROM 'b'[Person]*'a'[

                                            (TO MAINTAIN  -rcDriver \/ r
                                  (MAINTAINING -rcDriver \/ rcDriver;(I[Pe
                                  NEW x:DrivingLicense;
                                    ALL of INSERT INTO validDrivingLicense
                                             SELECTFROM 'a'[Person]*'b'[Per

                                           (TO MAINTAIN  -rcDriver \/ rcDr
                                           INSERT INTO validDrivingLicense
                                            SELECTFROM 'b'[Person]*'a'[Per

                                           (TO MAINTAIN  -rcDriver \/ rcDr
                                     (MAINTAINING -rcDriver \/ rcDriver;(I[
                                    (MAINTAINING -rcDriver \/ rcDriver;(I[Pe
                               (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /
                          (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validD
      (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicens
      NEW x:Person;
        ALL of INSERT INTO rcDriver[RentalCase*Person]
                SELECTFROM ((rcDriver /\ -(rcDriver;(I[Person] /\ validDr

               (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDr
               INSERT INTO Isn{detyp=Person}
                SELECTFROM 'x'[Person]*((rcDriver /\ -(rcDriver;(I[Perso

               (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDr
               ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Per
```

```
                                    THEN INSERT INTO validDrivingLicense[Person
                                          SELECTFROM 'a'[Person]*'b'[DrivingLic

                                         (TO MAINTAIN  -rcDriver \/ rcDriver;(I
                                    PICK a,b FROM validDrivingLicense~;('x'[Per
                                    THEN INSERT INTO validDrivingLicense[Person
                                          SELECTFROM 'b'[Person]*'a'[DrivingLic

                                         (TO MAINTAIN  -rcDriver \/ rcDriver;(I
                               (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ v
                               NEW x:DrivingLicense;
                                 INSERT INTO validDrivingLicense[Person*DrivingLi
                                  SELECTFROM 'x'[Person]*'x'[DrivingLicense] \/ (

                                 (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /
                               (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ v
                     (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDri
           (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLic
       (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicen
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;vali
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((rcDriver \/ Delta)~;r
                    THEN INSERT INTO validDrivingLicense[Person*DrivingLicense]
                          SELECTFROM 'a'[Person]*'b'[DrivingLicense]

                         (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ v
                    PICK a,b FROM validDrivingLicense~;(((rcDriver \/ Delta)~;r
                    THEN INSERT INTO validDrivingLicense[Person*DrivingLicense]
                          SELECTFROM 'b'[Person]*'a'[DrivingLicense]

                         (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ v
       (MAINTAINING -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLi
       NEW x:DrivingLicense;
         INSERT INTO validDrivingLicense[Person*DrivingLicense]
          SELECTFROM (((rcDriver \/ Delta)~;rcDriver /\ -I[Person]) \/ ((

         (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivin
       (MAINTAINING -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLi
(MAINTAINING -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense;v
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDriver;(rcDriver \/
                    THEN INSERT INTO rcRenter[RentalCase*Person]
                          SELECTFROM 'a'[RentalCase]*'b'[Person]

                         (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequeste
                    PICK a,b FROM rcRenter~;((rcDriver;(rcDriver \/ Delta)~ /\
                    THEN INSERT INTO rcRenter[RentalCase*Person]
                          SELECTFROM 'b'[RentalCase]*'a'[Person]

                         (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequeste
       (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN
       NEW x:Person;
```

```
                        INSERT INTO rcRenter[RentalCase*Person]
                         SELECTFROM ((rcDriver;(rcDriver \/ Delta)~ /\ rcBranchRequested

                        (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[Y
                      (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN
                (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
          (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivin
          (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivin
          (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
          (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
          (MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
          (MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
          (MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
          (MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
          (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Rent
          (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
          (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
          (MAINTAINING -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase*Pe
```

------ Derivation ----->

```
     ALL of INSERT INTO Isn{detyp=Person}
             SELECTFROM ((rcDriver \/ Delta)~;rcDriver /\ -I[Person]) \/ ((rcDriver \/ Del

            (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense;valid
            (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised;rcDriver) \/ I[Person] FROM Pr
            (TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
            (TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
            (TO MAINTAIN  -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase
            INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
             SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;(rcDriver \/ Delta)~ /\ contracted

            (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
            (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
            INSERT INTO rcDriver[RentalCase*Person]
             SELECTFROM (rentalHasBeenPromised~;rcDriver /\ -rcDriver) \/ (rentalHasBeenPr

            (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promised re
            (TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised rent
            INSERT INTO Isn{detyp=RentalCase}
             SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

            ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDriver /\ -(rcDriver;(I[P
                          THEN INSERT INTO rcDriver[RentalCase*Person]
                                SELECTFROM 'a'[RentalCase]*'b'[Person]

                               (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDriv
                          PICK a,b FROM rcDriver~;((rcDriver /\ -(rcDriver;(I[Person] /\ v
```

```
        THEN ALL of INSERT INTO Isn{detyp=Person}
                     SELECTFROM 'a'[Person]*'b'[Person]

                    (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ va
                    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a
                                 THEN INSERT INTO validDrivingLicense[P
                                       SELECTFROM 'a'[Person]*'b'[Drivi

                                      (TO MAINTAIN  -rcDriver \/ rcDriv
                                    PICK a,b FROM validDrivingLicense~;('a
                                    THEN INSERT INTO validDrivingLicense[P
                                       SELECTFROM 'b'[Person]*'a'[Drivi

                                           (TO MAINTAIN  -rcDriver \/ rcDriv
                                 (MAINTAINING -rcDriver \/ rcDriver;(I[Person]
                                 NEW x:DrivingLicense;
                                   ALL of INSERT INTO validDrivingLicense[Pers
                                           SELECTFROM 'a'[Person]*'b'[Person]*

                                          (TO MAINTAIN  -rcDriver \/ rcDriver;
                                          INSERT INTO validDrivingLicense[Pers
                                           SELECTFROM 'b'[Person]*'a'[Person]*

                                          (TO MAINTAIN  -rcDriver \/ rcDriver;
                                    (MAINTAINING -rcDriver \/ rcDriver;(I[Perso
                                 (MAINTAINING -rcDriver \/ rcDriver;(I[Person]
                           (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ val
                     (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivi
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;va
NEW x:Person;
  ALL of INSERT INTO rcDriver[RentalCase*Person]
          SELECTFROM ((rcDriver /\ -(rcDriver;(I[Person] /\ validDrivin

         (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDriving
         INSERT INTO Isn{detyp=Person}
          SELECTFROM 'x'[Person]*((rcDriver /\ -(rcDriver;(I[Person] /\

         (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDriving
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Person]*
                      THEN INSERT INTO validDrivingLicense[Person*Driv
                            SELECTFROM 'a'[Person]*'b'[DrivingLicense]

                           (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Pers
                         PICK a,b FROM validDrivingLicense~;('x'[Person]*
                         THEN INSERT INTO validDrivingLicense[Person*Driv
                            SELECTFROM 'b'[Person]*'a'[DrivingLicense]

                           (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Pers
                    (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validD
                    NEW x:DrivingLicense;
```

```
                                    INSERT INTO validDrivingLicense[Person*DrivingLicense
                                     SELECTFROM 'x'[Person]*'x'[DrivingLicense] \/ ((rcDr

                                    (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ val
                                  (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validD
                             (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingL
                       (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;
                 (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;va
           (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDriv
           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((rcDriver \/ Delta)~;rcDriv
                        THEN INSERT INTO validDrivingLicense[Person*DrivingLicense]
                              SELECTFROM 'a'[Person]*'b'[DrivingLicense]

                             (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validD
                        PICK a,b FROM validDrivingLicense~;(((rcDriver \/ Delta)~;rcDriv
                        THEN INSERT INTO validDrivingLicense[Person*DrivingLicense]
                              SELECTFROM 'b'[Person]*'a'[DrivingLicense]

                             (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validD
                       (MAINTAINING -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense
                       NEW x:DrivingLicense;
                         INSERT INTO validDrivingLicense[Person*DrivingLicense]
                          SELECTFROM (((rcDriver \/ Delta)~;rcDriver /\ -I[Person]) \/ ((rcDri

                         (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLice
                       (MAINTAINING -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense
                 (MAINTAINING -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense;validD
                 ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDriver;(rcDriver \/ Delta
                        THEN INSERT INTO rcRenter[RentalCase*Person]
                              SELECTFROM 'a'[RentalCase]*'b'[Person]

                             (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Y
                        PICK a,b FROM rcRenter~;((rcDriver;(rcDriver \/ Delta)~ /\ rcBra
                        THEN INSERT INTO rcRenter[RentalCase*Person]
                              SELECTFROM 'b'[RentalCase]*'a'[Person]

                             (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Y
                       (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnsw
                       NEW x:Person;
                         INSERT INTO rcRenter[RentalCase*Person]
                          SELECTFROM ((rcDriver;(rcDriver \/ Delta)~ /\ rcBranchRequestedQ;'Ye

                         (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoA
                       (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnsw
                 (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcB
           (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice
           (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice
           (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
           (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
           (MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
```

```
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
(MAINTAINING -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase*Person)
```

<------End Derivation --

```
ON DELETE Delta FROM rcDriver[RentalCase*Person] EXECUTE    -- (ECA rule 34)
ALL of DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM -((rcDriver /\ -Delta);(I[Person] /\ validDrivingLicense;valid

       (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;vali
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rentalHasBeen

       (TO MAINTAIN  -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised r
       ONE OF DELETE FROM rcDriver[RentalCase*Person]
               SELECTFROM rentalHasBeenPromised;(-(rcDriver /\ -Delta) /\ rentall

              (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM
              DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM rcDriver;(-(rcDriver /\ -Delta)~ /\ rcDriver~;rentalHas

              (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM
       (MAINTAINING -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promised
       ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM ((-rcDriver /\ rentalHasBeenPromised;rcDriver) \/ (Delt

              (TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Pr
              DELETE FROM rcDriver[RentalCase*Person]
               SELECTFROM rentalHasBeenPromised~;((-rcDriver /\ rentalHasBeenPro

              (TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Pr
       (MAINTAINING -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised r
       ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
               SELECTFROM (-((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcKey

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO
              DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
               SELECTFROM (-((rcDriver /\ -Delta);(rcDriver~ /\ -Delta~)) /\ rcK

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM -((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcKeys
```

```
                    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO
               (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
          (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivin
          (MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
          (MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
          (MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
          (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Rent
```

------ Derivation ----->

```
ALL of DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM -((rcDriver /\ -Delta);(I[Person] /\ validDrivingLicense;validDriv

       (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDri
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rentalHasBeenProm

       (TO MAINTAIN  -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised renta
       ONE OF DELETE FROM rcDriver[RentalCase*Person]
               SELECTFROM rentalHasBeenPromised;(-(rcDriver /\ -Delta) /\ rentalHasBe

              (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Prom
              DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM rcDriver;(-(rcDriver /\ -Delta)~ /\ rcDriver~;rentalHasBeen

              (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Prom
       (MAINTAINING -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promised ren
       ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM ((-rcDriver /\ rentalHasBeenPromised;rcDriver) \/ (Delta /\

              (TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promis
              DELETE FROM rcDriver[RentalCase*Person]
               SELECTFROM rentalHasBeenPromised~;((-rcDriver /\ rentalHasBeenPromised

              (TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promis
       (MAINTAINING -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised renta
       ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
               SELECTFROM (-((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcKeysHan

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
              DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
               SELECTFROM (-((rcDriver /\ -Delta);(rcDriver~ /\ -Delta~)) /\ rcKeysHa

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM -((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcKeysHand

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
```

```
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Re
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
```

<------End Derivation --

```
ON INSERT Delta IN validDrivingLicense[Person*DrivingLicense] EXECUTE    -- (ECA
ALL of INSERT INTO Isn{detyp=Person}
        SELECTFROM (Delta;Delta~ /\ I[Person]) - I[Person]

       INSERT INTO Isn{detyp=DrivingLicense}
        SELECTFROM (Delta~;Delta /\ I[DrivingLicense]) - I[DrivingLicense]
```

------ Derivation ----->

```
ALL of INSERT INTO Isn{detyp=Person}
        SELECTFROM (Delta;Delta~ /\ I[Person]) - I[Person]

       INSERT INTO Isn{detyp=DrivingLicense}
        SELECTFROM (Delta~;Delta /\ I[DrivingLicense]) - I[DrivingLicense]
```

<------End Derivation --

```
ON DELETE Delta FROM validDrivingLicense[Person*DrivingLicense] EXECUTE    -- (E
ALL of DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM -(rcDriver;(I[Person] /\ (validDrivingLicense /\ -Delta);(val

       (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;val
       ONE OF DELETE FROM rcDriver[RentalCase*Person]
               SELECTFROM rcDriver;((-I[Person] /\ rcDriver~;rcDriver) \/ (-((va

              (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingL
              DELETE FROM rcDriver[RentalCase*Person]
               SELECTFROM rcDriver;((-I[Person] /\ rcDriver~;rcDriver) \/ (-((va

              (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingL
       (MAINTAINING -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense;v
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivin
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivin
```

------ Derivation ----->

```
ALL of DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM -(rcDriver;(I[Person] /\ (validDrivingLicense /\ -Delta);(validDri

       (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDri
       ONE OF DELETE FROM rcDriver[RentalCase*Person]
               SELECTFROM rcDriver;((-I[Person] /\ rcDriver~;rcDriver) \/ (-((validDr

              (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicens
              DELETE FROM rcDriver[RentalCase*Person]
               SELECTFROM rcDriver;((-I[Person] /\ rcDriver~;rcDriver) \/ (-((validDr

              (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicens
      (MAINTAINING -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense;validD
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice
```

<------End Derivation --

```
    ON INSERT Delta IN rcAssignedCar[RentalCase*Car] EXECUTE    -- (ECA rule 37)
    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcAssignedCar /\ -(contracted
                 THEN INSERT INTO contractedCarType[RentalCase*CarType]
                       SELECTFROM 'a'[RentalCase]*'b'[CarType]

                      (TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FR
                 PICK a,b FROM contractedCarType~;((rcAssignedCar /\ -(contractedCa
                 THEN INSERT INTO carType[Car*CarType]
                       SELECTFROM 'b'[Car]*'a'[CarType]

                      (TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FR
           (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car
           NEW x:CarType;
             ALL of INSERT INTO contractedCarType[RentalCase*CarType]
                     SELECTFROM ((rcAssignedCar /\ -(contractedCarType;carType~)) \/

                    (TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FROM
                    INSERT INTO carType[Car*CarType]
                     SELECTFROM ((rcAssignedCar~ /\ -(carType;contractedCarType~)) \

                    (TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FROM
             (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented c
           (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car
           INSERT INTO carType[Car*CarType]
            SELECTFROM (rcAssignedCar~;contractedCarType /\ -carType) \/ (Delta~;con

           (TO MAINTAIN  -(contractedCarType~;rcAssignedCar) \/ carType~ FROM Rented
           INSERT INTO Isn{detyp=CarType}
            SELECTFROM (contractedCarType~;rcAssignedCar;carType /\ -I[CarType]) \/
```

```
(TO MAINTAIN  -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] FR
INSERT INTO contractedCarType[RentalCase*CarType]
 SELECTFROM (rcAssignedCar;carType /\ -contractedCarType) \/ (Delta;carTy

(TO MAINTAIN  -(rcAssignedCar;carType) \/ contractedCarType FROM Rented ca
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
 SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ r

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /
INSERT INTO rcAssignedCar[RentalCase*Car]
 SELECTFROM rentalHasBeenStarted~;(rcAssignedCar \/ Delta) /\ -rcAssigned

(TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssignedCar~ FRO
INSERT INTO Isn{detyp=Car}
 SELECTFROM ((rcAssignedCar \/ Delta)~;rentalHasBeenStarted;rcAssignedCar

(TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar) \/ I[Ca
INSERT INTO rcAssignedCar[RentalCase*Car]
 SELECTFROM (rentalHasBeenStarted;rcAssignedCar /\ -rcAssignedCar) \/ (re

(TO MAINTAIN  -(rentalHasBeenStarted;rcAssignedCar) \/ rcAssignedCar FROM
INSERT INTO Isn{detyp=Car}
 SELECTFROM (rcAssignedCar \/ Delta)~;rcDroppedOffCar /\ -I[Car]

(TO MAINTAIN  -(rcAssignedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-of
INSERT INTO rentalBasicCharge[RentalCase*Amount]
 SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTa

(TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rental
INSERT INTO Isn{detyp=Amount}
 SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCa

(TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;ex

(TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
INSERT INTO Isn{detyp=Amount}
 SELECTFROM (rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcA

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcAssignedCar;(rcAssignedCar
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                  THEN INSERT INTO rentalPeriod[RentalCase
                                        SELECTFROM 'a'[RentalCase]*'b'[Int

                                       (TO MAINTAIN  -(rcAssignedCar;rcAss
                                  PICK a,b FROM rentalPeriod~;('a'[RentalCa
                                  THEN INSERT INTO ctcNrOfDays[CompTariffe
```

```
                    SELECTFROM 'b'[CompTariffedCharge]

                 (TO MAINTAIN  -(rcAssignedCar;rcAss
          (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
          NEW x:Integer;
            ALL of INSERT INTO rentalPeriod[RentalCase*In
                    SELECTFROM 'a'[RentalCase]*'b'[CompTa

                   (TO MAINTAIN  -(rcAssignedCar;rcAssign
                   INSERT INTO ctcNrOfDays[CompTariffedCh
                    SELECTFROM 'b'[CompTariffedCharge]*'a

                   (TO MAINTAIN  -(rcAssignedCar;rcAssign
            (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /
          (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalP
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
               THEN INSERT INTO rcAssignedCar[RentalCas
                    SELECTFROM 'a'[RentalCase]*'b'[Car

                    (TO MAINTAIN  -(rcAssignedCar;rcAss
               PICK a,b FROM rcAssignedCar~;('a'[Rental
               THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                 THEN INSERT INTO carT
                                      SELECTFROM 'a'[

                                   (TO MAINTAIN  -(
                                 PICK a,b FROM carType
                                 THEN ONE OF ONE NONEM
                                                   TH



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                                                NEW x:Amo
                                                  ALL of


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                                                (MAINTAIN
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                                                    (MAINTAINING -(r
                                                (MAINTAINING -(rcAssignedCar
                                                NEW x:CarType;
                                                  ALL of INSERT INTO carType
                                                          SELECTFROM 'a'[Car

                                                          (TO MAINTAIN  -(rcA
                                                          ONE OF ONE NONEMPTY
                                                                       THEN


                                                                       PICK
                                                                       THEN


                                                                (MAINTAINING
                                                                NEW x:Amount
                                                                  ALL of INS
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                                                                 (MAINTAINING
                                                           (MAINTAINING -(rcAs
                                                     (MAINTAINING -(rcAssignedC
                                                  (MAINTAINING -(rcAssignedCar
                                            (MAINTAINING -(rcAssignedCar;rcAssig
                                 (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
                                 NEW x:Car;
                                   ALL of INSERT INTO rcAssignedCar[RentalCase*C
                                           SELECTFROM 'a'[RentalCase]*'b'[CompTa

                                          (TO MAINTAIN  -(rcAssignedCar;rcAssign
                                          ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                       THEN INSERT INTO carType
                                                             SELECTFROM 'a'[Car

                                                             (TO MAINTAIN  -(rcA
                                                          PICK a,b FROM carType~;(
                                                          THEN ONE OF ONE NONEMPTY
                                                                       THEN
```

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NEW x:Amount
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(MAINTAINING -(rcAs
(MAINTAINING -(rcAssignedCar;rc
NEW x:CarType;
ALL of INSERT INTO carType[Ca
SELECTFROM 'x'[Car]*'
(TO MAINTAIN -(rcAssi
ONE OF ONE NONEMPTY AL
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PICK a,b
THEN INS
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(MAINTAINING -(
NEW x:Amount;
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(MAINTAINING -(rcAssignedCar;
(MAINTAINING -(rcAssignedCar;rc
(MAINTAINING -(rcAssignedCar;rcAssigne

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                                    (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /
                                  (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
                            (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalP
                       (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;r
                  PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalT
                  THEN BLOCK
                       (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];sessionNe
       THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
            SELECTFROM 'a'[SESSION]*'b'[RentalCase]

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(renta
  PICK a,b FROM sessionNewBranchRC~;(('_SESSION'[SESSION];sessionNew
  THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalC
                       THEN INSERT INTO rcKeysHandedOverQ[RentalCase*Y
                            SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswe

                           (TO MAINTAIN  -('_SESSION'[SESSION];sessio
                       PICK a,b FROM rcKeysHandedOverQ~;('a'[RentalCas
                       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,
                                       THEN BLOCK
                                            (CANNOT CHANGE 'Yes'[Ye
                                       PICK a,b FROM 'Yes'[YesNoAns
                                       THEN BLOCK
                                            (CANNOT CHANGE V[YesNoA
                                  (MAINTAINING -('_SESSION'[SESSION];
                                  NEW x:YesNoAnswer;
                                    ALL of BLOCK
                                           (CANNOT CHANGE 'Yes'[YesNo
                                           BLOCK
                                           (CANNOT CHANGE V[YesNoAnsw
                                    (MAINTAINING -('_SESSION'[SESSION]
                                  (MAINTAINING -('_SESSION'[SESSION];
                              (MAINTAINING -('_SESSION'[SESSION];sessionN
                         (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
                         NEW x:YesNoAnswer;
                           ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesN
                                  SELECTFROM 'a'[RentalCase]*'b'[RentalCase]*'

                                  (TO MAINTAIN  -('_SESSION'[SESSION];sessionNe
                                  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b F
                                               THEN BLOCK
                                                    (CANNOT CHANGE 'Yes'[YesNo
                                               PICK a,b FROM 'Yes'[YesNoAnswer]
                                               THEN BLOCK
                                                    (CANNOT CHANGE V[YesNoAnsw
                                         (MAINTAINING -('_SESSION'[SESSION];ses
                                         NEW x:YesNoAnswer;
                                           ALL of BLOCK
```

```
                                                    (CANNOT CHANGE 'Yes'[YesNoAns
                                                    BLOCK
                                                    (CANNOT CHANGE V[YesNoAnswer*
                                              (MAINTAINING -('_SESSION'[SESSION];s
                                            (MAINTAINING -('_SESSION'[SESSION];ses
                                       (MAINTAINING -('_SESSION'[SESSION];sessionNew
                                  (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchR
                             (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
                        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rental
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromi
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
          SELECTFROM (('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHa
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCase
                      THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesN
                           SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                           (TO MAINTAIN  -('_SESSION'[SESSION];sessionNe
                      PICK a,b FROM rcKeysHandedOverQ~;('x'[RentalCase]*
                      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b F
                                      THEN BLOCK
                                           (CANNOT CHANGE 'Yes'[YesNo
                                      PICK a,b FROM 'Yes'[YesNoAnswer
                                      THEN BLOCK
                                           (CANNOT CHANGE V[YesNoAnsw
                                 (MAINTAINING -('_SESSION'[SESSION];ses
                                 NEW x:YesNoAnswer;
                                   ALL of BLOCK
                                          (CANNOT CHANGE 'Yes'[YesNoAns
                                          BLOCK
                                          (CANNOT CHANGE V[YesNoAnswer*
                                     (MAINTAINING -('_SESSION'[SESSION];s
                                   (MAINTAINING -('_SESSION'[SESSION];ses
                              (MAINTAINING -('_SESSION'[SESSION];sessionNew
                        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(re
                        NEW x:YesNoAnswer;
                          ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAn
                                  SELECTFROM 'x'[RentalCase]*(('_SESSION'[SESSION

                                 (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBr
                                 ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Y
                                        THEN BLOCK
                                             (CANNOT CHANGE 'Yes'[YesNoAnswer] FR
                                        PICK a,b FROM 'Yes'[YesNoAnswer];('x'[Yes
                                        THEN BLOCK
                                             (CANNOT CHANGE V[YesNoAnswer*RentalC
                                 (MAINTAINING -('_SESSION'[SESSION];sessionNewBra
                          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(
```

```
                (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(re
          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHas
   (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPro
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromi
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionNewBranchRC~;'_SESSION
       THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
            SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

            (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessi
       PICK a,b FROM rcKeysHandedOverQ~;((sessionNewBranchRC~;'_SESSION'[
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAn
                         THEN BLOCK
                              (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Han
                         PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnsw
                         THEN BLOCK
                              (CANNOT CHANGE V[YesNoAnswer*RentalCase] F
                    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
                    NEW x:YesNoAnswer;
                      ALL of BLOCK
                             (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand t
                             BLOCK
                             (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM
                      (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSIO
                    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
              (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessio
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
NEW x:YesNoAnswer;
  ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
          SELECTFROM ((sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew

          (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionN
          ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*((se
                THEN BLOCK
                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand the car
                PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*((sess
                THEN BLOCK
                     (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Hand t
          (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNe
   (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionNewBranchRC;(I[RentalC
       THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
            SELECTFROM 'a'[SESSION]*'b'[RentalCase]

            (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssign
       PICK a,b FROM sessionNewBranchRC~;((sessionNewBranchRC;(I[RentalCa
       THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
            SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

            (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssign
```

```
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssig
INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM (sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcA

(TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionDro
       THEN BLOCK
            (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handli
       PICK a,b FROM V[RentalCase*SESSION];('_SESSION'[SESSION];sessionDr
       THEN ALL of INSERT INTO Isn{detyp=RentalCase}
                    SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                  (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffC
                  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                               THEN INSERT INTO rentalIsPaidQ[RentalCas
                                     SELECTFROM 'a'[RentalCase]*'b'[Yes

                                    (TO MAINTAIN  -('_SESSION'[SESSION]
                               PICK a,b FROM rentalIsPaidQ~;('a'[Rental
                               THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                    THEN BLOCK
                                                         (CANNOT CHANGE '
                                                    PICK a,b FROM 'Yes'[Y
                                                    THEN INSERT INTO rent
                                                          SELECTFROM 'b'[

                                                               (TO MAINTAIN  -(
                                                 (MAINTAINING -('_SESSION'[SE
                                                 NEW x:YesNoAnswer;
                                                   ALL of BLOCK
                                                           (CANNOT CHANGE 'Yes
                                                           INSERT INTO rentalI
                                                            SELECTFROM 'b'[Ren

                                                                   (TO MAINTAIN  -('_S
                                                     (MAINTAINING -('_SESSION'[
                                                    (MAINTAINING -('_SESSION'[SE
                                               (MAINTAINING -('_SESSION'[SESSION];
                                  (MAINTAINING -('_SESSION'[SESSION];sessionDropp
                                  NEW x:YesNoAnswer;
                                    ALL of INSERT INTO rentalIsPaidQ[RentalCase*Y
                                            SELECTFROM 'a'[RentalCase]*'b'[Rental

                                           (TO MAINTAIN  -('_SESSION'[SESSION];se
                                           ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                        THEN BLOCK
                                                             (CANNOT CHANGE 'Yes
                                                        PICK a,b FROM 'Yes'[YesN
                                                        THEN INSERT INTO rentalI
                                                              SELECTFROM 'b'[Ren
```

```
                                                                (TO MAINTAIN  -('_SE
                                                          (MAINTAINING -('_SESSION'[SESSIO
                                                          NEW x:YesNoAnswer;
                                                            ALL of BLOCK
                                                                    (CANNOT CHANGE 'Yes'[Ye
                                                                    INSERT INTO rentalIsPai
                                                                     SELECTFROM 'b'[Rental(

                                                                    (TO MAINTAIN  -('_SESSI
                                                            (MAINTAINING -('_SESSION'[SESS
                                                          (MAINTAINING -('_SESSION'[SESSIO
                                                  (MAINTAINING -('_SESSION'[SESSION];sess
                                              (MAINTAINING -('_SESSION'[SESSION];sessionDrop
                                            (MAINTAINING -('_SESSION'[SESSION];sessionDroppe
                                  (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar
                          (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssi
                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I
                INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
                 SELECTFROM (rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));

                (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
                INSERT INTO Isn{detyp=Branch}
                 SELECTFROM (rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableA

                (TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailab
                INSERT INTO rcDroppedOffDate[RentalCase*Date]
                 SELECTFROM (rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));

                (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
                INSERT INTO Isn{detyp=Date}
                 SELECTFROM (rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;

                (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailable
                INSERT INTO Isn{detyp=Car}
                 SELECTFROM ((rcAssignedCar \/ Delta)~;rcAssignedCar /\ -I[Car]) \/ ((rcA

                (TO MAINTAIN  -(rcAssignedCar~;rcAssignedCar) \/ I[Car] FROM UNI rcAssign
                INSERT INTO Isn{detyp=RentalCase}
                 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                INSERT INTO Isn{detyp=Car}
                 SELECTFROM (Delta~;Delta /\ I[Car]) - I[Car]

        (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
        (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
        (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
        (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
        (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
        (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssig
```

```
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
(MAINTAINING -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type integri
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[R
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rental
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcAssignedCar~;rcAssignedCar) \/ I[Car] FROM UNI rcAssignedCar::R
```

------ Derivation ----->

```
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcAssignedCar /\ -(contractedCarTy
               THEN INSERT INTO contractedCarType[RentalCase*CarType]
                     SELECTFROM 'a'[RentalCase]*'b'[CarType]

                    (TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FROM Re
               PICK a,b FROM contractedCarType~;((rcAssignedCar /\ -(contractedCarType
               THEN INSERT INTO carType[Car*CarType]
                     SELECTFROM 'b'[Car]*'a'[CarType]

                   (TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FROM Re
          (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type
          NEW x:CarType;
            ALL of INSERT INTO contractedCarType[RentalCase*CarType]
                    SELECTFROM ((rcAssignedCar /\ -(contractedCarType;carType~)) \/ (Del

                   (TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FROM Rente
                   INSERT INTO carType[Car*CarType]
                    SELECTFROM ((rcAssignedCar~ /\ -(carType;contractedCarType~)) \/ (De

                   (TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FROM Rente
            (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car ty
          (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type
          INSERT INTO carType[Car*CarType]
           SELECTFROM (rcAssignedCar~;contractedCarType /\ -carType) \/ (Delta~;contract
```

```
(TO MAINTAIN  -(contractedCarType~;rcAssignedCar) \/ carType~ FROM Rented car
INSERT INTO Isn{detyp=CarType}
 SELECTFROM (contractedCarType~;rcAssignedCar;carType /\ -I[CarType]) \/ (cont

(TO MAINTAIN  -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] FROM R
INSERT INTO contractedCarType[RentalCase*CarType]
 SELECTFROM (rcAssignedCar;carType /\ -contractedCarType) \/ (Delta;carType /\

(TO MAINTAIN  -(rcAssignedCar;carType) \/ contractedCarType FROM Rented car ty
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
 SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssi

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcA
INSERT INTO rcAssignedCar[RentalCase*Car]
 SELECTFROM rentalHasBeenStarted~;(rcAssignedCar \/ Delta) /\ -rcAssignedCar

(TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssignedCar~ FROM St
INSERT INTO Isn{detyp=Car}
 SELECTFROM ((rcAssignedCar \/ Delta)~;rentalHasBeenStarted;rcAssignedCar /\ -

(TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar) \/ I[Car] F
INSERT INTO rcAssignedCar[RentalCase*Car]
 SELECTFROM (rentalHasBeenStarted;rcAssignedCar /\ -rcAssignedCar) \/ (rentalH

(TO MAINTAIN  -(rentalHasBeenStarted;rcAssignedCar) \/ rcAssignedCar FROM Star
INSERT INTO Isn{detyp=Car}
 SELECTFROM (rcAssignedCar \/ Delta)~;rcDroppedOffCar /\ -I[Car]

(TO MAINTAIN  -(rcAssignedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off car
INSERT INTO rentalBasicCharge[RentalCase*Amount]
 SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP

(TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTari
INSERT INTO Isn{detyp=Amount}
 SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;ca

(TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT

(TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;exce
INSERT INTO Isn{detyp=Amount}
 SELECTFROM (rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAssign

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcAssignedCar;(rcAssignedCar \/ De
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                  THEN INSERT INTO rentalPeriod[RentalCase*Inte
                                        SELECTFROM 'a'[RentalCase]*'b'[Integer]
```

```
                    (TO MAINTAIN  -(rcAssignedCar;rcAssigned
                PICK a,b FROM rentalPeriod~;('a'[RentalCase]*
                THEN INSERT INTO ctcNrOfDays[CompTariffedChar
                      SELECTFROM 'b'[CompTariffedCharge]*'a'[

                    (TO MAINTAIN  -(rcAssignedCar;rcAssigned
            (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ renta
            NEW x:Integer;
              ALL of INSERT INTO rentalPeriod[RentalCase*Integer
                      SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

                    (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar
                    INSERT INTO ctcNrOfDays[CompTariffedCharge*
                     SELECTFROM 'b'[CompTariffedCharge]*'a'[Ren

                    (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar
              (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ ren
            (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ renta
    (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod
    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                    THEN INSERT INTO rcAssignedCar[RentalCase*Car
                      SELECTFROM 'a'[RentalCase]*'b'[Car]

                    (TO MAINTAIN  -(rcAssignedCar;rcAssigned
                PICK a,b FROM rcAssignedCar~;('a'[RentalCase]
                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                    THEN INSERT INTO carType[C
                                      SELECTFROM 'a'[Car]*

                                   (TO MAINTAIN  -(rcAss
                                PICK a,b FROM carType~;('a
                                THEN ONE OF ONE NONEMPTY A
                                                    THEN IN
                                                          S

                                                       (T
                                                    PICK a,
                                                    THEN IN
                                                          S

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                                                (MAINTAINING -
                                                NEW x:Amount;
                                                  ALL of INSER
                                                          SELE

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                                                        INSER
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                                                              (MAINTAINING
                                                            (MAINTAINING -
                                                         (MAINTAINING -(rcAssi
                                                  (MAINTAINING -(rcAssignedCar;rcAs
                                                  NEW x:CarType;
                                                    ALL of INSERT INTO carType[Car*
                                                            SELECTFROM 'a'[Car]*'b'

                                                          (TO MAINTAIN  -(rcAssign
                                                          ONE OF ONE NONEMPTY ALTE
                                                                       THEN INSER
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                                                                          PICK a,b F
                                                                          THEN INSER
                                                                             SELE

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                                                                (MAINTAINING -(rc
                                                                NEW x:Amount;
                                                                  ALL of INSERT I
                                                                          SELECTF

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                                                                        INSERT I
                                                                         SELECTF

                                                                        (TO MAIN
                                                                  (MAINTAINING -(
                                                                (MAINTAINING -(rc
                                                           (MAINTAINING -(rcAssigne
                                                     (MAINTAINING -(rcAssignedCar;rc
                                                  (MAINTAINING -(rcAssignedCar;rcAs
                                            (MAINTAINING -(rcAssignedCar;rcAssignedC
                                  (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ renta
                                  NEW x:Car;
                                    ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
                                            SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

                                          (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar
                                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                       THEN INSERT INTO carType[Car*
                                                             SELECTFROM 'a'[Car]*'b'

                                                          (TO MAINTAIN  -(rcAssign
                                                       PICK a,b FROM carType~;('x'[C
                                                       THEN ONE OF ONE NONEMPTY ALTE
                                                                       THEN INSER
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                                                                SELE

                                                                  (TO M
                                                               PICK a,b F
                                                               THEN INSER
                                                                     SELE

                                                                  (TO M
                                                          (MAINTAINING -(rc
                                                          NEW x:Amount;
                                                            ALL of INSERT I
                                                                   SELECTF

                                                                  (TO MAIN
                                                                  INSERT I
                                                                   SELECTF

                                                                  (TO MAIN
                                                            (MAINTAINING -(
                                                          (MAINTAINING -(rc
                                                    (MAINTAINING -(rcAssigne
                                          (MAINTAINING -(rcAssignedCar;rcAssig
                                          NEW x:CarType;
                                            ALL of INSERT INTO carType[Car*Car
                                                   SELECTFROM 'x'[Car]*'a'[Re

                                                 (TO MAINTAIN  -(rcAssignedC
                                                ONE OF ONE NONEMPTY ALTERNA
                                                        THEN INSERT I
                                                               SELECTF

                                                                  (TO MAIN
                                                               PICK a,b FROM
                                                               THEN INSERT I
                                                                     SELECTF

                                                                  (TO MAIN
                                                         (MAINTAINING -(rcAss
                                                         NEW x:Amount;
                                                           ALL of INSERT INTO
                                                                   SELECTFROM

                                                                  (TO MAINTAI
                                                                  INSERT INTO
                                                                   SELECTFROM

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                                                           (MAINTAINING -(rcA
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                                                  (MAINTAINING -(rcAssignedCa
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                                                    (MAINTAINING -(rcAssignedCar;rcAss
                                                  (MAINTAINING -(rcAssignedCar;rcAssig
                                               (MAINTAINING -(rcAssignedCar;rcAssignedCar~
                                            (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ ren
                                         (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ renta
                                   (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod
                              (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
                        PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTariff
                        THEN BLOCK
                             (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger regul
                 (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I
                 ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];sessionNewBran
                        THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                              SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                             (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
                        PICK a,b FROM sessionNewBranchRC~;(('_SESSION'[SESSION];sessionNewBranc
                        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]*
                                         THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoA
                                               SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                                            (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewB
                                         PICK a,b FROM rcKeysHandedOverQ~;('a'[RentalCase]*'b
                                         THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FRO
                                                        THEN BLOCK
                                                             (CANNOT CHANGE 'Yes'[YesNoAn
                                                        PICK a,b FROM 'Yes'[YesNoAnswer];
                                                        THEN BLOCK
                                                             (CANNOT CHANGE V[YesNoAnswer
                                                  (MAINTAINING -('_SESSION'[SESSION];sessi
                                                  NEW x:YesNoAnswer;
                                                    ALL of BLOCK
                                                            (CANNOT CHANGE 'Yes'[YesNoAnswe
                                                            BLOCK
                                                            (CANNOT CHANGE V[YesNoAnswer*Re
                                                   (MAINTAINING -('_SESSION'[SESSION];ses
                                                  (MAINTAINING -('_SESSION'[SESSION];sessi
                                               (MAINTAINING -('_SESSION'[SESSION];sessionNewBr
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rent
                                    NEW x:YesNoAnswer;
                                      ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnsw
                                              SELECTFROM 'a'[RentalCase]*'b'[RentalCase]*'x'[Ye

                                                (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBran
                                                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (
                                                             THEN BLOCK
                                                                  (CANNOT CHANGE 'Yes'[YesNoAnswe
                                                             PICK a,b FROM 'Yes'[YesNoAnswer];('x
                                                             THEN BLOCK
                                                                  (CANNOT CHANGE V[YesNoAnswer*Re
```

```
                                        (MAINTAINING -('_SESSION'[SESSION];sessionN
                                        NEW x:YesNoAnswer;
                                          ALL of BLOCK
                                                 (CANNOT CHANGE 'Yes'[YesNoAnswer]
                                                 BLOCK
                                                 (CANNOT CHANGE V[YesNoAnswer*Renta
                                          (MAINTAINING -('_SESSION'[SESSION];sessio
                                        (MAINTAINING -('_SESSION'[SESSION];sessionN
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                                (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(re
                            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rent
                        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBe
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
          SELECTFROM (('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr

        (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeen
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCase]*(('
                      THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnsw
                            SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                           (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBran
                      PICK a,b FROM rcKeysHandedOverQ~;('x'[RentalCase]*(('_S
                      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (
                                      THEN BLOCK
                                           (CANNOT CHANGE 'Yes'[YesNoAnswe
                                      PICK a,b FROM 'Yes'[YesNoAnswer];('a
                                      THEN BLOCK
                                           (CANNOT CHANGE V[YesNoAnswer*Re
                                    (MAINTAINING -('_SESSION'[SESSION];sessionN
                                    NEW x:YesNoAnswer;
                                      ALL of BLOCK
                                             (CANNOT CHANGE 'Yes'[YesNoAnswer]
                                             BLOCK
                                             (CANNOT CHANGE V[YesNoAnswer*Renta
                                      (MAINTAINING -('_SESSION'[SESSION];sessio
                                    (MAINTAINING -('_SESSION'[SESSION];sessionN
                                (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalH
                    NEW x:YesNoAnswer;
                      ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                              SELECTFROM 'x'[RentalCase]*(('_SESSION'[SESSION];ses

                             (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchR
                             ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoA
                                    THEN BLOCK
                                         (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Ha
                                    PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAns
                                    THEN BLOCK
```

```
                                        (CANNOT CHANGE V[YesNoAnswer*RentalCase]
                                 (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC
                           (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(renta
                          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalH
                   (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenP
            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised
          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
          ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionNewBranchRC~;'_SESSION'[SES
                 THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                       SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                     (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
                 PICK a,b FROM rcKeysHandedOverQ~;((sessionNewBranchRC~;'_SESSION'[SESSI
                 THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAnswer]
                                  THEN BLOCK
                                       (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand the
                                  PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnswer]*'
                                  THEN BLOCK
                                       (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM H
                             (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sess
                             NEW x:YesNoAnswer;
                               ALL of BLOCK
                                      (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand the ca
                                      BLOCK
                                      (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Hand
                               (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];se
                             (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sess
                       (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewB
          (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(ren
          NEW x:YesNoAnswer;
            ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                    SELECTFROM ((sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc

                    (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBra
                    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*((session
                           THEN BLOCK
                                (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand the car keys
                           PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*((sessionNe
                           THEN BLOCK
                                (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Hand the ca
                    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBran
            (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(r
          (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(ren
          ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionNewBranchRC;(I[RentalCase]
                 THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                       SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                     (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
                 PICK a,b FROM sessionNewBranchRC~;((sessionNewBranchRC;(I[RentalCase] /
                 THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
```

```
                SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

             (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCa
INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM (sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAssign

(TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAss
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionDroppedo
       THEN BLOCK
            (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handling)
       PICK a,b FROM V[RentalCase*SESSION];('_SESSION'[SESSION];sessionDropped
       THEN ALL of INSERT INTO Isn{detyp=RentalCase}
                    SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                  (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rc
                  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                               THEN INSERT INTO rentalIsPaidQ[RentalCase*Yes
                                     SELECTFROM 'a'[RentalCase]*'b'[YesNoAns

                                    (TO MAINTAIN  -('_SESSION'[SESSION];sess
                               PICK a,b FROM rentalIsPaidQ~;('a'[RentalCase]
                               THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                 THEN BLOCK
                                                      (CANNOT CHANGE 'Yes'[
                                                 PICK a,b FROM 'Yes'[YesNoA
                                                 THEN INSERT INTO rentalIsP
                                                       SELECTFROM 'b'[Renta

                                                          (TO MAINTAIN  -('_SES
                                            (MAINTAINING -('_SESSION'[SESSION
                                            NEW x:YesNoAnswer;
                                              ALL of BLOCK
                                                     (CANNOT CHANGE 'Yes'[Yes
                                                     INSERT INTO rentalIsPaid
                                                      SELECTFROM 'b'[RentalCa

                                                     (TO MAINTAIN  -('_SESSIO
                                               (MAINTAINING -('_SESSION'[SESSI
                                            (MAINTAINING -('_SESSION'[SESSION
                                      (MAINTAINING -('_SESSION'[SESSION];sessi
                                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                               NEW x:YesNoAnswer;
                                 ALL of INSERT INTO rentalIsPaidQ[RentalCase*YesNoA
                                         SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                        (TO MAINTAIN  -('_SESSION'[SESSION];session
                                        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                     THEN BLOCK
                                                          (CANNOT CHANGE 'Yes'[Yes
```

```
                                                                PICK a,b FROM 'Yes'[YesNoAnsw
                                                                THEN INSERT INTO rentalIsPaid
                                                                      SELECTFROM 'b'[RentalCa

                                                                   (TO MAINTAIN  -('_SESSIO
                                                          (MAINTAINING -('_SESSION'[SESSION];s
                                                          NEW x:YesNoAnswer;
                                                            ALL of BLOCK
                                                                   (CANNOT CHANGE 'Yes'[YesNoA
                                                                   INSERT INTO rentalIsPaidQ[R
                                                                    SELECTFROM 'b'[RentalCase]

                                                                   (TO MAINTAIN  -('_SESSION'[
                                                             (MAINTAINING -('_SESSION'[SESSION]
                                                          (MAINTAINING -('_SESSION'[SESSION];s
                                                    (MAINTAINING -('_SESSION'[SESSION];sessionD
                                               (MAINTAINING -('_SESSION'[SESSION];sessionDroppedo
                                          (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                                     (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcA
                                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigned
                     (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rent
                     INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
                      SELECTFROM (rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi

                     (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se
                     INSERT INTO Isn{detyp=Branch}
                      SELECTFROM (rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;car

                     (TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;
                     INSERT INTO rcDroppedOffDate[RentalCase*Date]
                      SELECTFROM (rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi

                     (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se
                     INSERT INTO Isn{detyp=Date}
                      SELECTFROM (rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAv

                     (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;ca
                     INSERT INTO Isn{detyp=Car}
                      SELECTFROM ((rcAssignedCar \/ Delta)~;rcAssignedCar /\ -I[Car]) \/ ((rcAssign

                     (TO MAINTAIN  -(rcAssignedCar~;rcAssignedCar) \/ I[Car] FROM UNI rcAssignedCar
                     INSERT INTO Isn{detyp=RentalCase}
                      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                     INSERT INTO Isn{detyp=Car}
                      SELECTFROM (Delta~;Delta /\ I[Car]) - I[Car]

(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
```

```
(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssignedC
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
(MAINTAINING -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type integrity)
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Rental
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINTAINING -(rcAssignedCar~;rcAssignedCar) \/ I[Car] FROM UNI rcAssignedCar::Rental
```

<------End Derivation --

```
ON DELETE Delta FROM rcAssignedCar[RentalCase*Car] EXECUTE    -- (ECA rule 38)
ALL of DELETE FROM Isn{detyp=Car}
        SELECTFROM -(carAvailableAt;carAvailableAt~) /\ -((rcAssignedCar /\ -Del

       (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~
       DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM -((rcAssignedCar /\ -Delta);(rcAssignedCar /\ -Delta)~) /\ re

       (TO MAINTAIN  -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM
       ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM rentalHasBeenStarted;(-(rcAssignedCar /\ -Delta) /\ re

              (TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssigned
              DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
               SELECTFROM rcAssignedCar;(-(rcAssignedCar /\ -Delta)~ /\ rcAssign

              (TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssigned
       (MAINTAINING -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssignedCar~ FRO
       ONE OF DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
               SELECTFROM ((-rcAssignedCar /\ rentalHasBeenStarted;rcAssignedCar

              (TO MAINTAIN  -(rentalHasBeenStarted;rcAssignedCar) \/ rcAssignedC
```

```
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM rentalHasBeenStarted~;((-rcAssignedCar /\ rentalHasBeen

       (TO MAINTAIN  -(rentalHasBeenStarted;rcAssignedCar) \/ rcAssignedCa
(MAINTAINING -(rentalHasBeenStarted;rcAssignedCar) \/ rcAssignedCar FROM S
DELETE FROM rcDroppedOffCar[RentalCase*Car]
 SELECTFROM (-rcAssignedCar /\ rcDroppedOffCar) \/ (Delta /\ rcDroppedOffC

(TO MAINTAIN  -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -Del

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rental

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
       DELETE FROM rentalPeriod[RentalCase*Integer]
        SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -Del

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
       DELETE FROM rentalPeriod[RentalCase*Integer]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rental

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -Delt

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~
ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
        SELECTFROM (-((rentalExcessPeriod;ctcNrOfDays~ /\ (rcAssignedCar

       (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[Rental
       DELETE FROM rentalExcessPeriod[RentalCase*Integer]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rental

       (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[Rental
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((rentalExcessPeriod;ctcNrOfDays~ /\ (rcAssignedCar /

       (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[Rental
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \
DELETE FROM sessionDroppedoffCar[SESSION*Car]
 SELECTFROM '_SESSION'[SESSION];(-(sessionDroppedoffCar;(I[Car] /\ (rcAss

(TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppe
ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
        SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ s
```

```
                    (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionD
                    DELETE FROM sessionDroppedoffCar[SESSION*Car]
                     SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\

                    (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionD
          (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedof
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rentall
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
(MAINTAINING -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type integri
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[R
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rent
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
```

------ Derivation ----->

```
ALL of DELETE FROM Isn{detyp=Car}
        SELECTFROM -(carAvailableAt;carAvailableAt~) /\ -((rcAssignedCar /\ -Delta)~;

       (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(ren
       DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM -((rcAssignedCar /\ -Delta);(rcAssignedCar /\ -Delta)~) /\ rentalH

       (TO MAINTAIN  -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Start
       ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM rentalHasBeenStarted;(-(rcAssignedCar /\ -Delta) /\ rentalH

              (TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssignedCar~
              DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
               SELECTFROM rcAssignedCar;(-(rcAssignedCar /\ -Delta)~ /\ rcAssignedCar

              (TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssignedCar~
       (MAINTAINING -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssignedCar~ FROM Sta
       ONE OF DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
               SELECTFROM ((-rcAssignedCar /\ rentalHasBeenStarted;rcAssignedCar) \/

              (TO MAINTAIN  -(rentalHasBeenStarted;rcAssignedCar) \/ rcAssignedCar FR
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM rentalHasBeenStarted~;((-rcAssignedCar /\ rentalHasBeenStar

              (TO MAINTAIN  -(rentalHasBeenStarted;rcAssignedCar) \/ rcAssignedCar FR
       (MAINTAINING -(rentalHasBeenStarted;rcAssignedCar) \/ rcAssignedCar FROM Start
       DELETE FROM rcDroppedOffCar[RentalCase*Car]
        SELECTFROM (-rcAssignedCar /\ rcDroppedOffCar) \/ (Delta /\ rcDroppedOffCar)

       (TO MAINTAIN  -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type inte
```

```
        ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
                SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -Delta);

               (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeri
               DELETE FROM rcAssignedCar[RentalCase*Car]
                SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeri

               (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeri
               DELETE FROM rentalPeriod[RentalCase*Integer]
                SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -Delta);

               (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeri
               DELETE FROM rentalPeriod[RentalCase*Integer]
                SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeri

               (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeri
               DELETE FROM Isn{detyp=RentalCase}
                SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -Delta);c

               (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeri
        (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I
        ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
                SELECTFROM (-((rentalExcessPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -D

               (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]
               DELETE FROM rentalExcessPeriod[RentalCase*Integer]
                SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalExce

               (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]
               DELETE FROM Isn{detyp=RentalCase}
                SELECTFROM -((rentalExcessPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -De

               (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]
        (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (re
        DELETE FROM sessionDroppedoffCar[SESSION*Car]
         SELECTFROM '_SESSION'[SESSION];(-(sessionDroppedoffCar;(I[Car] /\ (rcAssigned

        (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoff
        ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
                SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessi

               (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppe
               DELETE FROM sessionDroppedoffCar[SESSION*Car]
                SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessi

               (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppe
       (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar)
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rentalHasBe
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
```

```
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
(MAINTAINING -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type integrity)
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Rental
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExc
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
```

<------End Derivation --

```
ON INSERT Delta IN rentalHasBeenPromised[RentalCase*RentalCase] EXECUTE    -- (E
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rc
             THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                   SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                  (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequestedQ;'Y
                 PICK a,b FROM rcBranchRequestedQ~;((rentalHasBeenPromised /\ -(rcB
                 THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAn
                                THEN BLOCK
                                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Pro
                                PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnsw
                                THEN INSERT INTO rcBranchRequestedQ[RentalCase*
                                      SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswe

                                     (TO MAINTAIN  -rentalHasBeenPromised \/ rc
                           (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequest
                           NEW x:YesNoAnswer;
                             ALL of BLOCK
                                    (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Promis
                                    INSERT INTO rcBranchRequestedQ[RentalCase*Yes
                                     SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]*

                                    (TO MAINTAIN  -rentalHasBeenPromised \/ rcBra
                             (MAINTAINING -rentalHasBeenPromised \/ rcBranchReque
                           (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequest
                  (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes
        (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnsw
        NEW x:YesNoAnswer;
          ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                  SELECTFROM ((rentalHasBeenPromised /\ -(rcBranchRequestedQ;'Yes

                 (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'
                 ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*((re
                        THEN BLOCK
                             (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Promised rent
                        PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*((rent
                        THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswe
                              SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]
```

```
                    (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequ
         (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[
  (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAn
(MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnsw
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rc
       THEN INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
             SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

            (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequestedQ;'Y
       PICK a,b FROM rcUserRequestedQ~;((rentalHasBeenPromised /\ -(rcBra
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAn
                        THEN BLOCK
                             (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Pro
                        PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnsw
                        THEN INSERT INTO rcUserRequestedQ[RentalCase*Ye
                              SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswe

                             (TO MAINTAIN  -rentalHasBeenPromised \/ rc
                   (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequest
                   NEW x:YesNoAnswer;
                     ALL of BLOCK
                            (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Promis
                            INSERT INTO rcUserRequestedQ[RentalCase*YesNo
                             SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]*

                            (TO MAINTAIN  -rentalHasBeenPromised \/ rcBra
                     (MAINTAINING -rentalHasBeenPromised \/ rcBranchReque
                   (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequest
            (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Ye
(MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnsw
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(co
       THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
             SELECTFROM 'a'[RentalCase]*'b'[Branch]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedPickupBranc
       PICK a,b FROM contractedPickupBranch~;((rentalHasBeenPromised /\ -
       THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
             SELECTFROM 'b'[RentalCase]*'a'[Branch]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedPickupBranc
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedP
NEW x:Branch;
  INSERT INTO contractedPickupBranch[RentalCase*Branch]
   SELECTFROM ((rentalHasBeenPromised /\ -(contractedPickupBranch;contrac

  (TO MAINTAIN  -rentalHasBeenPromised \/ contractedPickupBranch;contract
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedP
INSERT INTO contractedPickupBranch[RentalCase*Branch]
 SELECTFROM (rentalHasBeenPromised~;contractedPickupBranch /\ -contracted
```

```
(TO MAINTAIN  -(contractedPickupBranch~;rentalHasBeenPromised) \/ contrac
INSERT INTO Isn{detyp=Branch}
 SELECTFROM (contractedPickupBranch~;rentalHasBeenPromised;contractedPick

(TO MAINTAIN  -(contractedPickupBranch~;rentalHasBeenPromised;contractedP
INSERT INTO contractedPickupBranch[RentalCase*Branch]
 SELECTFROM (rentalHasBeenPromised;contractedPickupBranch /\ -contractedP

(TO MAINTAIN  -(rentalHasBeenPromised;contractedPickupBranch) \/ contract
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(co
       THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
             SELECTFROM 'a'[RentalCase]*'b'[Branch]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedDropoffBran
       PICK a,b FROM contractedDropoffBranch~;((rentalHasBeenPromised /\
       THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
             SELECTFROM 'b'[RentalCase]*'a'[Branch]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedDropoffBran
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contracted
INSERT INTO contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM (rentalHasBeenPromised~;contractedDropoffBranch /\ -contracte

(TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised) \/ contra
INSERT INTO Isn{detyp=Branch}
 SELECTFROM (contractedDropoffBranch~;rentalHasBeenPromised;contractedDro

(TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised;contracted
INSERT INTO contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM (rentalHasBeenPromised;contractedDropoffBranch /\ -contracted

(TO MAINTAIN  -(rentalHasBeenPromised;contractedDropoffBranch) \/ contrac
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(co
       THEN INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedStartDate;c
       PICK a,b FROM contractedStartDate~;((rentalHasBeenPromised /\ -(co
       THEN INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM 'b'[RentalCase]*'a'[Date]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedStartDate;c
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStar
NEW x:Date;
  INSERT INTO contractedStartDate[RentalCase*Date]
   SELECTFROM ((rentalHasBeenPromised /\ -(contractedStartDate;contracted

  (TO MAINTAIN  -rentalHasBeenPromised \/ contractedStartDate;contractedS
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStar
INSERT INTO contractedStartDate[RentalCase*Date]
```

```
 SELECTFROM (rentalHasBeenPromised~;contractedStartDate /\ -contractedSta

(TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised) \/ contracted
INSERT INTO Isn{detyp=Date}
 SELECTFROM (contractedStartDate~;rentalHasBeenPromised;contractedStartDa

(TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised;contractedStar
INSERT INTO contractedStartDate[RentalCase*Date]
 SELECTFROM (rentalHasBeenPromised;contractedStartDate /\ -contractedStar

(TO MAINTAIN  -(rentalHasBeenPromised;contractedStartDate) \/ contractedS
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(co
       THEN INSERT INTO contractedEndDate[RentalCase*Date]
             SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedEndDate;con
       PICK a,b FROM contractedEndDate~;((rentalHasBeenPromised /\ -(cont
       THEN INSERT INTO contractedEndDate[RentalCase*Date]
             SELECTFROM 'b'[RentalCase]*'a'[Date]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedEndDate;con
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDat
INSERT INTO contractedEndDate[RentalCase*Date]
 SELECTFROM (rentalHasBeenPromised~;contractedEndDate /\ -contractedEndDa

(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised) \/ contractedEn
INSERT INTO Isn{detyp=Date}
 SELECTFROM (contractedEndDate~;rentalHasBeenPromised;contractedEndDate /

(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised;contractedEndDat
INSERT INTO contractedEndDate[RentalCase*Date]
 SELECTFROM (rentalHasBeenPromised;contractedEndDate /\ -contractedEndDat

(TO MAINTAIN  -(rentalHasBeenPromised;contractedEndDate) \/ contractedEndl
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(co
       THEN INSERT INTO contractedCarType[RentalCase*CarType]
             SELECTFROM 'a'[RentalCase]*'b'[CarType]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedCarType;con
       PICK a,b FROM contractedCarType~;((rentalHasBeenPromised /\ -(cont
       THEN INSERT INTO contractedCarType[RentalCase*CarType]
             SELECTFROM 'b'[RentalCase]*'a'[CarType]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedCarType;con
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarTyp
NEW x:CarType;
  INSERT INTO contractedCarType[RentalCase*CarType]
   SELECTFROM ((rentalHasBeenPromised /\ -(contractedCarType;contractedCa

  (TO MAINTAIN  -rentalHasBeenPromised \/ contractedCarType;contractedCar
```

```
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarTyp
INSERT INTO contractedCarType[RentalCase*CarType]
 SELECTFROM (rentalHasBeenPromised~;contractedCarType /\ -contractedCarTy

(TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised) \/ contractedCa
INSERT INTO Isn{detyp=CarType}
 SELECTFROM (contractedCarType~;rentalHasBeenPromised;contractedCarType /

(TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised;contractedCarTyp
INSERT INTO contractedCarType[RentalCase*CarType]
 SELECTFROM (rentalHasBeenPromised;contractedCarType /\ -contractedCarTyp

(TO MAINTAIN  -(rentalHasBeenPromised;contractedCarType) \/ contractedCar
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rc
       THEN INSERT INTO rcDriver[RentalCase*Person]
             SELECTFROM 'a'[RentalCase]*'b'[Person]

            (TO MAINTAIN  -rentalHasBeenPromised \/ rcDriver;rcDriver~ FR
       PICK a,b FROM rcDriver~;((rentalHasBeenPromised /\ -(rcDriver;rcDr
       THEN INSERT INTO rcDriver[RentalCase*Person]
             SELECTFROM 'b'[RentalCase]*'a'[Person]

            (TO MAINTAIN  -rentalHasBeenPromised \/ rcDriver;rcDriver~ FR
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised r
NEW x:Person;
  INSERT INTO rcDriver[RentalCase*Person]
   SELECTFROM ((rentalHasBeenPromised /\ -(rcDriver;rcDriver~)) \/ (Delta

  (TO MAINTAIN  -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promise
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised r
INSERT INTO rcDriver[RentalCase*Person]
 SELECTFROM (rentalHasBeenPromised~;rcDriver /\ -rcDriver) \/ (Delta~;rcD

(TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promis
INSERT INTO Isn{detyp=Person}
 SELECTFROM (rcDriver~;rentalHasBeenPromised;rcDriver /\ -I[Person]) \/ (

(TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised;rcDriver) \/ I[Person] FR
INSERT INTO rcDriver[RentalCase*Person]
 SELECTFROM (rentalHasBeenPromised;rcDriver /\ -rcDriver) \/ (Delta;rcDri

(TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rc
       THEN INSERT INTO rcRenter[RentalCase*Person]
             SELECTFROM 'a'[RentalCase]*'b'[Person]

            (TO MAINTAIN  -rentalHasBeenPromised \/ rcRenter;rcRenter~ FR
       PICK a,b FROM rcRenter~;((rentalHasBeenPromised /\ -(rcRenter;rcRe
       THEN INSERT INTO rcRenter[RentalCase*Person]
             SELECTFROM 'b'[RentalCase]*'a'[Person]
```

```
           (TO MAINTAIN  -rentalHasBeenPromised \/ rcRenter;rcRenter~ FRO
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised r
INSERT INTO rcRenter[RentalCase*Person]
 SELECTFROM (rentalHasBeenPromised~;rcRenter /\ -rcRenter) \/ (Delta~;rcR

(TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM Promis
INSERT INTO Isn{detyp=Person}
 SELECTFROM (rcRenter~;rentalHasBeenPromised;rcRenter /\ -I[Person]) \/ (

(TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised;rcRenter) \/ I[Person] FRO
INSERT INTO rcRenter[RentalCase*Person]
 SELECTFROM (rentalHasBeenPromised;rcRenter /\ -rcRenter) \/ (Delta;rcRen

(TO MAINTAIN  -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM Promised
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
 SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ r

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedPickupBranch~;(I[Re
       THEN INSERT INTO carAvailableAt[Car*Branch]
             SELECTFROM 'b'[Car]*'a'[Branch]

            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ ren
       PICK a,b FROM carAvailableAt;((contractedPickupBranch~;(I[RentalCa
       THEN INSERT INTO carType[Car*CarType]
             SELECTFROM 'a'[Car]*'b'[CarType]

            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ ren
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPro
NEW x:Car;
  ALL of INSERT INTO carAvailableAt[Car*Branch]
          SELECTFROM 'x'[Car]*((contractedCarType~;(I[RentalCase] /\ rent

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentall
         INSERT INTO carType[Car*CarType]
          SELECTFROM 'x'[Car]*((contractedPickupBranch~;(I[RentalCase] /\

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentall
  (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPro
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];sessionNe
       THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
             SELECTFROM 'a'[SESSION]*'b'[RentalCase]

            (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(renta
       PICK a,b FROM sessionNewBranchRC~;(('_SESSION'[SESSION];sessionNew
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalC
                          THEN INSERT INTO rcKeysHandedOverQ[RentalCase*Y
                                SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswe
```

```
                                        (TO MAINTAIN  -('_SESSION'[SESSION];sessio
                                    PICK a,b FROM rcKeysHandedOverQ~;('a'[RentalCas
                                    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,
                                                    THEN BLOCK
                                                         (CANNOT CHANGE 'Yes'[Ye
                                                    PICK a,b FROM 'Yes'[YesNoAns
                                                    THEN BLOCK
                                                         (CANNOT CHANGE V[YesNoA
                                               (MAINTAINING -('_SESSION'[SESSION];
                                               NEW x:YesNoAnswer;
                                                 ALL of BLOCK
                                                        (CANNOT CHANGE 'Yes'[YesNo
                                                        BLOCK
                                                        (CANNOT CHANGE V[YesNoAnsw
                                                 (MAINTAINING -('_SESSION'[SESSION]
                                               (MAINTAINING -('_SESSION'[SESSION];
                                          (MAINTAINING -('_SESSION'[SESSION];sessionN
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
                                    NEW x:YesNoAnswer;
                                      ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesN
                                              SELECTFROM 'a'[RentalCase]*'b'[RentalCase]*'

                                                (TO MAINTAIN  -('_SESSION'[SESSION];sessionNe
                                                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b F
                                                             THEN BLOCK
                                                                  (CANNOT CHANGE 'Yes'[YesNo
                                                             PICK a,b FROM 'Yes'[YesNoAnswer]
                                                             THEN BLOCK
                                                                  (CANNOT CHANGE V[YesNoAnsw
                                                    (MAINTAINING -('_SESSION'[SESSION];ses
                                                    NEW x:YesNoAnswer;
                                                      ALL of BLOCK
                                                             (CANNOT CHANGE 'Yes'[YesNoAns
                                                             BLOCK
                                                             (CANNOT CHANGE V[YesNoAnswer*
                                                      (MAINTAINING -('_SESSION'[SESSION];s
                                                    (MAINTAINING -('_SESSION'[SESSION];ses
                                               (MAINTAINING -('_SESSION'[SESSION];sessionNew
                                         (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchR
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
                          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentall
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromi
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
          SELECTFROM (('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB

                 (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHa
                 ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCase
                              THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesN
```

```
                                    SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                                 (TO MAINTAIN  -('_SESSION'[SESSION];sessionNe
                              PICK a,b FROM rcKeysHandedOverQ~;('x'[RentalCase]*
                              THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b F
                                              THEN BLOCK
                                                   (CANNOT CHANGE 'Yes'[YesNo
                                              PICK a,b FROM 'Yes'[YesNoAnswer]
                                              THEN BLOCK
                                                   (CANNOT CHANGE V[YesNoAnsw
                                        (MAINTAINING -('_SESSION'[SESSION];ses
                                        NEW x:YesNoAnswer;
                                          ALL of BLOCK
                                                 (CANNOT CHANGE 'Yes'[YesNoAns
                                                 BLOCK
                                                 (CANNOT CHANGE V[YesNoAnswer*
                                          (MAINTAINING -('_SESSION'[SESSION];s
                                        (MAINTAINING -('_SESSION'[SESSION];ses
                                   (MAINTAINING -('_SESSION'[SESSION];sessionNew
                              (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(re
                              NEW x:YesNoAnswer;
                                ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAn
                                        SELECTFROM 'x'[RentalCase]*(('_SESSION'[SESSION]

                                       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBr
                                       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Y
                                              THEN BLOCK
                                                   (CANNOT CHANGE 'Yes'[YesNoAnswer] FR
                                              PICK a,b FROM 'Yes'[YesNoAnswer];('x'[Yes
                                              THEN BLOCK
                                                   (CANNOT CHANGE V[YesNoAnswer*RentalC
                                       (MAINTAINING -('_SESSION'[SESSION];sessionNewBra
                                 (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(
                              (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(re
                        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHas
                  (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPro
            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromi
            ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionNewBranchRC~;'_SESSION
                  THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                        SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                             (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessi
                           PICK a,b FROM rcKeysHandedOverQ~;((sessionNewBranchRC~;'_SESSION'[
                           THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAn
                                           THEN BLOCK
                                                (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Han
                                           PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnsw
                                           THEN BLOCK
                                                (CANNOT CHANGE V[YesNoAnswer*RentalCase] F
                                 (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
```

```
                                NEW x:YesNoAnswer;
                                  ALL of BLOCK
                                         (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand t
                                         BLOCK
                                         (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM
                                   (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSIO
                                 (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
                          (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessio
                 (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
                 INSERT INTO Isn{detyp=RentalCase}
                  SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                 INSERT INTO Isn{detyp=RentalCase}
                  SELECTFROM (Delta~;Delta /\ I[RentalCase]) - I[RentalCase]

(MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcB
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBra
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBra
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBra
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBra
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBra
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffB
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffB
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffB
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffB
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffB
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ F
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ F
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ F
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ F
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ F
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
```

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(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssi
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ 
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ 
```

------ Derivation ----->

```
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rcBranc
              THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                    SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                   (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[Y
              PICK a,b FROM rcBranchRequestedQ~;((rentalHasBeenPromised /\ -(rcBranch
              THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAnswer]
                                   THEN BLOCK
                                        (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Promised
                                   PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnswer]*'
                                   THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNo
                                         SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                                        (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranc
                              (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'
                              NEW x:YesNoAnswer;
                                ALL of BLOCK
                                       (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Promised re
                                       INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAns
                                        SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]*'x'[Y

                                       (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRe
                                 (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ
                              (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'
                        (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[Ye
               (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
               NEW x:YesNoAnswer;
                 ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                         SELECTFROM ((rentalHasBeenPromised /\ -(rcBranchRequestedQ;'Yes'[Yes

                          (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesN
                          ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*((rentalH
                                 THEN BLOCK
                                      (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Promised rental re
                                 PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*((rentalHas
                                 THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                                       SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                                      (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequested
                          (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNo
```

```
  (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer]
(MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rcBranc
       THEN INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
             SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

            (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[Y
       PICK a,b FROM rcUserRequestedQ~;((rentalHasBeenPromised /\ -(rcBranchRe
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAnswer]
                          THEN BLOCK
                               (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Promised
                          PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnswer]*'
                          THEN INSERT INTO rcUserRequestedQ[RentalCase*YesNoAn
                                SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                               (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranc
                     (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'
                     NEW x:YesNoAnswer;
                       ALL of BLOCK
                              (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Promised re
                              INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswe
                               SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]*'x'[Y

                              (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRe
                       (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ
                     (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'
            (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[Ye
(MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(contrac
       THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
             SELECTFROM 'a'[RentalCase]*'b'[Branch]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedPickupBranch;con
       PICK a,b FROM contractedPickupBranch~;((rentalHasBeenPromised /\ -(cont
       THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
             SELECTFROM 'b'[RentalCase]*'a'[Branch]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedPickupBranch;con
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickup
NEW x:Branch;
  INSERT INTO contractedPickupBranch[RentalCase*Branch]
   SELECTFROM ((rentalHasBeenPromised /\ -(contractedPickupBranch;contractedPi

  (TO MAINTAIN  -rentalHasBeenPromised \/ contractedPickupBranch;contractedPic
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickup
INSERT INTO contractedPickupBranch[RentalCase*Branch]
 SELECTFROM (rentalHasBeenPromised~;contractedPickupBranch /\ -contractedPicku

(TO MAINTAIN  -(contractedPickupBranch~;rentalHasBeenPromised) \/ contractedPi
INSERT INTO Isn{detyp=Branch}
```

```
 SELECTFROM (contractedPickupBranch~;rentalHasBeenPromised;contractedPickupBra

(TO MAINTAIN  -(contractedPickupBranch~;rentalHasBeenPromised;contractedPickup
INSERT INTO contractedPickupBranch[RentalCase*Branch]
 SELECTFROM (rentalHasBeenPromised;contractedPickupBranch /\ -contractedPickup

(TO MAINTAIN  -(rentalHasBeenPromised;contractedPickupBranch) \/ contractedPic
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(contrac
       THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
             SELECTFROM 'a'[RentalCase]*'b'[Branch]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedDropoffBranch;co
       PICK a,b FROM contractedDropoffBranch~;((rentalHasBeenPromised /\ -(con
       THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
             SELECTFROM 'b'[RentalCase]*'a'[Branch]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedDropoffBranch;co
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropo
INSERT INTO contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM (rentalHasBeenPromised~;contractedDropoffBranch /\ -contractedDrop

(TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised) \/ contractedD
INSERT INTO Isn{detyp=Branch}
 SELECTFROM (contractedDropoffBranch~;rentalHasBeenPromised;contractedDropoffB

(TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised;contractedDropo
INSERT INTO contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM (rentalHasBeenPromised;contractedDropoffBranch /\ -contractedDropo

(TO MAINTAIN  -(rentalHasBeenPromised;contractedDropoffBranch) \/ contractedDr
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(contrac
       THEN INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedStartDate;contra
       PICK a,b FROM contractedStartDate~;((rentalHasBeenPromised /\ -(contrac
       THEN INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM 'b'[RentalCase]*'a'[Date]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedStartDate;contra
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate
NEW x:Date;
  INSERT INTO contractedStartDate[RentalCase*Date]
   SELECTFROM ((rentalHasBeenPromised /\ -(contractedStartDate;contractedStart

  (TO MAINTAIN  -rentalHasBeenPromised \/ contractedStartDate;contractedStartD
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate
INSERT INTO contractedStartDate[RentalCase*Date]
 SELECTFROM (rentalHasBeenPromised~;contractedStartDate /\ -contractedStartDat
```

```
(TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised) \/ contractedStart
INSERT INTO Isn{detyp=Date}
 SELECTFROM (contractedStartDate~;rentalHasBeenPromised;contractedStartDate /\

(TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised;contractedStartDate
INSERT INTO contractedStartDate[RentalCase*Date]
 SELECTFROM (rentalHasBeenPromised;contractedStartDate /\ -contractedStartDate

(TO MAINTAIN  -(rentalHasBeenPromised;contractedStartDate) \/ contractedStartD
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(contrac
       THEN INSERT INTO contractedEndDate[RentalCase*Date]
             SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedEndDate;contract
       PICK a,b FROM contractedEndDate~;((rentalHasBeenPromised /\ -(contracte
       THEN INSERT INTO contractedEndDate[RentalCase*Date]
             SELECTFROM 'b'[RentalCase]*'a'[Date]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedEndDate;contract
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FR
INSERT INTO contractedEndDate[RentalCase*Date]
 SELECTFROM (rentalHasBeenPromised~;contractedEndDate /\ -contractedEndDate) \

(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised) \/ contractedEndDate
INSERT INTO Isn{detyp=Date}
 SELECTFROM (contractedEndDate~;rentalHasBeenPromised;contractedEndDate /\ -I[

(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised;contractedEndDate) \/
INSERT INTO contractedEndDate[RentalCase*Date]
 SELECTFROM (rentalHasBeenPromised;contractedEndDate /\ -contractedEndDate) \/

(TO MAINTAIN  -(rentalHasBeenPromised;contractedEndDate) \/ contractedEndDate
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(contrac
       THEN INSERT INTO contractedCarType[RentalCase*CarType]
             SELECTFROM 'a'[RentalCase]*'b'[CarType]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedCarType;contract
       PICK a,b FROM contractedCarType~;((rentalHasBeenPromised /\ -(contracte
       THEN INSERT INTO contractedCarType[RentalCase*CarType]
             SELECTFROM 'b'[RentalCase]*'a'[CarType]

            (TO MAINTAIN  -rentalHasBeenPromised \/ contractedCarType;contract
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FR
NEW x:CarType;
  INSERT INTO contractedCarType[RentalCase*CarType]
   SELECTFROM ((rentalHasBeenPromised /\ -(contractedCarType;contractedCarType

  (TO MAINTAIN  -rentalHasBeenPromised \/ contractedCarType;contractedCarType~
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FR
INSERT INTO contractedCarType[RentalCase*CarType]
```

```
 SELECTFROM (rentalHasBeenPromised~;contractedCarType /\ -contractedCarType) \

(TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised) \/ contractedCarType
INSERT INTO Isn{detyp=CarType}
 SELECTFROM (contractedCarType~;rentalHasBeenPromised;contractedCarType /\ -I[

(TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised;contractedCarType) \/
INSERT INTO contractedCarType[RentalCase*CarType]
 SELECTFROM (rentalHasBeenPromised;contractedCarType /\ -contractedCarType) \/

(TO MAINTAIN  -(rentalHasBeenPromised;contractedCarType) \/ contractedCarType
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rcDrive
       THEN INSERT INTO rcDriver[RentalCase*Person]
             SELECTFROM 'a'[RentalCase]*'b'[Person]

            (TO MAINTAIN  -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Pr
       PICK a,b FROM rcDriver~;((rentalHasBeenPromised /\ -(rcDriver;rcDriver~
       THEN INSERT INTO rcDriver[RentalCase*Person]
             SELECTFROM 'b'[RentalCase]*'a'[Person]

           (TO MAINTAIN  -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Pr
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental
NEW x:Person;
  INSERT INTO rcDriver[RentalCase*Person]
   SELECTFROM ((rentalHasBeenPromised /\ -(rcDriver;rcDriver~)) \/ (Delta /\ -

  (TO MAINTAIN  -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised ren
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental
INSERT INTO rcDriver[RentalCase*Person]
 SELECTFROM (rentalHasBeenPromised~;rcDriver /\ -rcDriver) \/ (Delta~;rcDriver

(TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promised re
INSERT INTO Isn{detyp=Person}
 SELECTFROM (rcDriver~;rentalHasBeenPromised;rcDriver /\ -I[Person]) \/ (rcDri

(TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised;rcDriver) \/ I[Person] FROM Pr
INSERT INTO rcDriver[RentalCase*Person]
 SELECTFROM (rentalHasBeenPromised;rcDriver /\ -rcDriver) \/ (Delta;rcDriver /

(TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised rent
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rcRente
       THEN INSERT INTO rcRenter[RentalCase*Person]
             SELECTFROM 'a'[RentalCase]*'b'[Person]

            (TO MAINTAIN  -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Pr
       PICK a,b FROM rcRenter~;((rentalHasBeenPromised /\ -(rcRenter;rcRenter~
       THEN INSERT INTO rcRenter[RentalCase*Person]
             SELECTFROM 'b'[RentalCase]*'a'[Person]

            (TO MAINTAIN  -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Pr
```

```
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental
INSERT INTO rcRenter[RentalCase*Person]
 SELECTFROM (rentalHasBeenPromised~;rcRenter /\ -rcRenter) \/ (Delta~;rcRenter

(TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM Promised re
INSERT INTO Isn{detyp=Person}
 SELECTFROM (rcRenter~;rentalHasBeenPromised;rcRenter /\ -I[Person]) \/ (rcRen

(TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised;rcRenter) \/ I[Person] FROM Pr
INSERT INTO rcRenter[RentalCase*Person]
 SELECTFROM (rentalHasBeenPromised;rcRenter /\ -rcRenter) \/ (Delta;rcRenter /

(TO MAINTAIN  -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM Promised rent
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
 SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssi

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcA
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedPickupBranch~;(I[RentalC
       THEN INSERT INTO carAvailableAt[Car*Branch]
             SELECTFROM 'b'[Car]*'a'[Branch]

            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHa
       PICK a,b FROM carAvailableAt;((contractedPickupBranch~;(I[RentalCase] /
       THEN INSERT INTO carType[Car*CarType]
             SELECTFROM 'a'[Car]*'b'[CarType]

            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHa
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
NEW x:Car;
  ALL of INSERT INTO carAvailableAt[Car*Branch]
          SELECTFROM 'x'[Car]*((contractedCarType~;(I[RentalCase] /\ rentalHas

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBe
         INSERT INTO carType[Car*CarType]
          SELECTFROM 'x'[Car]*((contractedPickupBranch~;(I[RentalCase] /\ rent

         (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBe
  (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromis
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];sessionNewBran
       THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
             SELECTFROM 'a'[SESSION]*'b'[RentalCase]

            (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
       PICK a,b FROM sessionNewBranchRC~;(('_SESSION'[SESSION];sessionNewBranc
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]*
                          THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoA
                                SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                               (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewB
```

```
                                PICK a,b FROM rcKeysHandedOverQ~;('a'[RentalCase]*'b
                                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FRO
                                                THEN BLOCK
                                                     (CANNOT CHANGE 'Yes'[YesNoAn
                                                PICK a,b FROM 'Yes'[YesNoAnswer];
                                                THEN BLOCK
                                                     (CANNOT CHANGE V[YesNoAnswer
                                           (MAINTAINING -('_SESSION'[SESSION];sessi
                                           NEW x:YesNoAnswer;
                                             ALL of BLOCK
                                                    (CANNOT CHANGE 'Yes'[YesNoAnswe
                                                    BLOCK
                                                    (CANNOT CHANGE V[YesNoAnswer*Re
                                            (MAINTAINING -('_SESSION'[SESSION];ses
                                           (MAINTAINING -('_SESSION'[SESSION];sessi
                                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBr
                                (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rent
                                NEW x:YesNoAnswer;
                                  ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnsw
                                          SELECTFROM 'a'[RentalCase]*'b'[RentalCase]*'x'[Ye

                                          (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBran
                                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (
                                                       THEN BLOCK
                                                            (CANNOT CHANGE 'Yes'[YesNoAnswe
                                                       PICK a,b FROM 'Yes'[YesNoAnswer];('x
                                                       THEN BLOCK
                                                            (CANNOT CHANGE V[YesNoAnswer*Re
                                                  (MAINTAINING -('_SESSION'[SESSION];sessionN
                                                  NEW x:YesNoAnswer;
                                                    ALL of BLOCK
                                                           (CANNOT CHANGE 'Yes'[YesNoAnswer]
                                                           BLOCK
                                                           (CANNOT CHANGE V[YesNoAnswer*Renta
                                                    (MAINTAINING -('_SESSION'[SESSION];sessio
                                                  (MAINTAINING -('_SESSION'[SESSION];sessionN
                                                (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                                          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(re
                                     (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rent
                                (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBe
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
          SELECTFROM (('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeen
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCase]*(('
                       THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnsw
                            SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]
```

```
                                    (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBran
                                PICK a,b FROM rcKeysHandedOverQ~;('x'[RentalCase]*(('_S
                                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (
                                                THEN BLOCK
                                                     (CANNOT CHANGE 'Yes'[YesNoAnswe
                                                PICK a,b FROM 'Yes'[YesNoAnswer];('a
                                                THEN BLOCK
                                                     (CANNOT CHANGE V[YesNoAnswer*Re
                                           (MAINTAINING -('_SESSION'[SESSION];sessionN
                                           NEW x:YesNoAnswer;
                                             ALL of BLOCK
                                                    (CANNOT CHANGE 'Yes'[YesNoAnswer]
                                                    BLOCK
                                                    (CANNOT CHANGE V[YesNoAnswer*Renta
                                             (MAINTAINING -('_SESSION'[SESSION];sessio
                                           (MAINTAINING -('_SESSION'[SESSION];sessionN
                                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                             (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalH
                             NEW x:YesNoAnswer;
                               ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                                       SELECTFROM 'x'[RentalCase]*(('_SESSION'[SESSION];ses

                                      (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchR
                                      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoA
                                             THEN BLOCK
                                                  (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Ha
                                             PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAns
                                             THEN BLOCK
                                                  (CANNOT CHANGE V[YesNoAnswer*RentalCase]
                                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC
                               (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(renta
                             (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalH
                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenP
              (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised
            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
          ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionNewBranchRC~;'_SESSION'[SES
                 THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                       SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                            (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
                          PICK a,b FROM rcKeysHandedOverQ~;((sessionNewBranchRC~;'_SESSION'[SESSI
                          THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAnswer]
                                           THEN BLOCK
                                                (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand the
                                           PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnswer]*'
                                           THEN BLOCK
                                                (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM H
                                      (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sess
                                      NEW x:YesNoAnswer;
                                        ALL of BLOCK
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                                        (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand the ca
                                        BLOCK
                                        (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Hand
                                  (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];se
                                (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sess
                          (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewB
        (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(ren
        INSERT INTO Isn{detyp=RentalCase}
         SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

        INSERT INTO Isn{detyp=RentalCase}
         SELECTFROM (Delta~;Delta /\ I[RentalCase]) - I[RentalCase]

(MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranch
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranc
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranc
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranc
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranc
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranc
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssignedC
```

```
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\ -(r
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
```

<------End Derivation --

```
ON DELETE Delta FROM rentalHasBeenPromised[RentalCase*RentalCase] EXECUTE    --
ALL of ONE OF DELETE FROM rcRenter[RentalCase*Person]
               SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
              DELETE FROM rcRenter[RentalCase*Person]
               SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
              DELETE FROM rcDriver[RentalCase*Person]
               SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
              DELETE FROM rcDriver[RentalCase*Person]
               SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
              DELETE FROM contractedCarType[RentalCase*CarType]
               SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
              DELETE FROM contractedCarType[RentalCase*CarType]
               SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
              DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
              DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
              DELETE FROM contractedDropoffBranch[RentalCase*Branch]
```

```
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedPickupBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedPickupBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM (-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDri

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarT
ONE OF DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD
```

```
(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedPickupBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedPickupBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDr

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcD

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM (-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDri

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarT
DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
 SELECTFROM (-rentalHasBeenPromised /\ rentalHasBeenStarted) \/ (Delta /\
```

```
       (TO MAINTAIN  -rentalHasBeenStarted \/ rentalHasBeenPromised FROM Started
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -rentalHasBeenStarted \/ rentalHasBeenPromised FROM Started rentals
```

------ Derivation ----->

```
ALL of ONE OF DELETE FROM rcRenter[RentalCase*Person]
               SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
              DELETE FROM rcRenter[RentalCase*Person]
               SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
              DELETE FROM rcDriver[RentalCase*Person]
               SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
              DELETE FROM rcDriver[RentalCase*Person]
               SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
              DELETE FROM contractedCarType[RentalCase*CarType]
               SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
              DELETE FROM contractedCarType[RentalCase*CarType]
               SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
              DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
              DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

              (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
              DELETE FROM contractedDropoffBranch[RentalCase*Branch]
```

```
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedPickupBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedPickupBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM (-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;r

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;c
ONE OF DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver
```

```
(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedPickupBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM contractedPickupBranch[RentalCase*Branch]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM ((-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM ((-rentalHasBeenPromised~ /\ rcRenter;rcRenter~ /\ rcDriver

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM (-rentalHasBeenPromised /\ rcRenter;rcRenter~ /\ rcDriver;r

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedC
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;c
DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
 SELECTFROM (-rentalHasBeenPromised /\ rentalHasBeenStarted) \/ (Delta /\ rent
```

```
       (TO MAINTAIN  -rentalHasBeenStarted \/ rentalHasBeenPromised FROM Started rent
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -rentalHasBeenStarted \/ rentalHasBeenPromised FROM Started rentals)
```

<------End Derivation --

```
ON INSERT Delta IN rcUserRequestedQ[RentalCase*YesNoAnswer] EXECUTE    -- (ECA r
ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
       ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'
                   THEN INSERT INTO rcRenter[RentalCase*Person]
                         SELECTFROM 'a'[RentalCase]*'b'[Person]

                        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rc
                   PICK a,b FROM rcRenter~;((rcUserRequestedQ;'Yes'[YesNoAnswe
                   THEN INSERT INTO rcRenter[RentalCase*Person]
                         SELECTFROM 'b'[RentalCase]*'a'[Person]

                        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rc
              (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequested
              NEW x:Person;
                INSERT INTO rcRenter[RentalCase*Person]
                 SELECTFROM ((rcUserRequestedQ;'Yes'[YesNoAnswer];(rcUserRequest

                (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReques
              (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequested
       (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I
       INSERT INTO Isn{detyp=Person}
        SELECTFROM (rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];(rcUserRequest

       (TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReque
       INSERT INTO Isn{detyp=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

       INSERT INTO Isn{detyp=YesNoAnswer}
        SELECTFROM (Delta~;Delta /\ I[YesNoAnswer]) - I[YesNoAnswer]

(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
```

------ Derivation ----->

```
ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
```

```
 SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesN
             THEN INSERT INTO rcRenter[RentalCase*Person]
                   SELECTFROM 'a'[RentalCase]*'b'[Person]

                  (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserR
             PICK a,b FROM rcRenter~;((rcUserRequestedQ;'Yes'[YesNoAnswer];(r
             THEN INSERT INTO rcRenter[RentalCase*Person]
                   SELECTFROM 'b'[RentalCase]*'a'[Person]

                  (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserR
       (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
       NEW x:Person;
         INSERT INTO rcRenter[RentalCase*Person]
          SELECTFROM ((rcUserRequestedQ;'Yes'[YesNoAnswer];(rcUserRequestedQ \

         (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~
       (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rent
INSERT INTO Isn{detyp=Person}
 SELECTFROM (rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];(rcUserRequestedQ \

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{detyp=YesNoAnswer}
 SELECTFROM (Delta~;Delta /\ I[YesNoAnswer]) - I[YesNoAnswer]

(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase]
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase]
```

<------End Derivation --

```
ON DELETE Delta FROM rcUserRequestedQ[RentalCase*YesNoAnswer] EXECUTE    -- (ECA
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -(rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~) /

       (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAns
       DELETE FROM sessionNewUserRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];(-(sessionNewUserRC;(rcUserRequestedQ /\ 

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC
       ONE OF DELETE FROM sessionNewUserRC[SESSION*RentalCase]
              SELECTFROM '_SESSION'[SESSION];sessionNewUserRC;(-(V[RentalCase*Y
```

```
                        (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUs
                        DELETE FROM sessionNewUserRC[SESSION*RentalCase]
                         SELECTFROM '_SESSION'[SESSION];sessionNewUserRC;(-((rcUserRequest

                        (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUs
                (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \/
        (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcB
        (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserR
        (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserR
```

------ Derivation ----->

```
    ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
            SELECTFROM -(rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~) /\ -(

           (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];
           DELETE FROM sessionNewUserRC[SESSION*RentalCase]
            SELECTFROM '_SESSION'[SESSION];(-(sessionNewUserRC;(rcUserRequestedQ /\ -Delt

           (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUs
           ONE OF DELETE FROM sessionNewUserRC[SESSION*RentalCase]
                   SELECTFROM '_SESSION'[SESSION];sessionNewUserRC;(-(V[RentalCase*YesNoA

                  (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
                  DELETE FROM sessionNewUserRC[SESSION*RentalCase]
                   SELECTFROM '_SESSION'[SESSION];sessionNewUserRC;(-((rcUserRequestedQ /

                  (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
             (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \/ rcUs
    (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranch
    (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserReques
    (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserReques
```

<------End Derivation --

```
         ON INSERT Delta IN rcBranchRequestedQ[RentalCase*YesNoAnswer] EXECUTE    -- (ECA
         ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
                 SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp

                (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDriver;rcDriver~ /\
                             THEN INSERT INTO rcRenter[RentalCase*Person]
                                   SELECTFROM 'a'[RentalCase]*'b'[Person]

                                  (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequeste
                             PICK a,b FROM rcRenter~;((rcDriver;rcDriver~ /\ rcBranchReq
```

```
                                THEN INSERT INTO rcRenter[RentalCase*Person]
                                      SELECTFROM 'b'[RentalCase]*'a'[Person]

                                           (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequeste
                                  (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN
                                  NEW x:Person;
                                    INSERT INTO rcRenter[RentalCase*Person]
                                     SELECTFROM ((rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[Yes

                                    (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[Y
                                  (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN
                             (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
                             INSERT INTO Isn{detyp=Person}
                              SELECTFROM (rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchR

                             (TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
                             INSERT INTO contractedPickupBranch[RentalCase*Branch]
                              SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];(rcB

                             (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
                             INSERT INTO Isn{detyp=Branch}
                              SELECTFROM (contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ

                             (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequest
                             INSERT INTO contractedStartDate[RentalCase*Date]
                              SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];(rcB

                             (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
                             INSERT INTO Isn{detyp=Date}
                              SELECTFROM (contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Y

                             (TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
                             INSERT INTO Isn{detyp=RentalCase}
                              SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                             INSERT INTO Isn{detyp=YesNoAnswer}
                              SELECTFROM (Delta~;Delta /\ I[YesNoAnswer]) - I[YesNoAnswer]

                        (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
                        (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
                        (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
                        (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
                        (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
                        (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
                        (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
```

------ Derivation ----->

```
ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDriver;rcDriver~ /\ rcBra
                    THEN INSERT INTO rcRenter[RentalCase*Person]
                          SELECTFROM 'a'[RentalCase]*'b'[Person]

                         (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Y
                    PICK a,b FROM rcRenter~;((rcDriver;rcDriver~ /\ rcBranchRequeste
                    THEN INSERT INTO rcRenter[RentalCase*Person]
                          SELECTFROM 'b'[RentalCase]*'a'[Person]

                         (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Y
              (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnsw
              NEW x:Person;
                INSERT INTO rcRenter[RentalCase*Person]
                 SELECTFROM ((rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAns

                (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoA
              (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnsw
       (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcB
       INSERT INTO Isn{detyp=Person}
        SELECTFROM (rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReques

       (TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
       INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];(rcBranch

       (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBran
       INSERT INTO Isn{detyp=Branch}
        SELECTFROM (contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes

       (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'
       INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];(rcBranch

       (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBran
       INSERT INTO Isn{detyp=Date}
        SELECTFROM (contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[Y

       (TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
       INSERT INTO Isn{detyp=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

       INSERT INTO Isn{detyp=YesNoAnswer}
        SELECTFROM (Delta~;Delta /\ I[YesNoAnswer]) - I[YesNoAnswer]

(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
```

```
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
```

<------End Derivation --

```
ON DELETE Delta FROM rcBranchRequestedQ[RentalCase*YesNoAnswer] EXECUTE    -- (E
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -((rcBranchRequestedQ /\ -Delta);'Yes'[YesNoAnswer];(rcBranch

       (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAns
       DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC;(rcBranchRequestedQ

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBran
       ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(V[RentalCase

              (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
              DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-((rcBranchReq

              (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
       (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
       ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM (-(sessionNewBranchRC;(rcBranchRequestedQ /\ -Delta)) /

              (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM sessionNewBranchRC~;(-(sessionNewBranchRC;(rcBranchReq

              (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM sessionNewBranchRC~;(-(sessionNewBranchRC;(rcBranchReq

              (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];(-((rcBranchReque

              (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
              DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
               SELECTFROM (I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);sessio

              (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
       (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssig
       ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
```

```
                        SELECTFROM sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcA

                       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCa
                       DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
                        SELECTFROM sessionNewBranchRC;((-rcBranchRequestedQ /\ sessionNew

                       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCa
                       DELETE FROM Isn{detyp=RentalCase}
                        SELECTFROM sessionNewBranchRC~;sessionNewBranchRC;((-rcBranchRequ

                       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCa
                       DELETE FROM rcAssignedCar[RentalCase*Car]
                        SELECTFROM sessionNewBranchRC~;sessionNewBranchRC;((-rcBranchRequ

                       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCa
                       DELETE FROM rcAssignedCar[RentalCase*Car]
                        SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];((-rcBranchReques

                       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCa
                       DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                        SELECTFROM (I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);sessio

                       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCa
              (MAINTAINING -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ r
      (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcB
      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcB
      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcB
      (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
      (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
```

------ Derivation ----->

```
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -((rcBranchRequestedQ /\ -Delta);'Yes'[YesNoAnswer];(rcBranchReque

       (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];
       DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC;(rcBranchRequestedQ /\ -

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;
       ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(V[RentalCase*YesN

              (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
              DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-((rcBranchRequeste

              (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
```

```
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC) \/
ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM (-(sessionNewBranchRC;(rcBranchRequestedQ /\ -Delta)) /\ se

       (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAs
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM sessionNewBranchRC~;(-(sessionNewBranchRC;(rcBranchRequeste

       (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAs
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM sessionNewBranchRC~;(-(sessionNewBranchRC;(rcBranchRequeste

       (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAs
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];(-((rcBranchRequestedQ

       (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAs
       DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
        SELECTFROM (I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);sessionNewB

       (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAs
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCa
ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssign

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /
       DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM sessionNewBranchRC;((-rcBranchRequestedQ /\ sessionNewBranc

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM sessionNewBranchRC~;sessionNewBranchRC;((-rcBranchRequested

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM sessionNewBranchRC~;sessionNewBranchRC;((-rcBranchRequested

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];((-rcBranchRequestedQ~

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /
       DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
        SELECTFROM (I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);sessionNewB

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /
(MAINTAINING -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAssi
(MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranch
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
```

```
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
```

<------End Derivation --

```
ON INSERT Delta IN rentalHasBeenPickedUp[RentalCase*RentalCase] EXECUTE    -- (E
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase] \/ (Delta~;Delta /\ I
```

------ Derivation ----->

```
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase] \/ (Delta~;Delta /\ I[Ren
```

<------End Derivation --

```
ON INSERT Delta IN rentalHasBeenStarted[RentalCase*RentalCase] EXECUTE    -- (EC
ONE OF INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rentalHasBeenStarted /\ -rentalHasBeenPromised) \/ (Delta /\

       (TO MAINTAIN  -rentalHasBeenStarted \/ rentalHasBeenPromised FROM Started
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenStarted /\ -(rcA
              THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                    SELECTFROM 'a'[RentalCase]*'b'[Car]

                   (TO MAINTAIN  -rentalHasBeenStarted \/ rcAssignedCar;rcAssign
              PICK a,b FROM rcAssignedCar~;((rentalHasBeenStarted /\ -(rcAssigne
              THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                    SELECTFROM 'b'[RentalCase]*'a'[Car]

                   (TO MAINTAIN  -rentalHasBeenStarted \/ rcAssignedCar;rcAssign
      (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM S
      NEW x:Car;
        INSERT INTO rcAssignedCar[RentalCase*Car]
         SELECTFROM ((rentalHasBeenStarted /\ -(rcAssignedCar;rcAssignedCar~))

        (TO MAINTAIN  -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FRO
      (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM S
      INSERT INTO rcAssignedCar[RentalCase*Car]
       SELECTFROM (rentalHasBeenStarted~;rcAssignedCar /\ -rcAssignedCar) \/ (D

      (TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssignedCar~ FR
      INSERT INTO Isn{detyp=Car}
```

```
 SELECTFROM (rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar /\ -I[Car]

(TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar) \/ I[C
INSERT INTO rcAssignedCar[RentalCase*Car]
 SELECTFROM (rentalHasBeenStarted;rcAssignedCar /\ -rcAssignedCar) \/ (De

(TO MAINTAIN  -(rentalHasBeenStarted;rcAssignedCar) \/ rcAssignedCar FROM
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenStarted /\ -(rcK
       THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
             SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

            (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes
       PICK a,b FROM rcKeysHandedOverQ~;((rentalHasBeenStarted /\ -(rcKey
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAn
                           THEN BLOCK
                                (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Sta
                           PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnsw
                           THEN INSERT INTO rcKeysHandedOverQ[RentalCase*Y
                                 SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswe

                                (TO MAINTAIN  -rentalHasBeenStarted \/ rcK
                     (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOver
                     NEW x:YesNoAnswer;
                       ALL of BLOCK
                              (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Starte
                              INSERT INTO rcKeysHandedOverQ[RentalCase*YesN
                               SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]*

                              (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysH
                       (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOv
                     (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOver
            (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'
(MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer]
NEW x:YesNoAnswer;
  ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
          SELECTFROM ((rentalHasBeenStarted /\ -(rcKeysHandedOverQ;'Yes'[

         (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[Y
         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*((re
                THEN BLOCK
                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Started renta
                PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*((rent
                THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                      SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                     (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysHandedO
        (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[Ye
  (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnsw
(MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer]
INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
```

```
                 SELECTFROM (rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;r

                (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDat
                INSERT INTO Isn{detyp=RentalCase}
                 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                INSERT INTO Isn{detyp=RentalCase}
                 SELECTFROM (Delta~;Delta /\ I[RentalCase]) - I[RentalCase]

          (MAINTAINING -rentalHasBeenStarted \/ rentalHasBeenPromised FROM Started rentals
          (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
          (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
          (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
          (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
          (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
          (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKey
          (MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDrop
```

------ Derivation ----->

```
   ONE OF INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
           SELECTFROM (rentalHasBeenStarted /\ -rentalHasBeenPromised) \/ (Delta /\ -ren

          (TO MAINTAIN  -rentalHasBeenStarted \/ rentalHasBeenPromised FROM Started rent
          ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenStarted /\ -(rcAssign
                 THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                       SELECTFROM 'a'[RentalCase]*'b'[Car]

                      (TO MAINTAIN  -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar
                 PICK a,b FROM rcAssignedCar~;((rentalHasBeenStarted /\ -(rcAssignedCar;
                 THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                       SELECTFROM 'b'[RentalCase]*'a'[Car]

                      (TO MAINTAIN  -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar
          (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Starte
          NEW x:Car;
            INSERT INTO rcAssignedCar[RentalCase*Car]
             SELECTFROM ((rentalHasBeenStarted /\ -(rcAssignedCar;rcAssignedCar~)) \/ (D

            (TO MAINTAIN  -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Sta
          (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Starte
          INSERT INTO rcAssignedCar[RentalCase*Car]
           SELECTFROM (rentalHasBeenStarted~;rcAssignedCar /\ -rcAssignedCar) \/ (Delta~

          (TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssignedCar~ FROM St
          INSERT INTO Isn{detyp=Car}
           SELECTFROM (rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar /\ -I[Car]) \/
```

```
(TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar) \/ I[Car] F
INSERT INTO rcAssignedCar[RentalCase*Car]
 SELECTFROM (rentalHasBeenStarted;rcAssignedCar /\ -rcAssignedCar) \/ (Delta;r

(TO MAINTAIN  -(rentalHasBeenStarted;rcAssignedCar) \/ rcAssignedCar FROM Star
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenStarted /\ -(rcKeysHa
       THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
             SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

            (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[Yes
       PICK a,b FROM rcKeysHandedOverQ~;((rentalHasBeenStarted /\ -(rcKeysHand
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAnswer]
                           THEN BLOCK
                                (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Started
                           PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnswer]*'
                           THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoA
                                 SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                                (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysHa
                     (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Ye
                     NEW x:YesNoAnswer;
                       ALL of BLOCK
                              (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Started ren
                              INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnsw
                               SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]*'x'[Y

                              (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysHande
                       (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'
                     (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Ye
              (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesN
(MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcK
NEW x:YesNoAnswer;
  ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
          SELECTFROM ((rentalHasBeenStarted /\ -(rcKeysHandedOverQ;'Yes'[YesNo

         (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoA
         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*((rentalH
                THEN BLOCK
                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Started rentals)
                PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*((rentalHas
                THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                      SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                     (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysHandedOverQ;
        (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAn
  (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
(MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcK
INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
 SELECTFROM (rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDrop
```

```
          (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcD
          INSERT INTO Isn{detyp=RentalCase}
           SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

          INSERT INTO Isn{detyp=RentalCase}
           SELECTFROM (Delta~;Delta /\ I[RentalCase]) - I[RentalCase]

    (MAINTAINING -rentalHasBeenStarted \/ rentalHasBeenPromised FROM Started rentals)
    (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
    (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
    (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
    (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
    (MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
    (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
    (MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDroppedOf
```

<------End Derivation --

```
      ON DELETE Delta FROM rentalHasBeenStarted[RentalCase*RentalCase] EXECUTE    -- (
      ALL of DELETE FROM Isn{detyp=Car}
              SELECTFROM -(carAvailableAt;carAvailableAt~) /\ -(rcAssignedCar~;(rentall

            (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~
            ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                    SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[Yesl

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO
                   DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                    SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[Yes

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO
                   DELETE FROM rcAssignedCar[RentalCase*Car]
                    SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[Yesl

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO
                   DELETE FROM rcAssignedCar[RentalCase*Car]
                    SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[Yes

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO
                   DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                    SELECTFROM (-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesN

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO
                   DELETE FROM Isn{detyp=RentalCase}
                    SELECTFROM (-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesN

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO
                  (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
```

```
                DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
                 SELECTFROM (-rentalHasBeenStarted /\ rcCarHasBeenDroppedOff) \/ (Delta /

                (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rentalHasBeenStarted FROM Droppe
                DELETE FROM sessionDroppedoffCar[SESSION*Car]
                 SELECTFROM '_SESSION'[SESSION];(-(sessionDroppedoffCar;(I[Car] /\ rcAssig

                (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDropp
                ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
                        SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ s

                       (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDr
                       DELETE FROM sessionDroppedoffCar[SESSION*Car]
                        SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ s

                       (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDr
              (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedof
       (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rentall
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssig
       (MAINTAINING -rcCarHasBeenDroppedOff \/ rentalHasBeenStarted FROM Dropped off Ca
       (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
       (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
```

------ Derivation ----->

```
ALL of DELETE FROM Isn{detyp=Car}
        SELECTFROM -(carAvailableAt;carAvailableAt~) /\ -(rcAssignedCar~;(rentalHasBe

       (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(ren
       ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
               SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNoAns

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
              DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
               SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[YesNoAn

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNoAns

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[YesNoAn

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
              DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM (-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNoAnsw
```

```
                (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
                DELETE FROM Isn{detyp=RentalCase}
                 SELECTFROM (-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNoAnsw

                (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
              (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAs
              DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM (-rentalHasBeenStarted /\ rcCarHasBeenDroppedOff) \/ (Delta /\ rcC

              (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rentalHasBeenStarted FROM Dropped off
              DELETE FROM sessionDroppedoffCar[SESSION*Car]
               SELECTFROM '_SESSION'[SESSION];(-(sessionDroppedoffCar;(I[Car] /\ rcAssignedC

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoff
              ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
                      SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessi

                (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppe
                DELETE FROM sessionDroppedoffCar[SESSION*Car]
                 SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessi

                (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppe
            (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar)
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rentalHasBe
        (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssignedC
        (MAINTAINING -rcCarHasBeenDroppedOff \/ rentalHasBeenStarted FROM Dropped off Cars)
        (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
        (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
```

<------End Derivation --

```
            ON INSERT Delta IN rcKeysHandedOverQ[RentalCase*YesNoAnswer] EXECUTE    -- (ECA
            ALL of INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
                    SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];(rcKeysHandedOverQ \/ D

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /
                   INSERT INTO Isn{detyp=Person}
                    SELECTFROM (rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];(rcKeysHanded

                   (TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
                   (TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
                   INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                    SELECTFROM (sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcA

                   (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\
                   INSERT INTO Isn{detyp=RentalCase}
                    SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]
```

```
INSERT INTO Isn{detyp=YesNoAnswer}
 SELECTFROM (Delta~;Delta /\ I[YesNoAnswer]) - I[YesNoAnswer]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedPickupBranch~
              THEN INSERT INTO carAvailableAt[Car*Branch]
                    SELECTFROM 'b'[Car]*'a'[Branch]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase]
              PICK a,b FROM carAvailableAt;(contractedPickupBranch~;(I[Re
              THEN INSERT INTO carType[Car*CarType]
                    SELECTFROM 'a'[Car]*'b'[CarType]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase]
       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
       NEW x:Car;
         ALL of INSERT INTO carAvailableAt[Car*Branch]
                 SELECTFROM 'x'[Car]*(contractedCarType~;(I[RentalCase] /

                (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\
                INSERT INTO carType[Car*CarType]
                 SELECTFROM 'x'[Car]*(contractedPickupBranch~;(I[RentalCa

                (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\
        (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalH
       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPro
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcKeysHandedOverQ;'Yes
              THEN INSERT INTO rcDriver[RentalCase*Person]
                    SELECTFROM 'a'[RentalCase]*'b'[Person]

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
              PICK a,b FROM rcDriver~;((rcKeysHandedOverQ;'Yes'[YesNoAnsw
              THEN INSERT INTO rcDriver[RentalCase*Person]
                    SELECTFROM 'b'[RentalCase]*'a'[Person]

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
       NEW x:Person;
         INSERT INTO rcDriver[RentalCase*Person]
          SELECTFROM ((rcKeysHandedOverQ;'Yes'[YesNoAnswer];(rcKeysHanded

         (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHande
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcKeysHandedOverQ;'Yes
              THEN INSERT INTO rcRenter[RentalCase*Person]
                    SELECTFROM 'a'[RentalCase]*'b'[Person]

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
              PICK a,b FROM rcRenter~;((rcKeysHandedOverQ;'Yes'[YesNoAnsw
```

```
                                THEN INSERT INTO rcRenter[RentalCase*Person]
                                      SELECTFROM 'b'[RentalCase]*'a'[Person]

                                     (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
                               (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
                               NEW x:Person;
                                 INSERT INTO rcRenter[RentalCase*Person]
                                  SELECTFROM ((rcKeysHandedOverQ;'Yes'[YesNoAnswer];(rcKeysHanded

                                 (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHande
                               (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
                          (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionNewBranchRC;(I[
                                THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                                      SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                                     (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ r
                                PICK a,b FROM sessionNewBranchRC~;((sessionNewBranchRC;(I[R
                                THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                                      SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                                     (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ r
                               (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
                               NEW x:RentalCase;
                                 ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                                         SELECTFROM ((sessionNewBranchRC;(I[RentalCase] /\ rcAssig

                                        (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAs
                                        INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                                         SELECTFROM 'x'[RentalCase]*((sessionNewBranchRC;(I[Renta

                                        (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAs
                                 (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCa
                               (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
                          (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssig
                     (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssig
                     (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /
                     (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
                     (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
                     (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
                     (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
                     (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
                     (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
```

------ Derivation ----->

```
ALL of INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];(rcKeysHandedOverQ \/ Delta)
```

```
(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcA
INSERT INTO Isn{detyp=Person}
 SELECTFROM (rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];(rcKeysHandedOverQ

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM (sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAssign

(TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAss
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{detyp=YesNoAnswer}
 SELECTFROM (Delta~;Delta /\ I[YesNoAnswer]) - I[YesNoAnswer]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedPickupBranch~;(I[R
              THEN INSERT INTO carAvailableAt[Car*Branch]
                    SELECTFROM 'b'[Car]*'a'[Branch]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ r
              PICK a,b FROM carAvailableAt;(contractedPickupBranch~;(I[RentalC
              THEN INSERT INTO carType[Car*CarType]
                    SELECTFROM 'a'[Car]*'b'[CarType]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ r
       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
       NEW x:Car;
         ALL of INSERT INTO carAvailableAt[Car*Branch]
                 SELECTFROM 'x'[Car]*(contractedCarType~;(I[RentalCase] /\ ren

                (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rent
                INSERT INTO carType[Car*CarType]
                 SELECTFROM 'x'[Car]*(contractedPickupBranch~;(I[RentalCase] /

                (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rent
        (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBee
       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcKeysHandedOverQ;'Yes'[Yes
              THEN INSERT INTO rcDriver[RentalCase*Person]
                    SELECTFROM 'a'[RentalCase]*'b'[Person]

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
              PICK a,b FROM rcDriver~;((rcKeysHandedOverQ;'Yes'[YesNoAnswer];(
              THEN INSERT INTO rcDriver[RentalCase*Person]
                    SELECTFROM 'b'[RentalCase]*'a'[Person]

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
```

```
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
NEW x:Person;
  INSERT INTO rcDriver[RentalCase*Person]
   SELECTFROM ((rcKeysHandedOverQ;'Yes'[YesNoAnswer];(rcKeysHandedOverQ

  (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOver
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Re
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcKeysHandedOverQ;'Yes'[Yes
      THEN INSERT INTO rcRenter[RentalCase*Person]
            SELECTFROM 'a'[RentalCase]*'b'[Person]

           (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
      PICK a,b FROM rcRenter~;((rcKeysHandedOverQ;'Yes'[YesNoAnswer];(
      THEN INSERT INTO rcRenter[RentalCase*Person]
            SELECTFROM 'b'[RentalCase]*'a'[Person]

           (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
NEW x:Person;
  INSERT INTO rcRenter[RentalCase*Person]
   SELECTFROM ((rcKeysHandedOverQ;'Yes'[YesNoAnswer];(rcKeysHandedOverQ

  (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOver
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Re
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionNewBranchRC;(I[Renta
      THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
            SELECTFROM 'a'[SESSION]*'b'[RentalCase]

           (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssi
      PICK a,b FROM sessionNewBranchRC~;((sessionNewBranchRC;(I[Rental
      THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
            SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

           (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssi
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAss
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
          SELECTFROM ((sessionNewBranchRC;(I[RentalCase] /\ rcAssignedC

         (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssigne
         INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
          SELECTFROM 'x'[RentalCase]*((sessionNewBranchRC;(I[RentalCase

         (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssigne
  (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcA
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAss
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCa
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssignedC
```

```
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\ -(r
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
```

<------End Derivation --

```
ON DELETE Delta FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer] EXECUTE    -- (EC
ALL of DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM -((rcKeysHandedOverQ /\ -Delta);'Yes'[YesNoAnswer];(rcKeysHan

       (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswe
       ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC;(rcKeysHande

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
              DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-(sessionNewB

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-(sessionNewB

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM (-(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];(rcKey

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
       (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromi
       ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenP

              (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
              DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-((rcKeysHande

              (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
              DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBran

              (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBran

              (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
```

```
                        DELETE FROM rcAssignedCar[RentalCase*Car]
                         SELECTFROM (-(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];(rcKey

                        (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
                  (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
            (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKey
            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ r
            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ r
```

------ Derivation ----->

```
     ALL of DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
             SELECTFROM -((rcKeysHandedOverQ /\ -Delta);'Yes'[YesNoAnswer];(rcKeysHandedOv

            (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rc
            ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
                    SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC;(rcKeysHandedOver

                   (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
                   DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                    SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-(sessionNewBranch

                   (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
                   DELETE FROM rcAssignedCar[RentalCase*Car]
                    SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-(sessionNewBranch

                   (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
                   DELETE FROM rcAssignedCar[RentalCase*Car]
                    SELECTFROM (-(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];(rcKeysHand

                   (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
            ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
                    SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromis

                   (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
                   DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
                    SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-((rcKeysHandedOver

                   (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
                   DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                    SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;

                   (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
                   DELETE FROM rcAssignedCar[RentalCase*Car]
                    SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;

                   (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
```

```
                DELETE FROM rcAssignedCar[RentalCase*Car]
                 SELECTFROM (-(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];(rcKeysHand

                (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
          (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(ren
    (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
```

<------End Derivation --

```
    ON INSERT Delta IN rcCarHasBeenDroppedOff[RentalCase*RentalCase] EXECUTE    -- (
    ONE OF INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
            SELECTFROM (rcCarHasBeenDroppedOff /\ -rentalHasBeenStarted) \/ (Delta /

           (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rentalHasBeenStarted FROM Droppe
           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcCarHasBeenDroppedOff /\ -(r
                  THEN INSERT INTO rcDroppedOffCar[RentalCase*Car]
                        SELECTFROM 'a'[RentalCase]*'b'[Car]

                       (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDr
                  PICK a,b FROM rcDroppedOffCar~;((rcCarHasBeenDroppedOff /\ -(rcDro
                  THEN INSERT INTO rcDroppedOffCar[RentalCase*Car]
                        SELECTFROM 'b'[RentalCase]*'a'[Car]

                       (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDr
           (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~
           NEW x:Car;
             INSERT INTO rcDroppedOffCar[RentalCase*Car]
              SELECTFROM ((rcCarHasBeenDroppedOff /\ -(rcDroppedOffCar;rcDroppedOffC

             (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCa
           (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~
           INSERT INTO rcDroppedOffCar[RentalCase*Car]
            SELECTFROM (rcCarHasBeenDroppedOff~;rcDroppedOffCar /\ -rcDroppedOffCar)

           (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDroppedOffC
           INSERT INTO Isn{detyp=Car}
            SELECTFROM (rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar /\ -

           (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar)
           INSERT INTO rcDroppedOffCar[RentalCase*Car]
            SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffCar /\ -rcDroppedOffCar)

           (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOffCa
           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcCarHasBeenDroppedOff /\ -(r
                  THEN INSERT INTO rcDroppedOffDate[RentalCase*Date]
                        SELECTFROM 'a'[RentalCase]*'b'[Date]
```

```
            (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcD
       PICK a,b FROM rcDroppedOffDate~;((rcCarHasBeenDroppedOff /\ -(rcDr
       THEN INSERT INTO rcDroppedOffDate[RentalCase*Date]
             SELECTFROM 'b'[RentalCase]*'a'[Date]

            (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcD
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate
NEW x:Date;
  INSERT INTO rcDroppedOffDate[RentalCase*Date]
   SELECTFROM ((rcCarHasBeenDroppedOff /\ -(rcDroppedOffDate;rcDroppedOff

  (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffD
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate
INSERT INTO rcDroppedOffDate[RentalCase*Date]
 SELECTFROM (rcCarHasBeenDroppedOff~;rcDroppedOffDate /\ -rcDroppedOffDat

(TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDroppedOff
INSERT INTO Isn{detyp=Date}
 SELECTFROM (rcDroppedOffDate~;rcCarHasBeenDroppedOff;rcDroppedOffDate /\

(TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff;rcDroppedOffDate
INSERT INTO rcDroppedOffDate[RentalCase*Date]
 SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffDate /\ -rcDroppedOffDate

(TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDroppedOffD
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcCarHasBeenDroppedOff /\ -(r
       THEN INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
             SELECTFROM 'a'[RentalCase]*'b'[Branch]

            (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;r
       PICK a,b FROM rcDroppedOffBranch~;((rcCarHasBeenDroppedOff /\ -(rc
       THEN INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
             SELECTFROM 'b'[RentalCase]*'a'[Branch]

            (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;r
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBra
NEW x:Branch;
  INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
   SELECTFROM ((rcCarHasBeenDroppedOff /\ -(rcDroppedOffBranch;rcDroppedO

  (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOf
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBra
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
 SELECTFROM (rcCarHasBeenDroppedOff~;rcDroppedOffBranch /\ -rcDroppedOffB

(TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcDroppedO
INSERT INTO Isn{detyp=Branch}
 SELECTFROM (rcDroppedOffBranch~;rcCarHasBeenDroppedOff;rcDroppedOffBranch
```

```
(TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff;rcDroppedOffBra
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
 SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffBranch /\ -rcDroppedOffBra

(TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDroppedOf
INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
 SELECTFROM (rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasB

(TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHa
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];sessionDr
       THEN BLOCK
            (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handli
       PICK a,b FROM V[RentalCase*SESSION];(('_SESSION'[SESSION];sessionD
       THEN ALL of INSERT INTO Isn{detyp=RentalCase}
                    SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                  (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffC
                  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                               THEN INSERT INTO rentalIsPaidQ[RentalCas
                                     SELECTFROM 'a'[RentalCase]*'b'[Yes

                                    (TO MAINTAIN  -('_SESSION'[SESSION]
                               PICK a,b FROM rentalIsPaidQ~;('a'[Rentalo
                               THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                 THEN BLOCK
                                                      (CANNOT CHANGE '
                                                 PICK a,b FROM 'Yes'[Y
                                                 THEN INSERT INTO rent
                                                       SELECTFROM 'b'[

                                                           (TO MAINTAIN  -(
                                            (MAINTAINING -('_SESSION'[SE
                                            NEW x:YesNoAnswer;
                                              ALL of BLOCK
                                                     (CANNOT CHANGE 'Yes
                                                     INSERT INTO rentalI
                                                      SELECTFROM 'b'[Ren

                                                     (TO MAINTAIN  -('_S
                                              (MAINTAINING -('_SESSION'[
                                             (MAINTAINING -('_SESSION'[SE
                                        (MAINTAINING -('_SESSION'[SESSION];
                                (MAINTAINING -('_SESSION'[SESSION];sessionDropp
                                NEW x:YesNoAnswer;
                                  ALL of INSERT INTO rentalIsPaidQ[RentalCase*Y
                                          SELECTFROM 'a'[RentalCase]*'b'[Rentalo

                                    (TO MAINTAIN  -('_SESSION'[SESSION];se
                                    ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                  THEN BLOCK
```

```
                                                                    (CANNOT CHANGE 'Yes
                                                                PICK a,b FROM 'Yes'[YesN
                                                                THEN INSERT INTO rentalI
                                                                      SELECTFROM 'b'[Ren

                                                                    (TO MAINTAIN  -('_S
                                                            (MAINTAINING -('_SESSION'[SESSI
                                                            NEW x:YesNoAnswer;
                                                              ALL of BLOCK
                                                                     (CANNOT CHANGE 'Yes'[Y
                                                                     INSERT INTO rentalIsPa
                                                                      SELECTFROM 'b'[Rental

                                                                     (TO MAINTAIN  -('_SESS
                                                              (MAINTAINING -('_SESSION'[SES
                                                            (MAINTAINING -('_SESSION'[SESSI
                                                      (MAINTAINING -('_SESSION'[SESSION];ses
                                                  (MAINTAINING -('_SESSION'[SESSION];sessionDro
                                                (MAINTAINING -('_SESSION'[SESSION];sessionDropp
                                          (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCa
                                    (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAss
                  (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I
                  INSERT INTO Isn{detyp=RentalCase}
                   SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                  INSERT INTO Isn{detyp=RentalCase}
                   SELECTFROM (Delta~;Delta /\ I[RentalCase]) - I[RentalCase]

            (MAINTAINING -rcCarHasBeenDroppedOff \/ rentalHasBeenStarted FROM Dropped off Ca
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F
            (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F
            (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDr
            (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rental
```

------ Derivation ----->

```
ONE OF INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM (rcCarHasBeenDroppedOff /\ -rentalHasBeenStarted) \/ (Delta /\ -re

       (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rentalHasBeenStarted FROM Dropped off
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcCarHasBeenDroppedOff /\ -(rcDrop
              THEN INSERT INTO rcDroppedOffCar[RentalCase*Car]
                    SELECTFROM 'a'[RentalCase]*'b'[Car]

                   (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDropped
              PICK a,b FROM rcDroppedOffCar~;((rcCarHasBeenDroppedOff /\ -(rcDroppedO
              THEN INSERT INTO rcDroppedOffCar[RentalCase*Car]
                    SELECTFROM 'b'[RentalCase]*'a'[Car]

                  (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDropped
       (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM
       NEW x:Car;
         INSERT INTO rcDroppedOffCar[RentalCase*Car]
          SELECTFROM ((rcCarHasBeenDroppedOff /\ -(rcDroppedOffCar;rcDroppedOffCar~))

         (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FR
       (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM
       INSERT INTO rcDroppedOffCar[RentalCase*Car]
        SELECTFROM (rcCarHasBeenDroppedOff~;rcDroppedOffCar /\ -rcDroppedOffCar) \/ (

       (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDroppedOffCar~ F
       INSERT INTO Isn{detyp=Car}
        SELECTFROM (rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar /\ -I[Car

       (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ I[
       INSERT INTO rcDroppedOffCar[RentalCase*Car]
        SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffCar /\ -rcDroppedOffCar) \/ (D

       (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOffCar FRO
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcCarHasBeenDroppedOff /\ -(rcDrop
              THEN INSERT INTO rcDroppedOffDate[RentalCase*Date]
                    SELECTFROM 'a'[RentalCase]*'b'[Date]

                   (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppe
              PICK a,b FROM rcDroppedOffDate~;((rcCarHasBeenDroppedOff /\ -(rcDropped
              THEN INSERT INTO rcDroppedOffDate[RentalCase*Date]
                    SELECTFROM 'b'[RentalCase]*'a'[Date]

                  (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppe
       (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FRO
       NEW x:Date;
         INSERT INTO rcDroppedOffDate[RentalCase*Date]
          SELECTFROM ((rcCarHasBeenDroppedOff /\ -(rcDroppedOffDate;rcDroppedOffDate~

         (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~
       (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FRO
```

```
INSERT INTO rcDroppedOffDate[RentalCase*Date]
 SELECTFROM (rcCarHasBeenDroppedOff~;rcDroppedOffDate /\ -rcDroppedOffDate) \/

(TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDroppedOffDate~
INSERT INTO Isn{detyp=Date}
 SELECTFROM (rcDroppedOffDate~;rcCarHasBeenDroppedOff;rcDroppedOffDate /\ -I[D

(TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff;rcDroppedOffDate) \/
INSERT INTO rcDroppedOffDate[RentalCase*Date]
 SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffDate /\ -rcDroppedOffDate) \/

(TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDroppedOffDate F
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcCarHasBeenDroppedOff /\ -(rcDrop
       THEN INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
             SELECTFROM 'a'[RentalCase]*'b'[Branch]

            (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDrop
       PICK a,b FROM rcDroppedOffBranch~;((rcCarHasBeenDroppedOff /\ -(rcDropp
       THEN INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
             SELECTFROM 'b'[RentalCase]*'a'[Branch]

            (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDrop
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~
NEW x:Branch;
  INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
   SELECTFROM ((rcCarHasBeenDroppedOff /\ -(rcDroppedOffBranch;rcDroppedOffBra

  (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBran
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
 SELECTFROM (rcCarHasBeenDroppedOff~;rcDroppedOffBranch /\ -rcDroppedOffBranch

(TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcDroppedOffBra
INSERT INTO Isn{detyp=Branch}
 SELECTFROM (rcDroppedOffBranch~;rcCarHasBeenDroppedOff;rcDroppedOffBranch /\

(TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff;rcDroppedOffBranch)
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
 SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffBranch /\ -rcDroppedOffBranch)

(TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDroppedOffBran
INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
 SELECTFROM (rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDr

(TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBee
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];sessionDropped
       THEN BLOCK
            (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handling)
       PICK a,b FROM V[RentalCase*SESSION];(('_SESSION'[SESSION];sessionDroppe
       THEN ALL of INSERT INTO Isn{detyp=RentalCase}
```

```
 SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

(TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rc
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
              THEN INSERT INTO rentalIsPaidQ[RentalCase*Yes
                    SELECTFROM 'a'[RentalCase]*'b'[YesNoAns

                   (TO MAINTAIN  -('_SESSION'[SESSION];sess
              PICK a,b FROM rentalIsPaidQ~;('a'[RentalCase]
              THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                  THEN BLOCK
                                       (CANNOT CHANGE 'Yes'[
                                  PICK a,b FROM 'Yes'[YesNoA
                                  THEN INSERT INTO rentalIsP
                                        SELECTFROM 'b'[Renta

                                      (TO MAINTAIN  -('_SES
                            (MAINTAINING -('_SESSION'[SESSION
                            NEW x:YesNoAnswer;
                              ALL of BLOCK
                                     (CANNOT CHANGE 'Yes'[Yes
                                     INSERT INTO rentalIsPaid
                                      SELECTFROM 'b'[RentalCa

                                     (TO MAINTAIN  -('_SESSIO
                              (MAINTAINING -('_SESSION'[SESSI
                            (MAINTAINING -('_SESSION'[SESSION
                     (MAINTAINING -('_SESSION'[SESSION];sessi
       (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
       NEW x:YesNoAnswer;
         ALL of INSERT INTO rentalIsPaidQ[RentalCase*YesNoA
                 SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                (TO MAINTAIN  -('_SESSION'[SESSION];session
                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                             THEN BLOCK
                                  (CANNOT CHANGE 'Yes'[Yes
                             PICK a,b FROM 'Yes'[YesNoAnsw
                             THEN INSERT INTO rentalIsPaid
                                   SELECTFROM 'b'[RentalCa

                                  (TO MAINTAIN  -('_SESSIO
                           (MAINTAINING -('_SESSION'[SESSION];s
                           NEW x:YesNoAnswer;
                             ALL of BLOCK
                                    (CANNOT CHANGE 'Yes'[YesNoA
                                    INSERT INTO rentalIsPaidQ[R
                                     SELECTFROM 'b'[RentalCase]

                                    (TO MAINTAIN  -('_SESSION'[
```

```
                                                                    (MAINTAINING -('_SESSION'[SESSION]
                                                                  (MAINTAINING -('_SESSION'[SESSION];s
                                                               (MAINTAINING -('_SESSION'[SESSION];sessionD
                                                            (MAINTAINING -('_SESSION'[SESSION];sessionDroppedo
                                                         (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                                                   (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcA
                                            (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigned
                                   (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rent
                                   INSERT INTO Isn{detyp=RentalCase}
                                    SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                                   INSERT INTO Isn{detyp=RentalCase}
                                    SELECTFROM (Delta~;Delta /\ I[RentalCase]) - I[RentalCase]

                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rentalHasBeenStarted FROM Dropped off Cars)
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
                              (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
                              (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDropped
                              (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]
```

<------End Derivation --

```
                         ON DELETE Delta FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase] EXECUTE    --
                         ALL of ONE OF DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
                                        SELECTFROM ((-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDrop

                                       (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppe
                                       DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
                                        SELECTFROM ((-rcCarHasBeenDroppedOff~ /\ rcDroppedOffBranch;rcDro

                                       (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppe
                                       DELETE FROM rcDroppedOffDate[RentalCase*Date]
                                        SELECTFROM ((-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDrop

                                       (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppe
```

```
                    DELETE FROM rcDroppedOffDate[RentalCase*Date]
                     SELECTFROM ((-rcCarHasBeenDroppedOff~ /\ rcDroppedOffBranch;rcDro

                    (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppe
                    DELETE FROM rcDroppedOffCar[RentalCase*Car]
                     SELECTFROM ((-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDrop

                    (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppe
                    DELETE FROM rcDroppedOffCar[RentalCase*Car]
                     SELECTFROM ((-rcCarHasBeenDroppedOff~ /\ rcDroppedOffBranch;rcDro

                    (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppe
                    DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
                     SELECTFROM (-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDropp

                    (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppe
                    DELETE FROM Isn{detyp=RentalCase}
                     SELECTFROM (-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDropp

                    (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppe
                (MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate
                DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
                 SELECTFROM (-rcCarHasBeenDroppedOff /\ rentalHasBeenEnded) \/ (Delta /\

               (TO MAINTAIN  -rentalHasBeenEnded \/ rcCarHasBeenDroppedOff FROM Ended Re
          (MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDrop
          (MAINTAINING -rentalHasBeenEnded \/ rcCarHasBeenDroppedOff FROM Ended Rentals)
```

------ Derivation ----->

```
     ALL of ONE OF DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
                    SELECTFROM ((-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDroppedOf

                   (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffD
                   DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
                    SELECTFROM ((-rcCarHasBeenDroppedOff~ /\ rcDroppedOffBranch;rcDroppedO

                   (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffD
                   DELETE FROM rcDroppedOffDate[RentalCase*Date]
                    SELECTFROM ((-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDroppedOf

                   (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffD
                   DELETE FROM rcDroppedOffDate[RentalCase*Date]
                    SELECTFROM ((-rcCarHasBeenDroppedOff~ /\ rcDroppedOffBranch;rcDroppedO

                   (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffD
                   DELETE FROM rcDroppedOffCar[RentalCase*Car]
                    SELECTFROM ((-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDroppedOf
```

```
                (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffD
                DELETE FROM rcDroppedOffCar[RentalCase*Car]
                 SELECTFROM ((-rcCarHasBeenDroppedOff~ /\ rcDroppedOffBranch;rcDroppedO

                (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffD
                DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
                 SELECTFROM (-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDroppedOff

                (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffD
                DELETE FROM Isn{detyp=RentalCase}
                 SELECTFROM (-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDroppedOff

                (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffD
          (MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDr
          DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
           SELECTFROM (-rcCarHasBeenDroppedOff /\ rentalHasBeenEnded) \/ (Delta /\ renta

        (TO MAINTAIN  -rentalHasBeenEnded \/ rcCarHasBeenDroppedOff FROM Ended Rentals
    (MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDroppedOf
    (MAINTAINING -rentalHasBeenEnded \/ rcCarHasBeenDroppedOff FROM Ended Rentals)
```

<------End Derivation --

```
    ON INSERT Delta IN rcDroppedOffCar[RentalCase*Car] EXECUTE    -- (ECA rule 53)
    ONE OF INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
            SELECTFROM (rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;r

           (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDat
           INSERT INTO rcDroppedOffCar[RentalCase*Car]
            SELECTFROM rcCarHasBeenDroppedOff~;(rcDroppedOffCar \/ Delta) /\ -rcDrop

           (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDroppedOffC
           INSERT INTO Isn{detyp=Car}
            SELECTFROM ((rcDroppedOffCar \/ Delta)~;rcCarHasBeenDroppedOff;rcDropped

           (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar)
           INSERT INTO rcDroppedOffCar[RentalCase*Car]
            SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffCar /\ -rcDroppedOffCar)

           (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOffCa
           INSERT INTO rcAssignedCar[RentalCase*Car]
            SELECTFROM (rcDroppedOffCar /\ -rcAssignedCar) \/ (Delta /\ -rcAssignedC

           (TO MAINTAIN  -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type
           INSERT INTO Isn{detyp=Car}
            SELECTFROM (rcAssignedCar~;rcDroppedOffCar /\ -I[Car]) \/ (rcAssignedCar
```

```
                (TO MAINTAIN  -(rcAssignedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-of
                INSERT INTO Isn{detyp=Car}
                 SELECTFROM ((rcDroppedOffCar \/ Delta)~;rcDroppedOffCar /\ -I[Car]) \/ (

                (TO MAINTAIN  -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDr
                INSERT INTO Isn{detyp=RentalCase}
                 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                INSERT INTO Isn{detyp=Car}
                 SELECTFROM (Delta~;Delta /\ I[Car]) - I[Car]

          (MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDrop
          (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
          (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
          (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
          (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
          (MAINTAINING -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type integri
          (MAINTAINING -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type integri
          (MAINTAINING -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDroppedOff
```

------ Derivation ----->

```
     ONE OF INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
             SELECTFROM (rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDrop

            (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcD
            INSERT INTO rcDroppedOffCar[RentalCase*Car]
             SELECTFROM rcCarHasBeenDroppedOff~;(rcDroppedOffCar \/ Delta) /\ -rcDroppedOf

            (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDroppedOffCar~ F
            INSERT INTO Isn{detyp=Car}
             SELECTFROM ((rcDroppedOffCar \/ Delta)~;rcCarHasBeenDroppedOff;rcDroppedOffCa

            (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ I[
            INSERT INTO rcDroppedOffCar[RentalCase*Car]
             SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffCar /\ -rcDroppedOffCar) \/ (r

            (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOffCar FRO
            INSERT INTO rcAssignedCar[RentalCase*Car]
             SELECTFROM (rcDroppedOffCar /\ -rcAssignedCar) \/ (Delta /\ -rcAssignedCar)

            (TO MAINTAIN  -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type inte
            INSERT INTO Isn{detyp=Car}
             SELECTFROM (rcAssignedCar~;rcDroppedOffCar /\ -I[Car]) \/ (rcAssignedCar~;Del

            (TO MAINTAIN  -(rcAssignedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off car
            INSERT INTO Isn{detyp=Car}
             SELECTFROM ((rcDroppedOffCar \/ Delta)~;rcDroppedOffCar /\ -I[Car]) \/ ((rcDr
```

```
          (TO MAINTAIN  -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDropped
          INSERT INTO Isn{detyp=RentalCase}
           SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

          INSERT INTO Isn{detyp=Car}
           SELECTFROM (Delta~;Delta /\ I[Car]) - I[Car]

     (MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDroppedOf
     (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
     (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
     (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
     (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
     (MAINTAINING -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type integrity)
     (MAINTAINING -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type integrity)
     (MAINTAINING -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDroppedOffCar::
```

<------End Derivation --

```
     ON DELETE Delta FROM rcDroppedOffCar[RentalCase*Car] EXECUTE    -- (ECA rule 54)
     ALL of DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
             SELECTFROM -((rcDroppedOffCar /\ -Delta);(rcDroppedOffCar /\ -Delta)~) /

            (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~
            ONE OF DELETE FROM rcDroppedOffCar[RentalCase*Car]
                    SELECTFROM rcCarHasBeenDroppedOff;(-(rcDroppedOffCar /\ -Delta) /

                   (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDropp
                   DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
                    SELECTFROM rcDroppedOffCar;(-(rcDroppedOffCar /\ -Delta)~ /\ rcDr

                   (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDropp
            (MAINTAINING -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDroppedOffCa
            ONE OF DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
                    SELECTFROM ((-rcDroppedOffCar /\ rcCarHasBeenDroppedOff;rcDropped

                   (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDropp
                   DELETE FROM rcDroppedOffCar[RentalCase*Car]
                    SELECTFROM rcCarHasBeenDroppedOff~;((-rcDroppedOffCar /\ rcCarHas

                   (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDropp
            (MAINTAINING -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOffCar
     (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
     (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
     (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
```

------ Derivation ----->

```
ALL of DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM -((rcDroppedOffCar /\ -Delta);(rcDroppedOffCar /\ -Delta)~) /\ rcC

       (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM
       ONE OF DELETE FROM rcDroppedOffCar[RentalCase*Car]
               SELECTFROM rcCarHasBeenDroppedOff;(-(rcDroppedOffCar /\ -Delta) /\ rcC

              (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDroppedOf
              DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM rcDroppedOffCar;(-(rcDroppedOffCar /\ -Delta)~ /\ rcDropped

              (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDroppedOf
       (MAINTAINING -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDroppedOffCar~ FR
       ONE OF DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM ((-rcDroppedOffCar /\ rcCarHasBeenDroppedOff;rcDroppedOffCa

              (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOff
              DELETE FROM rcDroppedOffCar[RentalCase*Car]
               SELECTFROM rcCarHasBeenDroppedOff~;((-rcDroppedOffCar /\ rcCarHasBeenD

              (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOff
       (MAINTAINING -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOffCar FROM
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
```

<------End Derivation --

```
    ON INSERT Delta IN rcDroppedOffDate[RentalCase*Date] EXECUTE    -- (ECA rule 55)
    ONE OF INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
            SELECTFROM (rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;(

           (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDat
           INSERT INTO rcDroppedOffDate[RentalCase*Date]
            SELECTFROM rcCarHasBeenDroppedOff~;(rcDroppedOffDate \/ Delta) /\ -rcDro

           (TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDroppedOff
           INSERT INTO Isn{detyp=Date}
            SELECTFROM ((rcDroppedOffDate \/ Delta)~;rcCarHasBeenDroppedOff;rcDroppe

           (TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff;rcDroppedOffDate
           INSERT INTO rcDroppedOffDate[RentalCase*Date]
            SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffDate /\ -rcDroppedOffDate

           (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDroppedOffD
           INSERT INTO rentalPeriod[RentalCase*Integer]
            SELECTFROM ((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;lates
```

```
(TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;la
INSERT INTO Isn{detyp=Integer}
 SELECTFROM (rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppe

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
INSERT INTO rentalExcessPeriod[RentalCase*Integer]
 SELECTFROM ((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~)

(TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDat
INSERT INTO Isn{detyp=Integer}
 SELECTFROM (rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contracte

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffDate;(rcDroppedOf
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                  THEN INSERT INTO contractedStartDate[Ren
                                        SELECTFROM 'a'[RentalCase]*'b'[Dat

                                       (TO MAINTAIN  -(rcDroppedOffDate;rc
                                  PICK a,b FROM contractedStartDate~;('a'[
                                  THEN INSERT INTO earliestDate[DateDiffer
                                        SELECTFROM 'b'[DateDifferencePlusO

                                            (TO MAINTAIN  -(rcDroppedOffDate;rc
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                NEW x:Date;
                                  ALL of INSERT INTO contractedStartDate[Rental
                                           SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                           (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                           INSERT INTO earliestDate[DateDifferenc
                                            SELECTFROM 'b'[DateDifferencePlusOne]

                                           (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDa
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
                           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                  THEN INSERT INTO rcDroppedOffDate[Rental
                                        SELECTFROM 'a'[RentalCase]*'b'[Dat

                                       (TO MAINTAIN  -(rcDroppedOffDate;rc
                                  PICK a,b FROM rcDroppedOffDate~;('a'[Ren
                                  THEN INSERT INTO latestDate[DateDifferen
                                        SELECTFROM 'b'[DateDifferencePlusO

                                            (TO MAINTAIN  -(rcDroppedOffDate;rc
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                NEW x:Date;
```

```
                                        ALL of INSERT INTO rcDroppedOffDate[RentalCas
                                                SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                                (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                                INSERT INTO latestDate[DateDifferenceP
                                                SELECTFROM 'b'[DateDifferencePlusOne]

                                                (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffD
                                        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
                             (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contract
                        PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;rcD
                        THEN BLOCK
                             (CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigg
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffDate;(rcDroppedOf
        THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                        THEN INSERT INTO contractedEndDate[Renta
                                                SELECTFROM 'a'[RentalCase]*'b'[Dat

                                                (TO MAINTAIN  -(rcDroppedOffDate;rc
                                        PICK a,b FROM contractedEndDate~;('a'[Re
                                        THEN INSERT INTO firstDate[DateDifferenc
                                                SELECTFROM 'b'[DateDifference]*'a'

                                                (TO MAINTAIN  -(rcDroppedOffDate;rc
                                          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                          NEW x:Date;
                                            ALL of INSERT INTO contractedEndDate[RentalCa
                                                    SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                                (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                                INSERT INTO firstDate[DateDifference*D
                                                SELECTFROM 'b'[DateDifference]*'a'[Re

                                                (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffD
                                        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
                                  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                        THEN INSERT INTO rcDroppedOffDate[Rental
                                                SELECTFROM 'a'[RentalCase]*'b'[Dat

                                                (TO MAINTAIN  -(rcDroppedOffDate;rc
                                        PICK a,b FROM rcDroppedOffDate~;('a'[Ren
                                        THEN INSERT INTO lastDate[DateDifference
                                                SELECTFROM 'b'[DateDifference]*'a'

                                                (TO MAINTAIN  -(rcDroppedOffDate;rc
```

```
                                        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                        NEW x:Date;
                                          ALL of INSERT INTO rcDroppedOffDate[RentalCas
                                                  SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                                 (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                                 INSERT INTO lastDate[DateDifference*Da
                                                  SELECTFROM 'b'[DateDifference]*'a'[Re

                                                 (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffD
                                        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
                            (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contract
                       PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedO
                       THEN BLOCK
                            (CANNOT CHANGE V[DateDifference*RentalCase] FROM Trigger exce
                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;co
                  INSERT INTO Isn{detyp=Date}
                   SELECTFROM (rcDroppedOffDate \/ Delta)~;rcAssignedCar;(I[Car] /\ -(carAv

                  (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailable
                  INSERT INTO Isn{detyp=Date}
                   SELECTFROM ((rcDroppedOffDate \/ Delta)~;rcDroppedOffDate /\ -I[Date]) \

                  (TO MAINTAIN  -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI r
                  INSERT INTO Isn{detyp=RentalCase}
                   SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                  INSERT INTO Isn{detyp=Date}
                   SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

(MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDrop
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI rcDropped
```

------ Derivation ----->

```
ONE OF INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM (rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;(rcDro

       (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcD
       INSERT INTO rcDroppedOffDate[RentalCase*Date]
        SELECTFROM rcCarHasBeenDroppedOff~;(rcDroppedOffDate \/ Delta) /\ -rcDroppedO

       (TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDroppedOffDate~
       INSERT INTO Isn{detyp=Date}
        SELECTFROM ((rcDroppedOffDate \/ Delta)~;rcCarHasBeenDroppedOff;rcDroppedOffD

       (TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff;rcDroppedOffDate) \/
       INSERT INTO rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffDate /\ -rcDroppedOffDate) \/

       (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDroppedOffDate F
       INSERT INTO rentalPeriod[RentalCase*Integer]
        SELECTFROM ((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate

       (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestD
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM (rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffD

       (TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
       INSERT INTO rentalExcessPeriod[RentalCase*Integer]
        SELECTFROM ((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp

       (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);c
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM (rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEndD

       (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffDate;(rcDroppedOffDate
              THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                          THEN INSERT INTO contractedStartDate[RentalCa
                                                SELECTFROM 'a'[RentalCase]*'b'[Date]

                                               (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                          PICK a,b FROM contractedStartDate~;('a'[Renta
                                          THEN INSERT INTO earliestDate[DateDifferenceP
                                                SELECTFROM 'b'[DateDifferencePlusOne]*'

                                                    (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                     (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                     NEW x:Date;
                                       ALL of INSERT INTO contractedStartDate[RentalCase*
                                               SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                                 (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                                 INSERT INTO earliestDate[DateDifferencePlus
```

```
                                        SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

                                                (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
                                        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
                                 ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                                THEN INSERT INTO rcDroppedOffDate[RentalCase*
                                                      SELECTFROM 'a'[RentalCase]*'b'[Date]

                                                     (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                                PICK a,b FROM rcDroppedOffDate~;('a'[RentalCa
                                                THEN INSERT INTO latestDate[DateDifferencePlu
                                                      SELECTFROM 'b'[DateDifferencePlusOne]*'

                                                     (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                          NEW x:Date;
                                            ALL of INSERT INTO rcDroppedOffDate[RentalCase*Dat
                                                    SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                                (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                                INSERT INTO latestDate[DateDifferencePlusOn
                                                SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

                                                (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
                                        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
                             (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSta
                       PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;rcDroppe
                       THEN BLOCK
                            (CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigger re
                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contr
               ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffDate;(rcDroppedOffDate
                       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                                THEN INSERT INTO contractedEndDate[RentalCase
                                                      SELECTFROM 'a'[RentalCase]*'b'[Date]

                                                     (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                                PICK a,b FROM contractedEndDate~;('a'[RentalC
                                                THEN INSERT INTO firstDate[DateDifference*Dat
                                                      SELECTFROM 'b'[DateDifference]*'a'[Date

                                                     (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                          NEW x:Date;
                                            ALL of INSERT INTO contractedEndDate[RentalCase*Da
                                                    SELECTFROM 'a'[RentalCase]*'b'[DateDiffere
```

```
                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                        INSERT INTO firstDate[DateDifference*Date]
                                         SELECTFROM 'b'[DateDifference]*'a'[RentalC

                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                       THEN INSERT INTO rcDroppedOffDate[RentalCase*
                                            SELECTFROM 'a'[RentalCase]*'b'[Date]

                                           (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                        PICK a,b FROM rcDroppedOffDate~;('a'[RentalCa
                                        THEN INSERT INTO lastDate[DateDifference*Date
                                             SELECTFROM 'b'[DateDifference]*'a'[Date

                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                  NEW x:Date;
                                    ALL of INSERT INTO rcDroppedOffDate[RentalCase*Dat
                                             SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                        INSERT INTO lastDate[DateDifference*Date]
                                         SELECTFROM 'b'[DateDifference]*'a'[RentalC

                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
                     (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
               PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedOffDat
               THEN BLOCK
                    (CANNOT CHANGE V[DateDifference*RentalCase] FROM Trigger excess pe
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contrac
INSERT INTO Isn{detyp=Date}
 SELECTFROM (rcDroppedOffDate \/ Delta)~;rcAssignedCar;(I[Car] /\ -(carAvailab

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;ca
INSERT INTO Isn{detyp=Date}
 SELECTFROM ((rcDroppedOffDate \/ Delta)~;rcDroppedOffDate /\ -I[Date]) \/ ((r

(TO MAINTAIN  -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI rcDrop
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{detyp=Date}
 SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]
```

```
(MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDroppedOf
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINTAINING -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI rcDroppedOffDa
```

<------End Derivation --

```
ON DELETE Delta FROM rcDroppedOffDate[RentalCase*Date] EXECUTE    -- (ECA rule 5
ALL of DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM -((rcDroppedOffDate /\ -Delta);(rcDroppedOffDate /\ -Delta)~)

       (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDat
       ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
               SELECTFROM rcCarHasBeenDroppedOff;(-(rcDroppedOffDate /\ -Delta)

              (TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDro
              DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM rcDroppedOffDate;(-(rcDroppedOffDate /\ -Delta)~ /\ rc

              (TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDro
       (MAINTAINING -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDroppedOffDa
       ONE OF DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM ((-rcDroppedOffDate /\ rcCarHasBeenDroppedOff;rcDroppe

              (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDrop
              DELETE FROM rcDroppedOffDate[RentalCase*Date]
               SELECTFROM rcCarHasBeenDroppedOff~;((-rcDroppedOffDate /\ rcCarHa

              (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDrop
       (MAINTAINING -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDroppedOffDa
       ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
               SELECTFROM (-((contractedStartDate;earliestDate~ /\ (rcDroppedOff

              (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
              DELETE FROM rcDroppedOffDate[RentalCase*Date]
               SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;c

              (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
              DELETE FROM contractedStartDate[RentalCase*Date]
```

```
        SELECTFROM (-((contractedStartDate;earliestDate~ /\ (rcDroppedOff

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
      DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;c

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
      DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((contractedStartDate;earliestDate~ /\ (rcDroppedOffDa

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-((contractedEndDate;firstDate~ /\ (rcDroppedOffDate

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
      DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifference];(firstDate;contractedE

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
      DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-((contractedEndDate;firstDate~ /\ (rcDroppedOffDate

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
      DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifference];(firstDate;contractedE

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
      DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((contractedEndDate;firstDate~ /\ (rcDroppedOffDate /

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;co
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM ((-rcDroppedOffDate /\ rcAssignedCar;(I[Car] /\ -(carA

      (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvaila
      DELETE FROM Isn{detyp=Car}
        SELECTFROM rcAssignedCar~;((-rcDroppedOffDate /\ rcAssignedCar;(I

      (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvaila
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcAssignedCar~;((-rcDrop
            THEN INSERT INTO carAvailableAt[Car*Branch]
                  SELECTFROM 'a'[Car]*'b'[Branch]

                 (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailabl
            PICK a,b FROM carAvailableAt~;rcAssignedCar~;((-rcDroppedOf
            THEN INSERT INTO carAvailableAt[Car*Branch]
                  SELECTFROM 'b'[Car]*'a'[Branch]
```

```
                                    (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailabl
                           (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvaila
                           NEW x:Branch;
                             INSERT INTO carAvailableAt[Car*Branch]
                              SELECTFROM (rcAssignedCar~;(-rcDroppedOffDate /\ rcAssignedCar;

                             (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAva
                           (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvaila
                           DELETE FROM sessionDroppedoffCar[SESSION*Car]
                            SELECTFROM sessionToday;((-rcDroppedOffDate~ /\ sessionToday~;ses

                           (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvail
                           DELETE FROM sessionToday[SESSION*Date]
                            SELECTFROM sessionDroppedoffCar;(I[Car] /\ -(carAvailableAt;carAv

                           (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvail
                  (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)
         (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
         (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
         (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
         (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
         (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
         (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
```

------ Derivation ----->

```
ALL of DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM -((rcDroppedOffDate /\ -Delta);(rcDroppedOffDate /\ -Delta)~) /\ r

       (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FR
       ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
               SELECTFROM rcCarHasBeenDroppedOff;(-(rcDroppedOffDate /\ -Delta) /\ rc

              (TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDroppedO
              DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM rcDroppedOffDate;(-(rcDroppedOffDate /\ -Delta)~ /\ rcDropp

              (TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDroppedO
       (MAINTAINING -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDroppedOffDate~
       ONE OF DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM ((-rcDroppedOffDate /\ rcCarHasBeenDroppedOff;rcDroppedOffD

              (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDroppedOf
              DELETE FROM rcDroppedOffDate[RentalCase*Date]
               SELECTFROM rcCarHasBeenDroppedOff~;((-rcDroppedOffDate /\ rcCarHasBeen

              (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDroppedOf
       (MAINTAINING -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDroppedOffDate FR
```

```
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-((contractedStartDate;earliestDate~ /\ (rcDroppedOffDate

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
       DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;contra

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-((contractedStartDate;earliestDate~ /\ (rcDroppedOffDate

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;contra

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((contractedStartDate;earliestDate~ /\ (rcDroppedOffDate /

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contr
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-((contractedEndDate;firstDate~ /\ (rcDroppedOffDate /\ -D

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate
       DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifference];(firstDate;contractedEndDat

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-((contractedEndDate;firstDate~ /\ (rcDroppedOffDate /\ -D

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifference];(firstDate;contractedEndDat

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((contractedEndDate;firstDate~ /\ (rcDroppedOffDate /\ -De

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contrac
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM ((-rcDroppedOffDate /\ rcAssignedCar;(I[Car] /\ -(carAvaila

       (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableA
       DELETE FROM Isn{detyp=Car}
        SELECTFROM rcAssignedCar~;((-rcDroppedOffDate /\ rcAssignedCar;(I[Car]

       (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableA
```

```
                    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcAssignedCar~;((-rcDroppedOf
                           THEN INSERT INTO carAvailableAt[Car*Branch]
                                 SELECTFROM 'a'[Car]*'b'[Branch]

                                (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;c
                           PICK a,b FROM carAvailableAt~;rcAssignedCar~;((-rcDroppedOffDate
                           THEN INSERT INTO carAvailableAt[Car*Branch]
                                 SELECTFROM 'b'[Car]*'a'[Branch]

                                (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;c
                    (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt
                    NEW x:Branch;
                      INSERT INTO carAvailableAt[Car*Branch]
                       SELECTFROM (rcAssignedCar~;(-rcDroppedOffDate /\ rcAssignedCar;(I[Ca

                        (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailabl
                    (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt
                    DELETE FROM sessionDroppedoffCar[SESSION*Car]
                     SELECTFROM sessionToday;((-rcDroppedOffDate~ /\ sessionToday~;sessionD

                    (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableA
                    DELETE FROM sessionToday[SESSION*Date]
                     SELECTFROM sessionDroppedoffCar;(I[Car] /\ -(carAvailableAt;carAvailab

                    (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableA
           (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));ses
    (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
    (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
    (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
    (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
```

<------End Derivation --

```
         ON INSERT Delta IN rcDroppedOffBranch[RentalCase*Branch] EXECUTE    -- (ECA rule
         ONE OF INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
                 SELECTFROM (rcDroppedOffBranch;(rcDroppedOffBranch \/ Delta)~ /\ rcDropp

                (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDat
                INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
                 SELECTFROM rcCarHasBeenDroppedOff~;(rcDroppedOffBranch \/ Delta) /\ -rcD

                (TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcDroppedO
                INSERT INTO Isn{detyp=Branch}
                 SELECTFROM ((rcDroppedOffBranch \/ Delta)~;rcCarHasBeenDroppedOff;rcDrop

                (TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff;rcDroppedOffBr
```

```
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
 SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffBranch /\ -rcDroppedOffBra

(TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDroppedOf
INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;d

(TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranc
INSERT INTO Isn{detyp=Amount}
 SELECTFROM (rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffBranch;distbranch
       THEN INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
             SELECTFROM 'a'[RentalCase]*'b'[Amount]

            (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedD
       PICK a,b FROM rentalLocationPenaltyCharge~;((rcDroppedOffBranch;di
       THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLoca
             SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

            (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedD
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
NEW x:Amount;
  ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
          SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropof

         (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDrop
         INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocatio
          SELECTFROM ((distbranch;rcDroppedOffBranch~ /\ distbranch;contra

         (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDrop
  (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranc
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
INSERT INTO Isn{detyp=Branch}
 SELECTFROM (rcDroppedOffBranch \/ Delta)~;rcAssignedCar;(I[Car] /\ -(car

(TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailab
INSERT INTO Isn{detyp=Branch}
 SELECTFROM ((rcDroppedOffBranch \/ Delta)~;rcDroppedOffBranch /\ -I[Bran

(TO MAINTAIN  -(rcDroppedOffBranch~;rcDroppedOffBranch) \/ I[Branch] FROM
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{detyp=Branch}
 SELECTFROM (Delta~;Delta /\ I[Branch]) - I[Branch]

(MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDrop
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F
```

```
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcDroppedOffBranch~;rcDroppedOffBranch) \/ I[Branch] FROM UNI rcD
```

------ Derivation ----->

```
ONE OF INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM (rcDroppedOffBranch;(rcDroppedOffBranch \/ Delta)~ /\ rcDroppedOff

       (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcD
       INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
        SELECTFROM rcCarHasBeenDroppedOff~;(rcDroppedOffBranch \/ Delta) /\ -rcDroppe

       (TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcDroppedOffBra
       INSERT INTO Isn{detyp=Branch}
        SELECTFROM ((rcDroppedOffBranch \/ Delta)~;rcCarHasBeenDroppedOff;rcDroppedOf

       (TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff;rcDroppedOffBranch)
       INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
        SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffBranch /\ -rcDroppedOffBranch)

       (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDroppedOffBran
       INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr

       (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;dis
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /\ c

       (TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffBranch;distbranch~ /\
              THEN INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
                    SELECTFROM 'a'[RentalCase]*'b'[Amount]

                   (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropof
              PICK a,b FROM rentalLocationPenaltyCharge~;((rcDroppedOffBranch;distbra
              THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations
                    SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

                   (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropof
       (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distb
       NEW x:Amount;
         ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
```

```
                    SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBran

                   (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBr
                   INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Am
                    SELECTFROM ((distbranch;rcDroppedOffBranch~ /\ distbranch;contracted

                   (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBr
  (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;dis
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distb
INSERT INTO Isn{detyp=Branch}
 SELECTFROM (rcDroppedOffBranch \/ Delta)~;rcAssignedCar;(I[Car] /\ -(carAvail

(TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;
INSERT INTO Isn{detyp=Branch}
 SELECTFROM ((rcDroppedOffBranch \/ Delta)~;rcDroppedOffBranch /\ -I[Branch])

(TO MAINTAIN  -(rcDroppedOffBranch~;rcDroppedOffBranch) \/ I[Branch] FROM UNI
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{detyp=Branch}
 SELECTFROM (Delta~;Delta /\ I[Branch]) - I[Branch]

(MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDroppedOf
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINTAINING -(rcDroppedOffBranch~;rcDroppedOffBranch) \/ I[Branch] FROM UNI rcDroppe
```

<------End Derivation --

```
ON DELETE Delta FROM rcDroppedOffBranch[RentalCase*Branch] EXECUTE    -- (ECA ru
ALL of DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM -((rcDroppedOffBranch /\ -Delta);(rcDroppedOffBranch /\ -Delt

       (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffB
       ONE OF DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
               SELECTFROM rcCarHasBeenDroppedOff;(-(rcDroppedOffBranch /\ -Delta

              (TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcD
              DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM rcDroppedOffBranch;(-(rcDroppedOffBranch /\ -Delta)~ /
```

```
       (TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcD
(MAINTAINING -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcDroppedOf
ONE OF DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM ((-rcDroppedOffBranch /\ rcCarHasBeenDroppedOff;rcDrop

       (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDr
       DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
        SELECTFROM rcCarHasBeenDroppedOff~;((-rcDroppedOffBranch /\ rcCarH

       (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDr
(MAINTAINING -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDroppedOff
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM ((-rcDroppedOffBranch /\ rcAssignedCar;(I[Car] /\ -(ca

       (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvaila
       DELETE FROM Isn{detyp=Car}
        SELECTFROM rcAssignedCar~;((-rcDroppedOffBranch /\ rcAssignedCar;

       (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvaila
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcAssignedCar~;((-rcDrop
              THEN INSERT INTO carAvailableAt[Car*Branch]
                    SELECTFROM 'a'[Car]*'b'[Branch]

                   (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailabl
              PICK a,b FROM carAvailableAt~;rcAssignedCar~;((-rcDroppedOf
              THEN INSERT INTO carAvailableAt[Car*Branch]
                    SELECTFROM 'b'[Car]*'a'[Branch]

                   (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailabl
       (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvaila
       NEW x:Branch;
         INSERT INTO carAvailableAt[Car*Branch]
          SELECTFROM (rcAssignedCar~;(-rcDroppedOffBranch /\ rcAssignedCa

         (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAva
       (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvaila
       DELETE FROM sessionDroppedoffCar[SESSION*Car]
        SELECTFROM sessionBranch;((-rcDroppedOffBranch~ /\ sessionBranch~

       (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvaila
       DELETE FROM sessionBranch[SESSION*Branch]
        SELECTFROM sessionDroppedoffCar;(I[Car] /\ -(carAvailableAt;carAva

       (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvaila
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~))
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
```

------ Derivation ----->

```
ALL of DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM -((rcDroppedOffBranch /\ -Delta);(rcDroppedOffBranch /\ -Delta)~)

       (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch
       ONE OF DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
               SELECTFROM rcCarHasBeenDroppedOff;(-(rcDroppedOffBranch /\ -Delta) /\

              (TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcDroppe
              DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM rcDroppedOffBranch;(-(rcDroppedOffBranch /\ -Delta)~ /\ rcD

              (TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcDroppe
       (MAINTAINING -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcDroppedOffBran
       ONE OF DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM ((-rcDroppedOffBranch /\ rcCarHasBeenDroppedOff;rcDroppedOf

              (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDropped
              DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
               SELECTFROM rcCarHasBeenDroppedOff~;((-rcDroppedOffBranch /\ rcCarHasBe

              (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDropped
       (MAINTAINING -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDroppedOffBranc
       ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM ((-rcDroppedOffBranch /\ rcAssignedCar;(I[Car] /\ -(carAvai

              (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableA
              DELETE FROM Isn{detyp=Car}
               SELECTFROM rcAssignedCar~;((-rcDroppedOffBranch /\ rcAssignedCar;(I[Ca

              (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableA
              ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcAssignedCar~;((-rcDroppedOf
                     THEN INSERT INTO carAvailableAt[Car*Branch]
                           SELECTFROM 'a'[Car]*'b'[Branch]

                          (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;c
                     PICK a,b FROM carAvailableAt~;rcAssignedCar~;((-rcDroppedOffBran
                     THEN INSERT INTO carAvailableAt[Car*Branch]
                           SELECTFROM 'b'[Car]*'a'[Branch]

                         (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;c
              (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt
              NEW x:Branch;
                INSERT INTO carAvailableAt[Car*Branch]
                 SELECTFROM (rcAssignedCar~;(-rcDroppedOffBranch /\ rcAssignedCar;(I[

                (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailabl
              (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt
```

```
                  DELETE FROM sessionDroppedoffCar[SESSION*Car]
                   SELECTFROM sessionBranch;((-rcDroppedOffBranch~ /\ sessionBranch~;sess

                  (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableA
                  DELETE FROM sessionBranch[SESSION*Branch]
                   SELECTFROM sessionDroppedoffCar;(I[Car] /\ -(carAvailableAt;carAvailab

                  (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableA
        (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));ses
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
```

<------End Derivation --

```
ON INSERT Delta IN rentalPeriod[RentalCase*Integer] EXECUTE    -- (ECA rule 59)
ALL of INSERT INTO Isn{detyp=Integer}
        SELECTFROM ((rentalPeriod \/ Delta)~;(contractedStartDate;earliestDate~

       (TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
       (TO MAINTAIN  -(rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rentall
       INSERT INTO rentalBasicCharge[RentalCase*Amount]
        SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTa

       (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;renta
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedC

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
       INSERT INTO Isn{detyp=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcAssignedCar;rcAssignedCar~
              THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                          THEN INSERT INTO rentalPeriod[RentalCase
                                                SELECTFROM 'a'[RentalCase]*'b'[Int

                                               (TO MAINTAIN  -(rcAssignedCar;rcAss
                                          PICK a,b FROM rentalPeriod~;('a'[RentalC
                                          THEN INSERT INTO ctcNrOfDays[CompTariffe
                                                SELECTFROM 'b'[CompTariffedCharge]

                                               (TO MAINTAIN  -(rcAssignedCar;rcAss
                                    (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
                                    NEW x:Integer;
                                      ALL of INSERT INTO rentalPeriod[RentalCase*In
                                              SELECTFROM 'a'[RentalCase]*'b'[CompTa
```

```
                                                (TO MAINTAIN  -(rcAssignedCar;rcAssign
                                                INSERT INTO ctcNrOfDays[CompTariffedCh
                                                 SELECTFROM 'b'[CompTariffedCharge]*'a

                                                (TO MAINTAIN  -(rcAssignedCar;rcAssign
                                         (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /
                                       (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
                                (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalP
                               ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                             THEN INSERT INTO rcAssignedCar[RentalCas
                                                   SELECTFROM 'a'[RentalCase]*'b'[Car

                                                (TO MAINTAIN  -(rcAssignedCar;rcAss
                                             PICK a,b FROM rcAssignedCar~;('a'[Rental
                                             THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                                 THEN INSERT INTO carT
                                                                       SELECTFROM 'a'[

                                                                  (TO MAINTAIN  -(
                                                                 PICK a,b FROM carType
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                                                                 (MAINTAINING -(rcAssignedCar
                                                                NEW x:CarType;
                                                                  ALL of INSERT INTO carType
                                                                           SELECTFROM 'a'[Car

                                                                    (TO MAINTAIN  -(rcA
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                                              (MAINTAINING -(rcAssignedCar
                                        (MAINTAINING -(rcAssignedCar;rcAssi
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
NEW x:Car;
  ALL of INSERT INTO rcAssignedCar[RentalCase*C
          SELECTFROM 'a'[RentalCase]*'b'[CompTa

          (TO MAINTAIN  -(rcAssignedCar;rcAssign
          ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                        THEN INSERT INTO carType
                              SELECTFROM 'a'[Car

                              (TO MAINTAIN  -(rcA
                        PICK a,b FROM carType~;(
                        THEN ONE OF ONE NONEMPTY
                                        THEN
                                        PICK
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                                NEW x:Amount
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                                                  (MAINTAINING -(rcAssignedCar;rc
                                                  NEW x:CarType;
                                                    ALL of INSERT INTO carType[Ca
                                                            SELECTFROM 'x'[Car]*'

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                                                           ONE OF ONE NONEMPTY AL
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                                                  (MAINTAINING -(rcAssignedCar;rc
                                           (MAINTAINING -(rcAssignedCar;rcAssigne
                                     (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /
                                (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
                        (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalP
          (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;r
PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalT
THEN BLOCK
     (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
```

```
      (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[R
(MAINTAINING -(rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rentalPeriod::
```

------ Derivation ----->

```
ALL of INSERT INTO Isn{detyp=Integer}
        SELECTFROM ((rentalPeriod \/ Delta)~;(contractedStartDate;earliestDate~ /\ rc

       (TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
       (TO MAINTAIN  -(rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rentalPerio
       INSERT INTO rentalBasicCharge[RentalCase*Amount]
        SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP

       (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTari
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;ca

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
       INSERT INTO Isn{detyp=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcAssignedCar;rcAssignedCar~ /\ re
              THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                          THEN INSERT INTO rentalPeriod[RentalCase*Inte
                                                SELECTFROM 'a'[RentalCase]*'b'[Integer]

                                               (TO MAINTAIN  -(rcAssignedCar;rcAssigned
                                          PICK a,b FROM rentalPeriod~;('a'[RentalCase]*
                                          THEN INSERT INTO ctcNrOfDays[CompTariffedChar
                                                SELECTFROM 'b'[CompTariffedCharge]*'a'[

                                                    (TO MAINTAIN  -(rcAssignedCar;rcAssigned
                                     (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ renta
                                     NEW x:Integer;
                                       ALL of INSERT INTO rentalPeriod[RentalCase*Integer
                                               SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

                                                 (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar
                                                 INSERT INTO ctcNrOfDays[CompTariffedCharge*
                                                  SELECTFROM 'b'[CompTariffedCharge]*'a'[Ren

                                                (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar
                                       (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ ren
                                     (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ renta
```

```
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
              THEN INSERT INTO rcAssignedCar[RentalCase*Car
                    SELECTFROM 'a'[RentalCase]*'b'[Car]

                   (TO MAINTAIN  -(rcAssignedCar;rcAssigned
                 PICK a,b FROM rcAssignedCar~;('a'[RentalCase]
                 THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                       THEN INSERT INTO carType[C
                                             SELECTFROM 'a'[Car]*

                                          (TO MAINTAIN  -(rcAss
                                        PICK a,b FROM carType~;('a
                                        THEN ONE OF ONE NONEMPTY A
                                                              THEN IN
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                                                  (MAINTAINING -(rcAssi
                                          (MAINTAINING -(rcAssignedCar;rcAs
                                         NEW x:CarType;
                                           ALL of INSERT INTO carType[Car*
                                                   SELECTFROM 'a'[Car]*'b'

                                                  (TO MAINTAIN  -(rcAssign
                                                 ONE OF ONE NONEMPTY ALTE
                                                               THEN INSER
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                                            (MAINTAINING -(rcAssignedCar;rcAs
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                                (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ renta
                            NEW x:Car;
                              ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
                                      SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

                                    (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar
                                    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                THEN INSERT INTO carType[Car*
                                                      SELECTFROM 'a'[Car]*'b'

                                                    (TO MAINTAIN  -(rcAssign
                                                PICK a,b FROM carType~;('x'[C
                                                THEN ONE OF ONE NONEMPTY ALTE
                                                                  THEN INSER
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                                                        NEW x:Amount;
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                                                                          (MAINTAINING -(rcAssigne
                                                                  (MAINTAINING -(rcAssignedCar;rcAssig
                                                                  NEW x:CarType;
                                                                    ALL of INSERT INTO carType[Car*Car
                                                                            SELECTFROM 'x'[Car]*'a'[Re

                                                                          (TO MAINTAIN  -(rcAssignedC
                                                                          ONE OF ONE NONEMPTY ALTERNA
                                                                                       THEN INSERT I
                                                                                             SELECTF

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                                                                                       PICK a,b FROM
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                                                                                NEW x:Amount;
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                                                                    (MAINTAINING -(rcAssignedCar;rcAss
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                                                          (MAINTAINING -(rcAssignedCar;rcAssignedCar~
                                                    (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ ren
                                                  (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ renta
                                          (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod
                                      (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
                          PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTariff
                          THEN BLOCK
                               (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger regul
                 (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I
        (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
        (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
        (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
        (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Rental
        (MAINTAINING -(rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rentalPeriod::Renta
```

<------End Derivation --

```
ON DELETE Delta FROM rentalPeriod[RentalCase*Integer] EXECUTE    -- (ECA rule 60
ALL of ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM ((-rentalPeriod /\ (contractedStartDate;earliestDate~

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOff
              DELETE FROM earliestDate[DateDifferencePlusOne*Date]
               SELECTFROM computedRentalPeriod;((-rentalPeriod~ /\ computedRental

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOff
              DELETE FROM rcDroppedOffDate[RentalCase*Date]
               SELECTFROM ((-rentalPeriod /\ (contractedStartDate;earliestDate~

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOff
              DELETE FROM latestDate[DateDifferencePlusOne*Date]
               SELECTFROM computedRentalPeriod;((-rentalPeriod~ /\ computedRental

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOff
              DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
               SELECTFROM (earliestDate;contractedStartDate~ /\ latestDate;rcDro

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOff
       (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;late
       ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM (-(((rentalPeriod /\ -Delta);ctcNrOfDays~ /\ rcAssigned

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;(rent

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
              DELETE FROM rentalPeriod[RentalCase*Integer]
               SELECTFROM (-(((rentalPeriod /\ -Delta);ctcNrOfDays~ /\ rcAssigned

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
              DELETE FROM rentalPeriod[RentalCase*Integer]
               SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;(rent

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM -(((rentalPeriod /\ -Delta);ctcNrOfDays~ /\ rcAssigned

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
      (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[R
```

------ Derivation ----->

```
ALL of ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM ((-rentalPeriod /\ (contractedStartDate;earliestDate~ /\ rc

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;
              DELETE FROM earliestDate[DateDifferencePlusOne*Date]
               SELECTFROM computedRentalPeriod;((-rentalPeriod~ /\ computedRentalPeri

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;
              DELETE FROM rcDroppedOffDate[RentalCase*Date]
               SELECTFROM ((-rentalPeriod /\ (contractedStartDate;earliestDate~ /\ rc

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;
              DELETE FROM latestDate[DateDifferencePlusOne*Date]
               SELECTFROM computedRentalPeriod;((-rentalPeriod~ /\ computedRentalPeri

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;
              DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
               SELECTFROM (earliestDate;contractedStartDate~ /\ latestDate;rcDroppedO

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;
       (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDa
       ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM (-(((rentalPeriod /\ -Delta);ctcNrOfDays~ /\ rcAssignedCar;

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeri
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;(rentalPer

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeri
              DELETE FROM rentalPeriod[RentalCase*Integer]
               SELECTFROM (-(((rentalPeriod /\ -Delta);ctcNrOfDays~ /\ rcAssignedCar;

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeri
              DELETE FROM rentalPeriod[RentalCase*Integer]
               SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;(rentalPer

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeri
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM -(((rentalPeriod /\ -Delta);ctcNrOfDays~ /\ rcAssignedCar;c

              (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeri
      (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Rental
```

<------End Derivation --

```
    ON INSERT Delta IN rentalBasicCharge[RentalCase*Amount] EXECUTE    -- (ECA rule
```

```
ALL of INSERT INTO Isn{detyp=Amount}
        SELECTFROM ((rentalBasicCharge \/ Delta)~;(rentalPeriod;ctcNrOfDays~ /\ 

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
       (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
       (TO MAINTAIN  -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM U
       INSERT INTO rentalCharge[RentalCase*Amount]
        SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ ren

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ 
       INSERT INTO Isn{detyp=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalLocationPenaltyCharge;r
              THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                     THEN INSERT INTO rentalBasicCharge[Renta
                                           SELECTFROM 'a'[RentalCase]*'b'[Amo

                                          (TO MAINTAIN  -(rentalLocationPenal
                                     PICK a,b FROM rentalBasicCharge~;('a'[Re
                                     THEN INSERT INTO arg1[CompRentalCharge*A
                                           SELECTFROM 'b'[CompRentalCharge]*'

                                                (TO MAINTAIN  -(rentalLocationPenal
                                  (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                  NEW x:Amount;
                                    ALL of INSERT INTO rentalBasicCharge[RentalCa
                                             SELECTFROM 'a'[RentalCase]*'b'[CompRe

                                            (TO MAINTAIN  -(rentalLocationPenaltyC
                                            INSERT INTO arg1[CompRentalCharge*Amou
                                             SELECTFROM 'b'[CompRentalCharge]*'a'[

                                            (TO MAINTAIN  -(rentalLocationPenaltyC
                                      (MAINTAINING -(rentalLocationPenaltyCharge;re
                                     (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocat
                                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                     THEN INSERT INTO rentalPenaltyCharge[Ren
                                           SELECTFROM 'a'[RentalCase]*'b'[Amo

                                          (TO MAINTAIN  -(rentalLocationPenal
                                     PICK a,b FROM rentalPenaltyCharge~;('a'[
                                     THEN INSERT INTO arg2[CompRentalCharge*A
                                           SELECTFROM 'b'[CompRentalCharge]*'

                                                (TO MAINTAIN  -(rentalLocationPenal
                                  (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                  NEW x:Amount;
                                    ALL of INSERT INTO rentalPenaltyCharge[Rental
```

```
                                                    SELECTFROM 'a'[RentalCase]*'b'[CompRe

                                                   (TO MAINTAIN  -(rentalLocationPenaltyC
                                                   INSERT INTO arg2[CompRentalCharge*Amou
                                                    SELECTFROM 'b'[CompRentalCharge]*'a'[

                                                   (TO MAINTAIN  -(rentalLocationPenaltyC
                                             (MAINTAINING -(rentalLocationPenaltyCharge;re
                                           (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocat
                                    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                                  THEN INSERT INTO rentalLocationPenaltyCh
                                                       SELECTFROM 'a'[RentalCase]*'b'[Amo

                                                       (TO MAINTAIN  -(rentalLocationPenal
                                                  PICK a,b FROM rentalLocationPenaltyCharg
                                                  THEN INSERT INTO arg3[CompRentalCharge*A
                                                       SELECTFROM 'b'[CompRentalCharge]*'

                                                      (TO MAINTAIN  -(rentalLocationPenal
                                           (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                           NEW x:Amount;
                                             ALL of INSERT INTO rentalLocationPenaltyCharg
                                                    SELECTFROM 'a'[RentalCase]*'b'[CompRe

                                                   (TO MAINTAIN  -(rentalLocationPenaltyC
                                                   INSERT INTO arg3[CompRentalCharge*Amou
                                                    SELECTFROM 'b'[CompRentalCharge]*'a'[

                                                   (TO MAINTAIN  -(rentalLocationPenaltyC
                                             (MAINTAINING -(rentalLocationPenaltyCharge;re
                                           (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocat
                                 (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPena
                           PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge
                           THEN BLOCK
                                (CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger re
                      (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
                (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
                (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
                (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
                (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
                (MAINTAINING -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM UNI renta
```

------ Derivation ----->

```
ALL of INSERT INTO Isn{detyp=Amount}
        SELECTFROM ((rentalBasicCharge \/ Delta)~;(rentalPeriod;ctcNrOfDays~ /\ rcAss
```

```
(TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
(TO MAINTAIN  -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM UNI re
INSERT INTO rentalCharge[RentalCase*Amount]
 SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo

(TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalLocationPenaltyCharge;rental
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                    THEN INSERT INTO rentalBasicCharge[RentalCase
                                          SELECTFROM 'a'[RentalCase]*'b'[Amount]

                                         (TO MAINTAIN  -(rentalLocationPenaltyCha
                                    PICK a,b FROM rentalBasicCharge~;('a'[RentalC
                                    THEN INSERT INTO arg1[CompRentalCharge*Amount
                                          SELECTFROM 'b'[CompRentalCharge]*'a'[Am

                                              (TO MAINTAIN  -(rentalLocationPenaltyCha
                                 (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                 NEW x:Amount;
                                   ALL of INSERT INTO rentalBasicCharge[RentalCase*Am
                                           SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

                                            (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                            INSERT INTO arg1[CompRentalCharge*Amount]
                                             SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

                                            (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                     (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
                                    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                              (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
                             ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                    THEN INSERT INTO rentalPenaltyCharge[RentalCa
                                          SELECTFROM 'a'[RentalCase]*'b'[Amount]

                                         (TO MAINTAIN  -(rentalLocationPenaltyCha
                                    PICK a,b FROM rentalPenaltyCharge~;('a'[Renta
                                    THEN INSERT INTO arg2[CompRentalCharge*Amount
                                          SELECTFROM 'b'[CompRentalCharge]*'a'[Am

                                              (TO MAINTAIN  -(rentalLocationPenaltyCha
                                 (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                 NEW x:Amount;
                                   ALL of INSERT INTO rentalPenaltyCharge[RentalCase*
                                           SELECTFROM 'a'[RentalCase]*'b'[CompRentalC
```

```
                                                    (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                                    INSERT INTO arg2[CompRentalCharge*Amount]
                                                     SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

                                                    (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                              (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
                                             (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
                                       ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                                    THEN INSERT INTO rentalLocationPenaltyCharge[
                                                         SELECTFROM 'a'[RentalCase]*'b'[Amount]

                                                        (TO MAINTAIN  -(rentalLocationPenaltyCha
                                                    PICK a,b FROM rentalLocationPenaltyCharge~;('
                                                    THEN INSERT INTO arg3[CompRentalCharge*Amount
                                                         SELECTFROM 'b'[CompRentalCharge]*'a'[Am

                                                       (TO MAINTAIN  -(rentalLocationPenaltyCha
                                              (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                             NEW x:Amount;
                                               ALL of INSERT INTO rentalLocationPenaltyCharge[Ren
                                                        SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

                                                    (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                                    INSERT INTO arg3[CompRentalCharge*Amount]
                                                     SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

                                                    (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                              (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
                                             (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
                                   (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
                              PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\
                              THEN BLOCK
                                   (CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger rental
                    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
               (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
               (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
               (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
               (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
               (MAINTAINING -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM UNI rentalBasi
```

<------End Derivation --

```
          ON DELETE Delta FROM rentalBasicCharge[RentalCase*Amount] EXECUTE    -- (ECA rul
          ALL of ONE OF DELETE FROM rentalPeriod[RentalCase*Integer]
                        SELECTFROM ((-rentalBasicCharge /\ (rentalPeriod;ctcNrOfDays~ /\
```

```
(TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTyp
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
 SELECTFROM computedTariffedCharge;((-rentalBasicCharge~ /\ comput

(TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTyp
DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM ((-rentalBasicCharge /\ (rentalPeriod;ctcNrOfDays~ /\

(TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTyp
DELETE FROM carType[Car*CarType]
 SELECTFROM rcAssignedCar~;((-rentalBasicCharge /\ (rentalPeriod;c

(TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTyp
DELETE FROM rentalTariffPerDay[CarType*Amount]
 SELECTFROM carType~;rcAssignedCar~;((-rentalBasicCharge /\ (renta

(TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTyp
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
 SELECTFROM computedTariffedCharge;((-rentalBasicCharge~ /\ comput

(TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTyp
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
 SELECTFROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTar

(TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTyp
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rental
ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM (-(((rentalBasicCharge /\ -Delta);arg1~ /\ rentalPenal

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;(rentalBasicCha

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM (-(((rentalBasicCharge /\ -Delta);arg1~ /\ rentalPenal

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;(rentalBasicCha

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM (-(((rentalBasicCharge /\ -Delta);arg1~ /\ rentalPenal

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;(rentalBasicCha

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
```

```
                        DELETE FROM Isn{detyp=RentalCase}
                         SELECTFROM -(((rentalBasicCharge /\ -Delta);arg1~ /\ rentalPenalt

                        (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
                  (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
            (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
            (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
```

------ Derivation ----->

```
     ALL of ONE OF DELETE FROM rentalPeriod[RentalCase*Integer]
                    SELECTFROM ((-rentalBasicCharge /\ (rentalPeriod;ctcNrOfDays~ /\ rcAss

                   (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;ren
                   DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
                    SELECTFROM computedTariffedCharge;((-rentalBasicCharge~ /\ computedTar

                   (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;ren
                   DELETE FROM rcAssignedCar[RentalCase*Car]
                    SELECTFROM ((-rentalBasicCharge /\ (rentalPeriod;ctcNrOfDays~ /\ rcAss

                   (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;ren
                   DELETE FROM carType[Car*CarType]
                    SELECTFROM rcAssignedCar~;((-rentalBasicCharge /\ (rentalPeriod;ctcNrO

                   (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;ren
                   DELETE FROM rentalTariffPerDay[CarType*Amount]
                    SELECTFROM carType~;rcAssignedCar~;((-rentalBasicCharge /\ (rentalPeri

                   (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;ren
                   DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
                    SELECTFROM computedTariffedCharge;((-rentalBasicCharge~ /\ computedTar

                   (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;ren
                   DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
                    SELECTFROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTariffPe

                   (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;ren
            (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTarif
            ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
                    SELECTFROM (-(((rentalBasicCharge /\ -Delta);arg1~ /\ rentalPenaltyCha

                   (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
                   DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
                    SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;(rentalBasicCharge~

                   (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
                   DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
```

```
                 SELECTFROM (-(((rentalBasicCharge /\ -Delta);arg1~ /\ rentalPenaltyCha

                (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
                DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
                 SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;(rentalBasicCharge~

                (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
                DELETE FROM rentalBasicCharge[RentalCase*Amount]
                 SELECTFROM (-(((rentalBasicCharge /\ -Delta);arg1~ /\ rentalPenaltyCha

                (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
                DELETE FROM rentalBasicCharge[RentalCase*Amount]
                 SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;(rentalBasicCharge~

                (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
                DELETE FROM Isn{detyp=RentalCase}
                 SELECTFROM -(((rentalBasicCharge /\ -Delta);arg1~ /\ rentalPenaltyChar

                (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
          (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
    (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
    (MAINTAIN ING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
```

<------End Derivation --

```
    ON INSERT Delta IN rentalExcessPeriod[RentalCase*Integer] EXECUTE    -- (ECA rul
    ALL of INSERT INTO Isn{detyp=Integer}
            SELECTFROM ((rentalExcessPeriod \/ Delta)~;(rcDroppedOffDate;lastDate~ /

           (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
           (TO MAINTAIN  -(rentalExcessPeriod~;rentalExcessPeriod) \/ I[Integer] FRO
           INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
            SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;ex

           (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
           INSERT INTO Isn{detyp=Amount}
            SELECTFROM (rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcA

           (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
           INSERT INTO Isn{detyp=RentalCase}
            SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalExcessPeriod;(rentalExc
                  THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                          THEN INSERT INTO rentalExcessPeriod[Rent
                                                SELECTFROM 'a'[RentalCase]*'b'[Int

                                               (TO MAINTAIN  -(rentalExcessPeriod;
```

```
                PICK a,b FROM rentalExcessPeriod~;('a'[R
                THEN INSERT INTO ctcNrOfDays[CompTariffe
                      SELECTFROM 'b'[CompTariffedCharge]

                    (TO MAINTAIN  -(rentalExcessPeriod;
              (MAINTAINING -(rentalExcessPeriod;rentalExcessP
              NEW x:Integer;
                ALL of INSERT INTO rentalExcessPeriod[RentalC
                       SELECTFROM 'a'[RentalCase]*'b'[CompTa

                       (TO MAINTAIN  -(rentalExcessPeriod;ren
                       INSERT INTO ctcNrOfDays[CompTariffedCh
                        SELECTFROM 'b'[CompTariffedCharge]*'a

                       (TO MAINTAIN  -(rentalExcessPeriod;ren
                  (MAINTAINING -(rentalExcessPeriod;rentalExces
                (MAINTAINING -(rentalExcessPeriod;rentalExcessP
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                THEN INSERT INTO rcAssignedCar[RentalCas
                      SELECTFROM 'a'[RentalCase]*'b'[Car

                    (TO MAINTAIN  -(rentalExcessPeriod;
                PICK a,b FROM rcAssignedCar~;('a'[Rental
                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                    THEN INSERT INTO carT
                                          SELECTFROM 'a'[

                                         (TO MAINTAIN  -(
                                    PICK a,b FROM carType
                                    THEN ONE OF ONE NONEM
                                                        TH



                                                        PI
                                                        TH



                                                (MAINTAIN
                                                NEW x:Amo
                                                  ALL of
```

```
                                                                (MAINTA
                                                              (MAINTAIN
                                                          (MAINTAINING -(r
                                                (MAINTAINING -(rentalExcessP
                                               NEW x:CarType;
                                                 ALL of INSERT INTO carType
                                                         SELECTFROM 'a'[Car

                                                        (TO MAINTAIN  -(ren
                                                       ONE OF ONE NONEMPTY
                                                                    THEN


                                                                PICK
                                                                THEN


                                                             (MAINTAINING
                                                             NEW x:Amount
                                                               ALL of INS
                                                                       SE

                                                                    (TO
                                                                    INS
                                                                     SE

                                                                    (TO
                                                                  (MAINTAINI
                                                                (MAINTAINING
                                                          (MAINTAINING -(rent
                                                    (MAINTAINING -(rentalExces
                                                  (MAINTAINING -(rentalExcessP
                                        (MAINTAINING -(rentalExcessPeriod;r
                                (MAINTAINING -(rentalExcessPeriod;rentalExcessP
                               NEW x:Car;
                                 ALL of INSERT INTO rcAssignedCar[RentalCase*C
                                         SELECTFROM 'a'[RentalCase]*'b'[CompTa

                                        (TO MAINTAIN  -(rentalExcessPeriod;ren
                                       ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                     THEN INSERT INTO carType
                                                           SELECTFROM 'a'[Car

                                                          (TO MAINTAIN  -(ren
                                                     PICK a,b FROM carType~;(
                                                     THEN ONE OF ONE NONEMPTY
                                                                    THEN
```

```
                                                                PICK
                                                                THEN

                                                        (MAINTAINING
                                                        NEW x:Amount
                                                          ALL of INS
                                                                  SE

                                                                  (TO
                                                                  INS
                                                                   SE

                                                                  (TO
                                                            (MAINTAINI
                                                          (MAINTAINING
                                                  (MAINTAINING -(rent
                                        (MAINTAINING -(rentalExcessPeri
                                        NEW x:CarType;
                                          ALL of INSERT INTO carType[Ca
                                                   SELECTFROM 'x'[Car]*'

                                                (TO MAINTAIN  -(rentall
                                                ONE OF ONE NONEMPTY AL
                                                        THEN INS
                                                              SE

                                                              (TO
                                                            PICK a,b
                                                            THEN INS
                                                              SE

                                                            (TO
                                                  (MAINTAINING -(
                                                  NEW x:Amount;
                                                    ALL of INSERT
                                                            SELEC

                                                          (TO MA
                                                          INSERT
                                                           SELEC

                                                          (TO MA
                                                    (MAINTAINING
                                                  (MAINTAINING -(
                                          (MAINTAINING -(rentalE
                                  (MAINTAINING -(rentalExcessPe
```

```
                                                                (MAINTAINING -(rentalExcessPeri
                                                              (MAINTAINING -(rentalExcessPeriod;rent
                                                            (MAINTAINING -(rentalExcessPeriod;rentalExces
                                                          (MAINTAINING -(rentalExcessPeriod;rentalExcessP
                                                       (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~
                                                    (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[Re
                                                PICK a,b FROM (ctcNrOfDays;rentalExcessPeriod~ /\ ctcDailyAmount;e
                                                THEN BLOCK
                                                     (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
                                           (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \
                                  (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compu
                                  (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
                                  (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
                                  (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (renta
                                  (MAINTAINING -(rentalExcessPeriod~;rentalExcessPeriod) \/ I[Integer] FROM UNI re
```

------ Derivation ----->

```
ALL of INSERT INTO Isn{detyp=Integer}
        SELECTFROM ((rentalExcessPeriod \/ Delta)~;(rcDroppedOffDate;lastDate~ /\ con

       (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
       (TO MAINTAIN  -(rentalExcessPeriod~;rentalExcessPeriod) \/ I[Integer] FROM UNI
       INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT

       (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;exce
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAssign

       (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
       INSERT INTO Isn{detyp=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalExcessPeriod;(rentalExcessPe
              THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                          THEN INSERT INTO rentalExcessPeriod[RentalCas
                                                SELECTFROM 'a'[RentalCase]*'b'[Integer]

                                               (TO MAINTAIN  -(rentalExcessPeriod;renta
                                          PICK a,b FROM rentalExcessPeriod~;('a'[Rental
                                          THEN INSERT INTO ctcNrOfDays[CompTariffedChar
                                                SELECTFROM 'b'[CompTariffedCharge]*'a'[

                                               (TO MAINTAIN  -(rentalExcessPeriod;renta
                                    (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod
                                    NEW x:Integer;
                                      ALL of INSERT INTO rentalExcessPeriod[RentalCase*I
```

```
                                                                SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

                                                              (TO MAINTAIN  -(rentalExcessPeriod;rentalEx
                                                              INSERT INTO ctcNrOfDays[CompTariffedCharge*
                                                               SELECTFROM 'b'[CompTariffedCharge]*'a'[Ren

                                                              (TO MAINTAIN  -(rentalExcessPeriod;rentalEx
                                                     (MAINTAINING -(rentalExcessPeriod;rentalExcessPeri
                                                   (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod
                                            (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[
                                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                                        THEN INSERT INTO rcAssignedCar[RentalCase*Car
                                                             SELECTFROM 'a'[RentalCase]*'b'[Car]

                                                          (TO MAINTAIN  -(rentalExcessPeriod;renta
                                                        PICK a,b FROM rcAssignedCar~;('a'[RentalCase]
                                                        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                                           THEN INSERT INTO carType[C
                                                                                SELECTFROM 'a'[Car]*

                                                                                (TO MAINTAIN  -(renta
                                                                              PICK a,b FROM carType~;('a
                                                                              THEN ONE OF ONE NONEMPTY A
                                                                                                  THEN IN
                                                                                                       S

                                                                                                       (T
                                                                                                  PICK a,
                                                                                                  THEN IN
                                                                                                       S

                                                                                                       (T
                                                                                             (MAINTAINING -
                                                                                             NEW x:Amount;
                                                                                               ALL of INSER
                                                                                                       SELE

                                                                                                       (TO M
                                                                                                       INSER
                                                                                                       SELE

                                                                                                       (TO M
                                                                                                 (MAINTAINING
                                                                                                (MAINTAINING -
                                                                                          (MAINTAINING -(rental
                                                                                   (MAINTAINING -(rentalExcessPeriod
                                                                                  NEW x:CarType;
                                                                                    ALL of INSERT INTO carType[Car*
                                                                                            SELECTFROM 'a'[Car]*'b'
```

```
(TO MAINTAIN  -(rentalEx
ONE OF ONE NONEMPTY ALTE
THEN INSER
SELE

(TO M
PICK a,b F
THEN INSER
SELE

(TO M
(MAINTAINING -(re
NEW x:Amount;
ALL of INSERT I
SELECTF

(TO MAIN
INSERT I
SELECTF

(TO MAIN
(MAINTAINING -(
(MAINTAINING -(re
(MAINTAINING -(rentalExc
(MAINTAINING -(rentalExcessPeri
(MAINTAINING -(rentalExcessPeriod
(MAINTAINING -(rentalExcessPeriod;rental
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod
NEW x:Car;
ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

(TO MAINTAIN  -(rentalExcessPeriod;rentalEx
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
THEN INSERT INTO carType[Car*
SELECTFROM 'a'[Car]*'b'

(TO MAINTAIN  -(rentalEx
PICK a,b FROM carType~;('x'[C
THEN ONE OF ONE NONEMPTY ALTE
THEN INSER
SELE

(TO M
PICK a,b F
THEN INSER
SELE

(TO M
(MAINTAINING -(re
```

```
                                                                NEW x:Amount;
                                                                  ALL of INSERT I
                                                                          SELECTF

                                                                          (TO MAIN
                                                                          INSERT I
                                                                           SELECTF

                                                                          (TO MAIN
                                                                    (MAINTAINING -(
                                                                  (MAINTAINING -(re
                                                              (MAINTAINING -(rentalExc
                                                    (MAINTAINING -(rentalExcessPeriod;re
                                                    NEW x:CarType;
                                                      ALL of INSERT INTO carType[Car*Car
                                                              SELECTFROM 'x'[Car]*'a'[Re

                                                            (TO MAINTAIN  -(rentalExces
                                                            ONE OF ONE NONEMPTY ALTERNA
                                                                        THEN INSERT I
                                                                          SELECTF

                                                                          (TO MAIN
                                                                        PICK a,b FROM
                                                                        THEN INSERT I
                                                                          SELECTF

                                                                        (TO MAIN
                                                                (MAINTAINING -(renta
                                                                NEW x:Amount;
                                                                  ALL of INSERT INTO
                                                                          SELECTFROM

                                                                         (TO MAINTAI
                                                                         INSERT INTO
                                                                          SELECTFROM

                                                                         (TO MAINTAI
                                                                  (MAINTAINING -(ren
                                                                (MAINTAINING -(renta
                                                          (MAINTAINING -(rentalExcess
                                                      (MAINTAINING -(rentalExcessPeriod;
                                                    (MAINTAINING -(rentalExcessPeriod;re
                                              (MAINTAINING -(rentalExcessPeriod;rentalExc
                                          (MAINTAINING -(rentalExcessPeriod;rentalExcessPeri
                                      (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod
                                (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[
                          (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalC
PICK a,b FROM (ctcNrOfDays;rentalExcessPeriod~ /\ ctcDailyAmount;excess
THEN BLOCK
```

```
                    (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger exces
          (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (re
     (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
     (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
     (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
     (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExc
     (MAINTAINING -(rentalExcessPeriod~;rentalExcessPeriod) \/ I[Integer] FROM UNI rentalE
```

<------End Derivation --

```
          ON DELETE Delta FROM rentalExcessPeriod[RentalCase*Integer] EXECUTE    -- (ECA r
          ALL of ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
                         SELECTFROM ((-rentalExcessPeriod /\ (rcDroppedOffDate;lastDate~ /

                        (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;f
                        DELETE FROM lastDate[DateDifference*Date]
                         SELECTFROM computedNrOfExcessDays;((-rentalExcessPeriod~ /\ compu

                        (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;f
                        DELETE FROM contractedEndDate[RentalCase*Date]
                         SELECTFROM ((-rentalExcessPeriod /\ (rcDroppedOffDate;lastDate~ /

                        (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;f
                        DELETE FROM firstDate[DateDifference*Date]
                         SELECTFROM computedNrOfExcessDays;((-rentalExcessPeriod~ /\ compu

                        (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;f
                        DELETE FROM computedNrOfExcessDays[DateDifference*Integer]
                         SELECTFROM (lastDate;rcDroppedOffDate~ /\ firstDate;contractedEnd

                        (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;f
                    (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate
                    ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
                         SELECTFROM (-(((rentalExcessPeriod /\ -Delta);ctcNrOfDays~ /\ rcA

                        (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[Rental
                        DELETE FROM rentalExcessPeriod[RentalCase*Integer]
                         SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;(rent

                        (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[Rental
                        DELETE FROM Isn{detyp=RentalCase}
                         SELECTFROM -(((rentalExcessPeriod /\ -Delta);ctcNrOfDays~ /\ rcAs

                        (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[Rental
                    (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \
               (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
               (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rent
```

------ Derivation ----->

```
ALL of ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
               SELECTFROM ((-rentalExcessPeriod /\ (rcDroppedOffDate;lastDate~ /\ con

              (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstD
              DELETE FROM lastDate[DateDifference*Date]
               SELECTFROM computedNrOfExcessDays;((-rentalExcessPeriod~ /\ computedNr

              (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstD
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM ((-rentalExcessPeriod /\ (rcDroppedOffDate;lastDate~ /\ con

              (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstD
              DELETE FROM firstDate[DateDifference*Date]
               SELECTFROM computedNrOfExcessDays;((-rentalExcessPeriod~ /\ computedNr

              (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstD
              DELETE FROM computedNrOfExcessDays[DateDifference*Integer]
               SELECTFROM (lastDate;rcDroppedOffDate~ /\ firstDate;contractedEndDate~

              (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstD
      (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);co
      ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
               SELECTFROM (-(((rentalExcessPeriod /\ -Delta);ctcNrOfDays~ /\ rcAssign

              (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]
              DELETE FROM rentalExcessPeriod[RentalCase*Integer]
               SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;(rentalExc

              (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM -(((rentalExcessPeriod /\ -Delta);ctcNrOfDays~ /\ rcAssigne

              (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]
     (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (re
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExc
```

<------End Derivation --

```
    ON INSERT Delta IN rentalPenaltyCharge[RentalCase*Amount] EXECUTE    -- (ECA rul
    ALL of INSERT INTO Isn{detyp=Amount}
            SELECTFROM ((rentalPenaltyCharge \/ Delta)~;(rentalExcessPeriod;ctcNrOfD

           (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
           (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
           (TO MAINTAIN  -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FR
           INSERT INTO rentalCharge[RentalCase*Amount]
```

```
 SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rent

(TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ r
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalLocationPenaltyCharge;re
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                    THEN INSERT INTO rentalBasicCharge[Rental
                                          SELECTFROM 'a'[RentalCase]*'b'[Amou

                                               (TO MAINTAIN  -(rentalLocationPenalt
                                    PICK a,b FROM rentalBasicCharge~;('a'[Ren
                                    THEN INSERT INTO arg1[CompRentalCharge*Am
                                          SELECTFROM 'b'[CompRentalCharge]*'a

                                               (TO MAINTAIN  -(rentalLocationPenalt
                                 (MAINTAINING -(rentalLocationPenaltyCharge;rental
                                 NEW x:Amount;
                                   ALL of INSERT INTO rentalBasicCharge[RentalCas
                                           SELECTFROM 'a'[RentalCase]*'b'[CompRen

                                             (TO MAINTAIN  -(rentalLocationPenaltyCh
                                             INSERT INTO arg1[CompRentalCharge*Amoun
                                              SELECTFROM 'b'[CompRentalCharge]*'a'[

                                             (TO MAINTAIN  -(rentalLocationPenaltyCh
                                   (MAINTAINING -(rentalLocationPenaltyCharge;ren
                                 (MAINTAINING -(rentalLocationPenaltyCharge;rental
                              (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocati
                              ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                    THEN INSERT INTO rentalPenaltyCharge[Rent
                                          SELECTFROM 'a'[RentalCase]*'b'[Amou

                                               (TO MAINTAIN  -(rentalLocationPenalt
                                    PICK a,b FROM rentalPenaltyCharge~;('a'[
                                    THEN INSERT INTO arg2[CompRentalCharge*Am
                                          SELECTFROM 'b'[CompRentalCharge]*'a

                                               (TO MAINTAIN  -(rentalLocationPenalt
                                 (MAINTAINING -(rentalLocationPenaltyCharge;rental
                                 NEW x:Amount;
                                   ALL of INSERT INTO rentalPenaltyCharge[Rental
                                           SELECTFROM 'a'[RentalCase]*'b'[CompRen

                                             (TO MAINTAIN  -(rentalLocationPenaltyCh
                                             INSERT INTO arg2[CompRentalCharge*Amoun
                                              SELECTFROM 'b'[CompRentalCharge]*'a'[

                                             (TO MAINTAIN  -(rentalLocationPenaltyCh
```

```
                                                    (MAINTAINING -(rentalLocationPenaltyCharge;re
                                                  (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                              (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocat
                                              ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                                           THEN INSERT INTO rentalLocationPenaltyCh
                                                                 SELECTFROM 'a'[RentalCase]*'b'[Amo

                                                                (TO MAINTAIN  -(rentalLocationPenal
                                                           PICK a,b FROM rentalLocationPenaltyCharg
                                                           THEN INSERT INTO arg3[CompRentalCharge*A
                                                                 SELECTFROM 'b'[CompRentalCharge]*'

                                                                (TO MAINTAIN  -(rentalLocationPenal
                                                  (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                                  NEW x:Amount;
                                                    ALL of INSERT INTO rentalLocationPenaltyCharg
                                                            SELECTFROM 'a'[RentalCase]*'b'[CompRe

                                                              (TO MAINTAIN  -(rentalLocationPenaltyC
                                                              INSERT INTO arg3[CompRentalCharge*Amou
                                                               SELECTFROM 'b'[CompRentalCharge]*'a'[

                                                              (TO MAINTAIN  -(rentalLocationPenaltyC
                                                    (MAINTAINING -(rentalLocationPenaltyCharge;re
                                                  (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                              (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocat
                                         (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPena
                                    PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge
                                    THEN BLOCK
                                         (CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger re
                               (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
                          (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
                          (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
                          (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
                          (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
                          (MAINTAINING -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FROM UNI r
```

------ Derivation ----->

```
    ALL of INSERT INTO Isn{detyp=Amount}
            SELECTFROM ((rentalPenaltyCharge \/ Delta)~;(rentalExcessPeriod;ctcNrOfDays~

           (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
           (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
           (TO MAINTAIN  -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FROM UN
           INSERT INTO rentalCharge[RentalCase*Amount]
            SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
```

```
(TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalLocationPenaltyCharge;rental
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                    THEN INSERT INTO rentalBasicCharge[RentalCase
                                          SELECTFROM 'a'[RentalCase]*'b'[Amount]

                                         (TO MAINTAIN  -(rentalLocationPenaltyCha
                                    PICK a,b FROM rentalBasicCharge~;('a'[RentalC
                                    THEN INSERT INTO arg1[CompRentalCharge*Amount
                                          SELECTFROM 'b'[CompRentalCharge]*'a'[Am

                                               (TO MAINTAIN  -(rentalLocationPenaltyCha
                                 (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                 NEW x:Amount;
                                   ALL of INSERT INTO rentalBasicCharge[RentalCase*Am
                                           SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

                                            (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                            INSERT INTO arg1[CompRentalCharge*Amount]
                                             SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

                                           (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                     (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
                                    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                               (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
                               ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                    THEN INSERT INTO rentalPenaltyCharge[RentalCa
                                          SELECTFROM 'a'[RentalCase]*'b'[Amount]

                                         (TO MAINTAIN  -(rentalLocationPenaltyCha
                                    PICK a,b FROM rentalPenaltyCharge~;('a'[Renta
                                    THEN INSERT INTO arg2[CompRentalCharge*Amount
                                          SELECTFROM 'b'[CompRentalCharge]*'a'[Am

                                               (TO MAINTAIN  -(rentalLocationPenaltyCha
                                 (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                 NEW x:Amount;
                                   ALL of INSERT INTO rentalPenaltyCharge[RentalCase*
                                           SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

                                            (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                            INSERT INTO arg2[CompRentalCharge*Amount]
                                             SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

                                           (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                     (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
                                    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
```

```
                                    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
                                    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                                  THEN INSERT INTO rentalLocationPenaltyCharge[
                                                        SELECTFROM 'a'[RentalCase]*'b'[Amount]

                                                       (TO MAINTAIN  -(rentalLocationPenaltyCha
                                                  PICK a,b FROM rentalLocationPenaltyCharge~;('
                                                  THEN INSERT INTO arg3[CompRentalCharge*Amount
                                                        SELECTFROM 'b'[CompRentalCharge]*'a'[Am

                                                            (TO MAINTAIN  -(rentalLocationPenaltyCha
                                               (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                               NEW x:Amount;
                                                 ALL of INSERT INTO rentalLocationPenaltyCharge[Ren
                                                         SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

                                                        (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                                        INSERT INTO arg3[CompRentalCharge*Amount]
                                                         SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

                                                       (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                                 (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
                                               (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                          (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
                                (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
                          PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\
                          THEN BLOCK
                               (CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger rental
                    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
               (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
               (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
               (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
               (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
               (MAINTAINING -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FROM UNI rental
```

<------End Derivation --

```
          ON DELETE Delta FROM rentalPenaltyCharge[RentalCase*Amount] EXECUTE    -- (ECA r
          ALL of ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
                         SELECTFROM ((-rentalPenaltyCharge /\ (rentalExcessPeriod;ctcNrOfD

                        (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
                        DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
                         SELECTFROM computedTariffedCharge;((-rentalPenaltyCharge~ /\ comp

                        (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
                        DELETE FROM rcAssignedCar[RentalCase*Car]
                         SELECTFROM ((-rentalPenaltyCharge /\ (rentalExcessPeriod;ctcNrOfD
```

```
(TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
DELETE FROM carType[Car*CarType]
 SELECTFROM rcAssignedCar~;((-rentalPenaltyCharge /\ (rentalExcess

(TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
DELETE FROM excessTariffPerDay[CarType*Amount]
 SELECTFROM carType~;rcAssignedCar~;((-rentalPenaltyCharge /\ (ren

(TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
 SELECTFROM computedTariffedCharge;((-rentalPenaltyCharge~ /\ comp

(TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
 SELECTFROM (ctcNrOfDays;rentalExcessPeriod~ /\ ctcDailyAmount;exc

(TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;
ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM (-((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCha

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM (-((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCha

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM (-((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCha

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
```

------ Derivation ----->

```
ALL of ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
               SELECTFROM ((-rentalPenaltyCharge /\ (rentalExcessPeriod;ctcNrOfDays~

              (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTy
              DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
               SELECTFROM computedTariffedCharge;((-rentalPenaltyCharge~ /\ computedT

              (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTy
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM ((-rentalPenaltyCharge /\ (rentalExcessPeriod;ctcNrOfDays~

              (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTy
              DELETE FROM carType[Car*CarType]
               SELECTFROM rcAssignedCar~;((-rentalPenaltyCharge /\ (rentalExcessPerio

              (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTy
              DELETE FROM excessTariffPerDay[CarType*Amount]
               SELECTFROM carType~;rcAssignedCar~;((-rentalPenaltyCharge /\ (rentalEx

              (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTy
              DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
               SELECTFROM computedTariffedCharge;((-rentalPenaltyCharge~ /\ computedT

              (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTy
              DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
               SELECTFROM (ctcNrOfDays;rentalExcessPeriod~ /\ ctcDailyAmount;excessTa

              (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carTy
       (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;exces
       ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
               SELECTFROM (-((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\ -Del

              (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
              DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
               SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~

              (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
              DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
               SELECTFROM (-((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\ -Del

              (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
              DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
               SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~

              (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
              DELETE FROM rentalBasicCharge[RentalCase*Amount]
               SELECTFROM (-((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\ -Del
```

```
                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
                    DELETE FROM rentalBasicCharge[RentalCase*Amount]
                     SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
                    DELETE FROM Isn{detyp=RentalCase}
                     SELECTFROM -((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\ -Delt

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
          (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
     (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
     (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
```

<------End Derivation --

```
          ON INSERT Delta IN computedLocationPenaltyCharge[DistanceBetweenLocations*Amount
          ONE OF INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
                  SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;d

                 (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranc
                 INSERT INTO Isn{detyp=Amount}
                  SELECTFROM (rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~

                 (TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
                 INSERT INTO Isn{detyp=Amount}
                  SELECTFROM ((computedLocationPenaltyCharge \/ Delta)~;computedLocationPe

                 (TO MAINTAIN  -(computedLocationPenaltyCharge~;computedLocationPenaltyCha
                 INSERT INTO Isn{detyp=DistanceBetweenLocations}
                  SELECTFROM (Delta;Delta~ /\ I[DistanceBetweenLocations]) - I[DistanceBet

                 INSERT INTO Isn{detyp=Amount}
                  SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

          (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
          (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
          (MAINTAINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/
          (MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;compu
```

------ Derivation ----->

```
     ONE OF INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
             SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr

            (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;dis
            INSERT INTO Isn{detyp=Amount}
```

```
 SELECTFROM (rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /\ c

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /
INSERT INTO Isn{detyp=Amount}
 SELECTFROM ((computedLocationPenaltyCharge \/ Delta)~;computedLocationPenalty

(TO MAINTAIN  -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge)
INSERT INTO Isn{detyp=DistanceBetweenLocations}
 SELECTFROM (Delta;Delta~ /\ I[DistanceBetweenLocations]) - I[DistanceBetweenL

INSERT INTO Isn{detyp=Amount}
 SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/ I[Amo
(MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;computedLo
```

<------End Derivation --

```
ON DELETE Delta FROM computedLocationPenaltyCharge[DistanceBetweenLocations*Amou
ONE OF DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
        SELECTFROM (-(rentalLocationPenaltyCharge;(computedLocationPenaltyCharge

       (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
       DELETE FROM distbranch[DistanceBetweenLocations*Branch]
        SELECTFROM (-((computedLocationPenaltyCharge /\ -Delta);rentalLocationPe

       (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
       DELETE FROM contractedDropoffBranch[RentalCase*Branch]
        SELECTFROM (-(rentalLocationPenaltyCharge;(computedLocationPenaltyCharge

       (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
       DELETE FROM distbranch[DistanceBetweenLocations*Branch]
        SELECTFROM (-((computedLocationPenaltyCharge /\ -Delta);rentalLocationPe

       (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
       DELETE FROM Isn{detyp=DistanceBetweenLocations}
        SELECTFROM -((computedLocationPenaltyCharge /\ -Delta);(computedLocationP

       (TO MAINTAIN  -I[DistanceBetweenLocations] \/ computedLocationPenaltyChar
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbra
(MAINTAINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/
(MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;compu
```

------ Derivation ----->

```
ONE OF DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
        SELECTFROM (-(rentalLocationPenaltyCharge;(computedLocationPenaltyCharge /\ -

       (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;dist
       DELETE FROM distbranch[DistanceBetweenLocations*Branch]
        SELECTFROM (-((computedLocationPenaltyCharge /\ -Delta);rentalLocationPenalty

       (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;dist
       DELETE FROM contractedDropoffBranch[RentalCase*Branch]
        SELECTFROM (-(rentalLocationPenaltyCharge;(computedLocationPenaltyCharge /\ -

       (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;dist
       DELETE FROM distbranch[DistanceBetweenLocations*Branch]
        SELECTFROM (-((computedLocationPenaltyCharge /\ -Delta);rentalLocationPenalty

       (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;dist
       DELETE FROM Isn{detyp=DistanceBetweenLocations}
        SELECTFROM -((computedLocationPenaltyCharge /\ -Delta);(computedLocationPenal

       (TO MAINTAIN  -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;I[
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/ I[Amo
(MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;computedLo
```

<------End Derivation --

```
    ON INSERT Delta IN rentalLocationPenaltyCharge[RentalCase*Amount] EXECUTE    --
    ALL of INSERT INTO Isn{detyp=Amount}
            SELECTFROM ((rentalLocationPenaltyCharge \/ Delta)~;(rcDroppedOffBranch;

           (TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
           (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
           (TO MAINTAIN  -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge)
           INSERT INTO rentalCharge[RentalCase*Amount]
            SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ ren

           (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
           INSERT INTO Isn{detyp=RentalCase}
            SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalLocationPenaltyCharge;(
                  THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                              THEN INSERT INTO rentalBasicCharge[Rentala
                                                    SELECTFROM 'a'[RentalCase]*'b'[Amou

                                                   (TO MAINTAIN  -(rentalLocationPenalt
                                              PICK a,b FROM rentalBasicCharge~;('a'[Ren
                                              THEN INSERT INTO arg1[CompRentalCharge*Am
```

```
                    SELECTFROM 'b'[CompRentalCharge]*'

                 (TO MAINTAIN  -(rentalLocationPenal
        (MAINTAINING -(rentalLocationPenaltyCharge;rent
        NEW x:Amount;
          ALL of INSERT INTO rentalBasicCharge[RentalCa
                   SELECTFROM 'a'[RentalCase]*'b'[CompRe

                  (TO MAINTAIN  -(rentalLocationPenaltyC
                  INSERT INTO arg1[CompRentalCharge*Amou
                   SELECTFROM 'b'[CompRentalCharge]*'a'[

                  (TO MAINTAIN  -(rentalLocationPenaltyC
          (MAINTAINING -(rentalLocationPenaltyCharge;re
        (MAINTAINING -(rentalLocationPenaltyCharge;rent
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocat
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
               THEN INSERT INTO rentalPenaltyCharge[Ren
                    SELECTFROM 'a'[RentalCase]*'b'[Amo

                  (TO MAINTAIN  -(rentalLocationPenal
               PICK a,b FROM rentalPenaltyCharge~;('a'[
               THEN INSERT INTO arg2[CompRentalCharge*A
                    SELECTFROM 'b'[CompRentalCharge]*'

                 (TO MAINTAIN  -(rentalLocationPenal
        (MAINTAINING -(rentalLocationPenaltyCharge;rent
        NEW x:Amount;
          ALL of INSERT INTO rentalPenaltyCharge[Rental
                   SELECTFROM 'a'[RentalCase]*'b'[CompRe

                  (TO MAINTAIN  -(rentalLocationPenaltyC
                  INSERT INTO arg2[CompRentalCharge*Amou
                   SELECTFROM 'b'[CompRentalCharge]*'a'[

                  (TO MAINTAIN  -(rentalLocationPenaltyC
          (MAINTAINING -(rentalLocationPenaltyCharge;re
        (MAINTAINING -(rentalLocationPenaltyCharge;rent
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocat
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
               THEN INSERT INTO rentalLocationPenaltyCha
                    SELECTFROM 'a'[RentalCase]*'b'[Amo

                  (TO MAINTAIN  -(rentalLocationPenal
               PICK a,b FROM rentalLocationPenaltyCharg
               THEN INSERT INTO arg3[CompRentalCharge*A
                    SELECTFROM 'b'[CompRentalCharge]*'

                 (TO MAINTAIN  -(rentalLocationPenal
        (MAINTAINING -(rentalLocationPenaltyCharge;rent
```

```
                                                NEW x:Amount;
                                                  ALL of INSERT INTO rentalLocationPenaltyCharg
                                                          SELECTFROM 'a'[RentalCase]*'b'[CompRe

                                                         (TO MAINTAIN  -(rentalLocationPenaltyC
                                                         INSERT INTO arg3[CompRentalCharge*Amou
                                                          SELECTFROM 'b'[CompRentalCharge]*'a'[

                                                         (TO MAINTAIN  -(rentalLocationPenaltyC
                                                    (MAINTAINING -(rentalLocationPenaltyCharge;re
                                                   (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                              (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocat
                                         (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPena
                                    PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge
                                    THEN BLOCK
                                         (CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger re
                               (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
                          (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
                          (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
                          (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
                          (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
                          (MAINTAINING -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) \/ I[Am
```

------ Derivation ----->

```
     ALL of INSERT INTO Isn{detyp=Amount}
             SELECTFROM ((rentalLocationPenaltyCharge \/ Delta)~;(rcDroppedOffBranch;distb

            (TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /
            (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
            (TO MAINTAIN  -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) \/ I
            INSERT INTO rentalCharge[RentalCase*Amount]
             SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo

            (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
            INSERT INTO Isn{detyp=RentalCase}
             SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

            ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalLocationPenaltyCharge;(renta
                   THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                                 THEN INSERT INTO rentalBasicCharge[RentalCase
                                                       SELECTFROM 'a'[RentalCase]*'b'[Amount]

                                                      (TO MAINTAIN  -(rentalLocationPenaltyCha
                                                 PICK a,b FROM rentalBasicCharge~;('a'[RentalC
                                                 THEN INSERT INTO arg1[CompRentalCharge*Amount
                                                       SELECTFROM 'b'[CompRentalCharge]*'a'[Am
```

```
                (TO MAINTAIN  -(rentalLocationPenaltyCha
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
        NEW x:Amount;
          ALL of INSERT INTO rentalBasicCharge[RentalCase*Am
                  SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

                 (TO MAINTAIN  -(rentalLocationPenaltyCharge
                 INSERT INTO arg1[CompRentalCharge*Amount]
                  SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

                 (TO MAINTAIN  -(rentalLocationPenaltyCharge
          (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
               THEN INSERT INTO rentalPenaltyCharge[RentalCa
                     SELECTFROM 'a'[RentalCase]*'b'[Amount]

                     (TO MAINTAIN  -(rentalLocationPenaltyCha
                PICK a,b FROM rentalPenaltyCharge~;('a'[Renta
                THEN INSERT INTO arg2[CompRentalCharge*Amount
                     SELECTFROM 'b'[CompRentalCharge]*'a'[Am

                (TO MAINTAIN  -(rentalLocationPenaltyCha
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
        NEW x:Amount;
          ALL of INSERT INTO rentalPenaltyCharge[RentalCase*
                  SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

                 (TO MAINTAIN  -(rentalLocationPenaltyCharge
                 INSERT INTO arg2[CompRentalCharge*Amount]
                  SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

                 (TO MAINTAIN  -(rentalLocationPenaltyCharge
          (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
               THEN INSERT INTO rentalLocationPenaltyCharge[
                     SELECTFROM 'a'[RentalCase]*'b'[Amount]

                     (TO MAINTAIN  -(rentalLocationPenaltyCha
                PICK a,b FROM rentalLocationPenaltyCharge~;('
                THEN INSERT INTO arg3[CompRentalCharge*Amount
                     SELECTFROM 'b'[CompRentalCharge]*'a'[Am

                (TO MAINTAIN  -(rentalLocationPenaltyCha
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
        NEW x:Amount;
          ALL of INSERT INTO rentalLocationPenaltyCharge[Ren
```

```
                                                    SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

                                                   (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                                   INSERT INTO arg3[CompRentalCharge*Amount]
                                                    SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

                                                   (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                             (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
                                           (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                      (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
                           (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
                      PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\
                      THEN BLOCK
                           (CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger rental
             (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
        (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
        (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
        (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
        (MAINTAINING -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) \/ I[Amount]
```

<------End Derivation --

```
     ON DELETE Delta FROM rentalLocationPenaltyCharge[RentalCase*Amount] EXECUTE    -
     ALL of ONE OF DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
                    SELECTFROM ((-rentalLocationPenaltyCharge /\ (rcDroppedOffBranch;

                   (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropo
                   DELETE FROM distbranch[DistanceBetweenLocations*Branch]
                    SELECTFROM computedLocationPenaltyCharge;((-rentalLocationPenalty

                   (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropo
                   DELETE FROM contractedDropoffBranch[RentalCase*Branch]
                    SELECTFROM ((-rentalLocationPenaltyCharge /\ (rcDroppedOffBranch;

                   (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropo
                   DELETE FROM distbranch[DistanceBetweenLocations*Branch]
                    SELECTFROM computedLocationPenaltyCharge;((-rentalLocationPenalty

                   (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropo
                   DELETE FROM computedLocationPenaltyCharge[DistanceBetweenLocations
                    SELECTFROM (distbranch;rcDroppedOffBranch~ /\ distbranch;contract

                   (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropo
              (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
              ONE OF DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
                    SELECTFROM (-((rentalLocationPenaltyCharge /\ -Delta);computedLoc
```

```
                    (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropof
                    DELETE FROM distbranch[DistanceBetweenLocations*Branch]
                     SELECTFROM (-(computedLocationPenaltyCharge;(rentalLocationPenalt

                    (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropof
                    DELETE FROM contractedDropoffBranch[RentalCase*Branch]
                     SELECTFROM (-((rentalLocationPenaltyCharge /\ -Delta);computedLoc

                    (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropof
                    DELETE FROM distbranch[DistanceBetweenLocations*Branch]
                     SELECTFROM (-(computedLocationPenaltyCharge;(rentalLocationPenalt

                    (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropof
            (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
            ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
                     SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
                    DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
                     SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCha

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
                    DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
                     SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
                    DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
                     SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCha

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
                    DELETE FROM rentalBasicCharge[RentalCase*Amount]
                     SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
                    DELETE FROM rentalBasicCharge[RentalCase*Amount]
                     SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCha

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
                    DELETE FROM Isn{detyp=RentalCase}
                     SELECTFROM -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
            (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
    (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbra
    (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbra
    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
```

------ Derivation ----->

```
ALL of ONE OF DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
                SELECTFROM ((-rentalLocationPenaltyCharge /\ (rcDroppedOffBranch;distb

               (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBra
               DELETE FROM distbranch[DistanceBetweenLocations*Branch]
                SELECTFROM computedLocationPenaltyCharge;((-rentalLocationPenaltyCharg

               (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBra
               DELETE FROM contractedDropoffBranch[RentalCase*Branch]
                SELECTFROM ((-rentalLocationPenaltyCharge /\ (rcDroppedOffBranch;distb

               (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBra
               DELETE FROM distbranch[DistanceBetweenLocations*Branch]
                SELECTFROM computedLocationPenaltyCharge;((-rentalLocationPenaltyCharg

               (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBra
               DELETE FROM computedLocationPenaltyCharge[DistanceBetweenLocations*Amou
                SELECTFROM (distbranch;rcDroppedOffBranch~ /\ distbranch;contractedDro

               (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBra
          (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;dist
          ONE OF DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
                SELECTFROM (-((rentalLocationPenaltyCharge /\ -Delta);computedLocation

               (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBran
               DELETE FROM distbranch[DistanceBetweenLocations*Branch]
                SELECTFROM (-(computedLocationPenaltyCharge;(rentalLocationPenaltyChar

               (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBran
               DELETE FROM contractedDropoffBranch[RentalCase*Branch]
                SELECTFROM (-((rentalLocationPenaltyCharge /\ -Delta);computedLocation

               (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBran
               DELETE FROM distbranch[DistanceBetweenLocations*Branch]
                SELECTFROM (-(computedLocationPenaltyCharge;(rentalLocationPenaltyChar

               (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBran
          (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distb
          ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
                SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\

               (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
               DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
                SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~

               (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
               DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
                SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\

               (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
```

```
                    DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
                     SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
                    DELETE FROM rentalBasicCharge[RentalCase*Amount]
                     SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
                    DELETE FROM rentalBasicCharge[RentalCase*Amount]
                     SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
                    DELETE FROM Isn{detyp=RentalCase}
                     SELECTFROM -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\

                    (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
           (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
     (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
     (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
     (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
```

<------End Derivation --

```
          ON INSERT Delta IN paymentHasBeenRequested[RentalCase*RentalCase] EXECUTE    --
          INSERT INTO Isn{detyp=RentalCase}
           SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase] \/ (Delta~;Delta /\ I
```

------ Derivation ----->

```
     INSERT INTO Isn{detyp=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase] \/ (Delta~;Delta /\ I[Ren
```

<------End Derivation --

```
          ON DELETE Delta FROM paymentHasBeenRequested[RentalCase*RentalCase] EXECUTE    -
          ONE OF DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
                  SELECTFROM ((-paymentHasBeenRequested /\ rentalIsPaidQ;'Yes'[YesNoAnswer]

                 (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[Renta
                 DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
                  SELECTFROM ((-paymentHasBeenRequested~ /\ rentalIsPaidQ;'Yes'[YesNoAnswe

                 (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[Renta
```

```
                DELETE FROM Isn{detyp=RentalCase}
                 SELECTFROM (-paymentHasBeenRequested /\ rentalIsPaidQ;'Yes'[YesNoAnswer]

                (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[Rent
          (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase])
```

------ Derivation ----->

```
     ONE OF DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
             SELECTFROM ((-paymentHasBeenRequested /\ rentalIsPaidQ;'Yes'[YesNoAnswer];ren

            (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCas
            DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
             SELECTFROM ((-paymentHasBeenRequested~ /\ rentalIsPaidQ;'Yes'[YesNoAnswer];re

            (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCas
            DELETE FROM Isn{detyp=RentalCase}
             SELECTFROM (-paymentHasBeenRequested /\ rentalIsPaidQ;'Yes'[YesNoAnswer];rent

            (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCas
     (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase]) \/ p
```

<------End Derivation --

```
          ON INSERT Delta IN rentalCharge[RentalCase*Amount] EXECUTE    -- (ECA rule 73)
          ALL of INSERT INTO Isn{detyp=Amount}
                  SELECTFROM ((rentalCharge \/ Delta)~;(rentalBasicCharge;arg1~ /\ rentalP

                 (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCha
                 (TO MAINTAIN  -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalC
                 INSERT INTO Isn{detyp=RentalCase}
                  SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

          (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
          (MAINTAINING -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalCharge::R
```

------ Derivation ----->

```
     ALL of INSERT INTO Isn{detyp=Amount}
             SELECTFROM ((rentalCharge \/ Delta)~;(rentalBasicCharge;arg1~ /\ rentalPenalt

            (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
            (TO MAINTAIN  -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalCharge
            INSERT INTO Isn{detyp=RentalCase}
             SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]
```

```
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTAINING -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalCharge::Rental
```

<------End Derivation --

```
ON DELETE Delta FROM rentalCharge[RentalCase*Amount] EXECUTE    -- (ECA rule 74)
ONE OF DELETE FROM rentalBasicCharge[RentalCase*Amount]
        SELECTFROM ((-rentalCharge /\ (rentalBasicCharge;arg1~ /\ rentalPenaltyC

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ r
       DELETE FROM arg1[CompRentalCharge*Amount]
        SELECTFROM computedRentalCharge;((-rentalCharge~ /\ computedRentalCharge

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ r
       DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM ((-rentalCharge /\ (rentalBasicCharge;arg1~ /\ rentalPenaltyC

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ r
       DELETE FROM arg2[CompRentalCharge*Amount]
        SELECTFROM computedRentalCharge;((-rentalCharge~ /\ computedRentalCharge

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ r
       DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM ((-rentalCharge /\ (rentalBasicCharge;arg1~ /\ rentalPenaltyC

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ r
       DELETE FROM arg3[CompRentalCharge*Amount]
        SELECTFROM computedRentalCharge;((-rentalCharge~ /\ computedRentalCharge

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ r
       DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
        SELECTFROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\ arg3

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ r
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
```

------ Derivation ----->

```
ONE OF DELETE FROM rentalBasicCharge[RentalCase*Amount]
        SELECTFROM ((-rentalCharge /\ (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
       DELETE FROM arg1[CompRentalCharge*Amount]
        SELECTFROM computedRentalCharge;((-rentalCharge~ /\ computedRentalCharge~;(ar

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
```

```
            DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
             SELECTFROM ((-rentalCharge /\ (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge

            (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
            DELETE FROM arg2[CompRentalCharge*Amount]
             SELECTFROM computedRentalCharge;((-rentalCharge~ /\ computedRentalCharge~;(ar

            (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
            DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
             SELECTFROM ((-rentalCharge /\ (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge

            (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
            DELETE FROM arg3[CompRentalCharge*Amount]
             SELECTFROM computedRentalCharge;((-rentalCharge~ /\ computedRentalCharge~;(ar

            (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
            DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
             SELECTFROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\ arg3;rent

           (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
      (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
```

<------End Derivation --

```
          ON INSERT Delta IN rentalIsPaidQ[RentalCase*YesNoAnswer] EXECUTE    -- (ECA rule
          ALL of INSERT INTO paymentHasBeenRequested[RentalCase*RentalCase]
                  SELECTFROM (rentalIsPaidQ;'Yes'[YesNoAnswer];(rentalIsPaidQ \/ Delta)~ /

                 (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[Rent
                 INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
                  SELECTFROM (rentalIsPaidQ;'Yes'[YesNoAnswer];(rentalIsPaidQ \/ Delta)~ /

                 (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarH
                 INSERT INTO Isn{detyp=RentalCase}
                  SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

                 INSERT INTO Isn{detyp=YesNoAnswer}
                  SELECTFROM (Delta~;Delta /\ I[YesNoAnswer]) - I[YesNoAnswer]

          (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase])
          (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDr
```

------ Derivation ----->

```
     ALL of INSERT INTO paymentHasBeenRequested[RentalCase*RentalCase]
             SELECTFROM (rentalIsPaidQ;'Yes'[YesNoAnswer];(rentalIsPaidQ \/ Delta)~ /\ I[R
```

```
  (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCas
  INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
   SELECTFROM (rentalIsPaidQ;'Yes'[YesNoAnswer];(rentalIsPaidQ \/ Delta)~ /\ rcC

  (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBee
  INSERT INTO Isn{detyp=RentalCase}
   SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

  INSERT INTO Isn{detyp=YesNoAnswer}
   SELECTFROM (Delta~;Delta /\ I[YesNoAnswer]) - I[YesNoAnswer]

(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase]) \/ p
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDropped
```

<------End Derivation --

```
ON DELETE Delta FROM rentalIsPaidQ[RentalCase*YesNoAnswer] EXECUTE    -- (ECA ru
ALL of DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
        SELECTFROM -((rentalIsPaidQ /\ -Delta);'Yes'[YesNoAnswer];(rentalIsPaidQ

      (TO MAINTAIN  -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];ren
      ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
              SELECTFROM '_SESSION'[SESSION];(-(V[SESSION*RentalCase];(I[Rental

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigne
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM (I[RentalCase] /\ rcCarHasBeenDroppedOff /\ -rentalHas

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigne
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigne
              DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigne
              INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
               SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigne
     (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I
(MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPai
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rental
```

------ Derivation ----->

```
ALL of DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
        SELECTFROM -((rentalIsPaidQ /\ -Delta);'Yes'[YesNoAnswer];(rentalIsPaidQ /\ -

       (TO MAINTAIN  -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIs
       ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
               SELECTFROM '_SESSION'[SESSION];(-(V[SESSION*RentalCase];(I[RentalCase]

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM (I[RentalCase] /\ rcCarHasBeenDroppedOff /\ -rentalHasBeenE

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION];(-(

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
              DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION];(-(

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
              INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
               SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION];(-(

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
      (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rent
(MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ F
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]
```

<------End Derivation --

```
    ON INSERT Delta IN rentalHasBeenEnded[RentalCase*RentalCase] EXECUTE    -- (ECA
    ALL of INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
            SELECTFROM (rentalHasBeenEnded /\ -rcCarHasBeenDroppedOff) \/ (Delta /\

           (TO MAINTAIN  -rentalHasBeenEnded \/ rcCarHasBeenDroppedOff FROM Ended Re
           INSERT INTO Isn{detyp=RentalCase}
            SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase] \/ (Delta~;De

           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenEnded /\
                        THEN INSERT INTO rentalIsPaidQ[RentalCase*YesNoAnswer]
                              SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                             (TO MAINTAIN  -rentalHasBeenEnded \/ rentalIsPaidQ;'Ye
                        PICK a,b FROM rentalIsPaidQ~;((rentalHasBeenEnded /\ -(rent
                        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                        THEN BLOCK
                                             (CANNOT CHANGE 'Yes'[YesNoAnswer] F
                                        PICK a,b FROM 'Yes'[YesNoAnswer];('a'[Ye
```

```
                                        THEN INSERT INTO rentalIsPaidQ[RentalCas
                                              SELECTFROM 'b'[RentalCase]*'a'[Yes

                                                   (TO MAINTAIN  -rentalHasBeenEnded \
                                          (MAINTAINING -rentalHasBeenEnded \/ rentalIsPai
                                          NEW x:YesNoAnswer;
                                            ALL of BLOCK
                                                   (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM
                                                   INSERT INTO rentalIsPaidQ[RentalCase*Y
                                                    SELECTFROM 'b'[RentalCase]*'a'[YesNoA

                                                   (TO MAINTAIN  -rentalHasBeenEnded \/ r
                                            (MAINTAINING -rentalHasBeenEnded \/ rentalIsP
                                          (MAINTAINING -rentalHasBeenEnded \/ rentalIsPai
                                 (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes
                        (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswe
                        NEW x:YesNoAnswer;
                          ALL of INSERT INTO rentalIsPaidQ[RentalCase*YesNoAnswer]
                                   SELECTFROM ((rentalHasBeenEnded /\ -(rentalIsPaidQ;'Yes'

                                  (TO MAINTAIN  -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[
                                  ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswe
                                         THEN BLOCK
                                              (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Ended
                                         PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]
                                         THEN INSERT INTO rentalIsPaidQ[RentalCase*YesNoAns
                                               SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                                                   (TO MAINTAIN  -rentalHasBeenEnded \/ rentalIs
                                          (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[Y
                                   (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAns
                                (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswe
                         (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];renta
                         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionDro
                                THEN BLOCK
                                     (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handli
                                PICK a,b FROM V[RentalCase*SESSION];('_SESSION'[SESSION];sessionDr
                                THEN ALL of INSERT INTO Isn{detyp=RentalCase}
                                             SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                           (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffC
                                           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                                   THEN INSERT INTO rentalIsPaidQ[RentalCas
                                                         SELECTFROM 'a'[RentalCase]*'b'[Yes

                                                        (TO MAINTAIN  -('_SESSION'[SESSION]
                                                   PICK a,b FROM rentalIsPaidQ~;('a'[Rental
                                                   THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                                THEN BLOCK
                                                                     (CANNOT CHANGE '
```

```
                                                                PICK a,b FROM 'Yes'[Y
                                                                THEN INSERT INTO rent
                                                                      SELECTFROM 'b'[
                                                                           (TO MAINTAIN  -(
                                                                (MAINTAINING -('_SESSION'[SE
                                                                NEW x:YesNoAnswer;
                                                                  ALL of BLOCK
                                                                         (CANNOT CHANGE 'Yes
                                                                         INSERT INTO rentalI
                                                                          SELECTFROM 'b'[Ren
                                                                         (TO MAINTAIN  -('_S
                                                                   (MAINTAINING -('_SESSION'[
                                                                (MAINTAINING -('_SESSION'[SE
                                                           (MAINTAINING -('_SESSION'[SESSION];
                                                    (MAINTAINING -('_SESSION'[SESSION];sessionDropp
                                                    NEW x:YesNoAnswer;
                                                      ALL of INSERT INTO rentalIsPaidQ[RentalCase*Y
                                                              SELECTFROM 'a'[RentalCase]*'b'[Rental
                                                             (TO MAINTAIN  -('_SESSION'[SESSION];se
                                                             ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                                          THEN BLOCK
                                                                               (CANNOT CHANGE 'Yes
                                                                          PICK a,b FROM 'Yes'[YesN
                                                                          THEN INSERT INTO rentalI
                                                                                SELECTFROM 'b'[Ren
                                                                         (TO MAINTAIN  -('_S
                                                                (MAINTAINING -('_SESSION'[SESSI
                                                                NEW x:YesNoAnswer;
                                                                  ALL of BLOCK
                                                                         (CANNOT CHANGE 'Yes'[Y
                                                                         INSERT INTO rentalIsPa
                                                                          SELECTFROM 'b'[Rental
                                                                         (TO MAINTAIN  -('_SESS
                                                                   (MAINTAINING -('_SESSION'[SES
                                                                (MAINTAINING -('_SESSION'[SESSI
                                                           (MAINTAINING -('_SESSION'[SESSION];ses
                                                     (MAINTAINING -('_SESSION'[SESSION];sessionDro
                                                    (MAINTAINING -('_SESSION'[SESSION];sessionDropp
                                              (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCa
                                        (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAss
                              (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I
(MAINTAINING -rentalHasBeenEnded \/ rcCarHasBeenDroppedOff FROM Ended Rentals)
(MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPai
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rental
```

------ Derivation ----->

```
ALL of INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM (rentalHasBeenEnded /\ -rcCarHasBeenDroppedOff) \/ (Delta /\ -rcCa

       (TO MAINTAIN  -rentalHasBeenEnded \/ rcCarHasBeenDroppedOff FROM Ended Rentals
       INSERT INTO Isn{detyp=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase] \/ (Delta~;Delta /

       ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenEnded /\ -(ren
                    THEN INSERT INTO rentalIsPaidQ[RentalCase*YesNoAnswer]
                          SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                               (TO MAINTAIN  -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[Ye
                         PICK a,b FROM rentalIsPaidQ~;((rentalHasBeenEnded /\ -(rentalIsP
                         THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNo
                                              THEN BLOCK
                                                   (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM E
                                              PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAn
                                              THEN INSERT INTO rentalIsPaidQ[RentalCase*Yes
                                                    SELECTFROM 'b'[RentalCase]*'a'[YesNoAns

                                                   (TO MAINTAIN  -rentalHasBeenEnded \/ ren
                                        (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Y
                                        NEW x:YesNoAnswer;
                                          ALL of BLOCK
                                                  (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Ende
                                                  INSERT INTO rentalIsPaidQ[RentalCase*YesNoA
                                                   SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer

                                                  (TO MAINTAIN  -rentalHasBeenEnded \/ rental
                                            (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;
                                           (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Y
                                 (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[Yes
                          (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];re
                          NEW x:YesNoAnswer;
                            ALL of INSERT INTO rentalIsPaidQ[RentalCase*YesNoAnswer]
                                    SELECTFROM ((rentalHasBeenEnded /\ -(rentalIsPaidQ;'Yes'[YesN

                                   (TO MAINTAIN  -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNo
                                   ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*((
                                          THEN BLOCK
                                               (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Ended Renta
                                          PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*((re
                                          THEN INSERT INTO rentalIsPaidQ[RentalCase*YesNoAnswer]
                                                SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

                                               (TO MAINTAIN  -rentalHasBeenEnded \/ rentalIsPaidQ
                                   (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoA
```

```
          (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];
        (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];re
(MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsP
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionDroppedo
       THEN BLOCK
            (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handling)
       PICK a,b FROM V[RentalCase*SESSION];('_SESSION'[SESSION];sessionDropped
       THEN ALL of INSERT INTO Isn{detyp=RentalCase}
                    SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                  (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rc
                  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                               THEN INSERT INTO rentalIsPaidQ[RentalCase*Yes
                                     SELECTFROM 'a'[RentalCase]*'b'[YesNoAns

                                    (TO MAINTAIN  -('_SESSION'[SESSION];sess
                               PICK a,b FROM rentalIsPaidQ~;('a'[RentalCase]
                               THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                  THEN BLOCK
                                                       (CANNOT CHANGE 'Yes'[
                                                  PICK a,b FROM 'Yes'[YesNoA
                                                  THEN INSERT INTO rentalIsP
                                                        SELECTFROM 'b'[Renta

                                                       (TO MAINTAIN  -('_SES
                                             (MAINTAINING -('_SESSION'[SESSION
                                             NEW x:YesNoAnswer;
                                               ALL of BLOCK
                                                      (CANNOT CHANGE 'Yes'[Yes
                                                      INSERT INTO rentalIsPaid
                                                       SELECTFROM 'b'[RentalCa

                                                      (TO MAINTAIN  -('_SESSIO
                                               (MAINTAINING -('_SESSION'[SESSI
                                             (MAINTAINING -('_SESSION'[SESSION
                                        (MAINTAINING -('_SESSION'[SESSION];sessi
                                  (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                                 NEW x:YesNoAnswer;
                                   ALL of INSERT INTO rentalIsPaidQ[RentalCase*YesNoA
                                           SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                          (TO MAINTAIN  -('_SESSION'[SESSION];session
                                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                       THEN BLOCK
                                                            (CANNOT CHANGE 'Yes'[Yes
                                                       PICK a,b FROM 'Yes'[YesNoAnsw
                                                       THEN INSERT INTO rentalIsPaid
                                                             SELECTFROM 'b'[RentalCa

                                                            (TO MAINTAIN  -('_SESSIO
```

```
                                                                (MAINTAINING -('_SESSION'[SESSION];s
                                                                NEW x:YesNoAnswer;
                                                                  ALL of BLOCK
                                                                         (CANNOT CHANGE 'Yes'[YesNoA
                                                                         INSERT INTO rentalIsPaidQ[R
                                                                          SELECTFROM 'b'[RentalCase]

                                                                         (TO MAINTAIN  -('_SESSION'[
                                                                   (MAINTAINING -('_SESSION'[SESSION]
                                                                 (MAINTAINING -('_SESSION'[SESSION];s
                                                          (MAINTAINING -('_SESSION'[SESSION];sessionD
                                                    (MAINTAINING -('_SESSION'[SESSION];sessionDroppedo
                                                  (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                                          (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcA
                                 (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigned
                    (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rent
          (MAINTAINING -rentalHasBeenEnded \/ rcCarHasBeenDroppedOff FROM Ended Rentals)
          (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ F
          (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]
```

<------End Derivation --

```
          ON DELETE Delta FROM rentalHasBeenEnded[RentalCase*RentalCase] EXECUTE    -- (EC
          ALL of DELETE FROM Isn{detyp=Car}
                  SELECTFROM -(carAvailableAt;carAvailableAt~) /\ -(rcAssignedCar~;(rental

                 (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~
                 ONE OF DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
                         SELECTFROM ((-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNoAnsw

                        (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\
                        DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
                         SELECTFROM ((-rentalHasBeenEnded~ /\ rentalIsPaidQ;'Yes'[YesNoAns

                        (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\
                        DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
                         SELECTFROM (-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNoAnswe

                        (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\
                        DELETE FROM Isn{detyp=RentalCase}
                         SELECTFROM (-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNoAnswe

                        (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\
                 (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHa
                 DELETE FROM sessionDroppedoffCar[SESSION*Car]
                  SELECTFROM '_SESSION'[SESSION];(-(sessionDroppedoffCar;(I[Car] /\ rcAssi

                 (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDropp
```

```
                ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
                        SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ s

                       (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDr
                       DELETE FROM sessionDroppedoffCar[SESSION*Car]
                        SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ s

                       (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDr
              (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedof
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rentall
        (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDr
        (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
        (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
```

------ Derivation ----->

```
ALL of DELETE FROM Isn{detyp=Car}
        SELECTFROM -(carAvailableAt;carAvailableAt~) /\ -(rcAssignedCar~;(rentalHasBe

       (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(ren
       ONE OF DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
               SELECTFROM ((-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNoAnswer];r

              (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCa
              DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
               SELECTFROM ((-rentalHasBeenEnded~ /\ rentalIsPaidQ;'Yes'[YesNoAnswer];

              (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCa
              DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
               SELECTFROM (-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNoAnswer];re

              (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCa
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM (-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNoAnswer];re

              (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCa
       (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeen
       DELETE FROM sessionDroppedoffCar[SESSION*Car]
        SELECTFROM '_SESSION'[SESSION];(-(sessionDroppedoffCar;(I[Car] /\ rcAssignedC

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoff
       ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
               SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessi

              (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppe
              DELETE FROM sessionDroppedoffCar[SESSION*Car]
               SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessi
```

```
                (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppe
          (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar)
     (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rentalHasBe
     (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDropped
     (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
     (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
```

<------End Derivation --

```
     ON INSERT Delta IN rcMaxRentalDuration[RentalCase*Integer] EXECUTE    -- (ECA ru
     ALL of INSERT INTO Isn{detyp=Integer}
             SELECTFROM ((rcMaxRentalDuration \/ Delta)~;contractedPickupBranch;branch

            (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxR
            (TO MAINTAIN  -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[Integer] FI
            INSERT INTO dateIntervalCompTrigger[Date*Date]
             SELECTFROM (contractedStartDate~;rcMaxRentalDuration;(rcMaxRentalDuratio

            (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurat
            INSERT INTO Isn{detyp=RentalCase}
             SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

            ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;(r
                         THEN INSERT INTO contractedStartDate[RentalCase*Date]
                               SELECTFROM 'a'[RentalCase]*'b'[Date]

                              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuratio
                         PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;(r
                         THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                        THEN INSERT INTO dateIntervalCompTrigger
                                              SELECTFROM 'a'[Date]*'b'[Date]

                                             (TO MAINTAIN  -(rcMaxRentalDuration
                                        PICK a,b FROM dateIntervalCompTrigger~;(
                                        THEN INSERT INTO contractedEndDate[Renta
                                              SELECTFROM 'b'[RentalCase]*'a'[Dat

                                             (TO MAINTAIN  -(rcMaxRentalDuration
                                   (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalD
                                   NEW x:Date;
                                     ALL of INSERT INTO dateIntervalCompTrigger[Da
                                             SELECTFROM 'a'[Date]*'b'[RentalCase]*

                                            (TO MAINTAIN  -(rcMaxRentalDuration;rc
                                            INSERT INTO contractedEndDate[RentalCa
                                             SELECTFROM 'b'[RentalCase]*'a'[Date]*

                                            (TO MAINTAIN  -(rcMaxRentalDuration;rc
```

```
                                (MAINTAINING -(rcMaxRentalDuration;rcMaxRental
                              (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalD
                        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration
                (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contrac
                NEW x:Date;
                  ALL of INSERT INTO contractedStartDate[RentalCase*Date]
                          SELECTFROM ((rcMaxRentalDuration;(rcMaxRentalDuration \/

                         (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /
                         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Date
                                      THEN INSERT INTO dateIntervalCompTrigger[Da
                                            SELECTFROM 'a'[Date]*'b'[Date]

                                           (TO MAINTAIN  -(rcMaxRentalDuration;rc
                                      PICK a,b FROM dateIntervalCompTrigger~;('x'
                                      THEN INSERT INTO contractedEndDate[RentalCa
                                            SELECTFROM 'b'[RentalCase]*'a'[Date]

                                           (TO MAINTAIN  -(rcMaxRentalDuration;rc
                                (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDura
                                NEW x:Date;
                                  ALL of INSERT INTO dateIntervalCompTrigger[Date*
                                          SELECTFROM 'x'[Date]*((rcMaxRentalDurati

                                         (TO MAINTAIN  -(rcMaxRentalDuration;rcMax
                                         INSERT INTO contractedEndDate[RentalCase*
                                          SELECTFROM (((rcMaxRentalDuration \/ Del

                                         (TO MAINTAIN  -(rcMaxRentalDuration;rcMax
                                  (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDu
                                (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDura
                          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /
                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
                (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contrac
          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDa
          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedStartDate~;rc
                        THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
                              SELECTFROM 'a'[Date]*'b'[Date]

                             (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDurati
                        PICK a,b FROM dateIntervalCompTrigger~;((contractedStartDat
                        THEN INSERT INTO contractedEndDate[RentalCase*Date]
                              SELECTFROM 'b'[RentalCase]*'a'[Date]

                             (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDurati
                (MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurati
                NEW x:Date;
                  ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
                          SELECTFROM ((contractedStartDate~;rcMaxRentalDuration;(rcMaxRentalDuration \/
```

```
                                    (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;
                                    INSERT INTO contractedEndDate[RentalCase*Date]
                                     SELECTFROM (((rcMaxRentalDuration \/ Delta);rcMaxRentalD

                                    (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;
                              (MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRen
                             (MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRental
                       (MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurati
                       ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;(r
                                     THEN INSERT INTO contractedStartDate[RentalCase*Date]
                                          SELECTFROM 'a'[RentalCase]*'b'[Date]

                                         (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuratio
                                     PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;(r
                                     THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
                                          SELECTFROM 'a'[Date]*'b'[Date]

                                         (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuratio
                             (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contracted
                             NEW x:Date;
                               ALL of INSERT INTO contractedStartDate[RentalCase*Date]
                                        SELECTFROM ((rcMaxRentalDuration;(rcMaxRentalDuration \/

                                    (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;
                                    INSERT INTO dateIntervalCompTrigger[Date*Date]
                                     SELECTFROM 'x'[Date]*((rcMaxRentalDuration;(rcMaxRentalD

                                    (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;
                              (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contract
                             (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contracted
                       (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate
                 (MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentall
                 (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
                 (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
                 (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
                 (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
                 (MAINTAINING -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[Integer] FROM UNI
```

------ Derivation ----->

```
     ALL of INSERT INTO Isn{detyp=Integer}
             SELECTFROM ((rcMaxRentalDuration \/ Delta)~;contractedPickupBranch;branchOf;m

            (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRental
            (TO MAINTAIN  -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[Integer] FROM U
            INSERT INTO dateIntervalCompTrigger[Date*Date]
             SELECTFROM (contractedStartDate~;rcMaxRentalDuration;(rcMaxRentalDuration \/
```

```
(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~;
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;(rcMaxR
              THEN INSERT INTO contractedStartDate[RentalCase*Date]
                    SELECTFROM 'a'[RentalCase]*'b'[Date]

                   (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
              PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;(rcMaxR
              THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Date]
                                  THEN INSERT INTO dateIntervalCompTrigger[Date
                                        SELECTFROM 'a'[Date]*'b'[Date]

                                       (TO MAINTAIN  -(rcMaxRentalDuration;rcMa
                                  PICK a,b FROM dateIntervalCompTrigger~;('a'[D
                                  THEN INSERT INTO contractedEndDate[RentalCase
                                        SELECTFROM 'b'[RentalCase]*'a'[Date]

                                       (TO MAINTAIN  -(rcMaxRentalDuration;rcMa
                             (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDurati
                             NEW x:Date;
                               ALL of INSERT INTO dateIntervalCompTrigger[Date*Da
                                       SELECTFROM 'a'[Date]*'b'[RentalCase]*'x'[D

                                      (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRe
                                      INSERT INTO contractedEndDate[RentalCase*Da
                                       SELECTFROM 'b'[RentalCase]*'a'[Date]*'x'[D

                                      (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRe
                                (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDura
                             (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDurati
                   (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEn
          NEW x:Date;
            ALL of INSERT INTO contractedStartDate[RentalCase*Date]
                    SELECTFROM ((rcMaxRentalDuration;(rcMaxRentalDuration \/ Delt

                   (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ co
                   ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Date]*((
                                THEN INSERT INTO dateIntervalCompTrigger[Date*Da
                                      SELECTFROM 'a'[Date]*'b'[Date]

                                     (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRe
                                PICK a,b FROM dateIntervalCompTrigger~;('x'[Date
                                THEN INSERT INTO contractedEndDate[RentalCase*Da
                                      SELECTFROM 'b'[RentalCase]*'a'[Date]

                                     (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRe
                           (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~
```

```
                              NEW x:Date;
                                ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
                                        SELECTFROM 'x'[Date]*((rcMaxRentalDuration;(r

                                       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRenta
                                       INSERT INTO contractedEndDate[RentalCase*Date]
                                        SELECTFROM (((rcMaxRentalDuration \/ Delta);r

                                       (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRenta
                                 (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuratio
                                (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~
                          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ con
                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contracted
                 (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEn
          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;c
          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedStartDate~;rcMaxR
                        THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
                              SELECTFROM 'a'[Date]*'b'[Date]

                             (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rc
                        PICK a,b FROM dateIntervalCompTrigger~;((contractedStartDate~;rc
                        THEN INSERT INTO contractedEndDate[RentalCase*Date]
                              SELECTFROM 'b'[RentalCase]*'a'[Date]

                             (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rc
                 (MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDura
                 NEW x:Date;
                   ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
                           SELECTFROM ((contractedStartDate~;rcMaxRentalDuration;(rcMaxR

                           (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMax
                           INSERT INTO contractedEndDate[RentalCase*Date]
                            SELECTFROM (((rcMaxRentalDuration \/ Delta);rcMaxRentalDurati

                           (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMax
                   (MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDu
                 (MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDura
          (MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~ /
          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;(rcMaxR
                        THEN INSERT INTO contractedStartDate[RentalCase*Date]
                              SELECTFROM 'a'[RentalCase]*'b'[Date]

                             (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;co
                        PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;(rcMaxR
                        THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
                              SELECTFROM 'a'[Date]*'b'[Date]

                             (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;co
                 (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDa
                 NEW x:Date;
```

```
                    ALL of INSERT INTO contractedStartDate[RentalCase*Date]
                            SELECTFROM ((rcMaxRentalDuration;(rcMaxRentalDuration \/ Delt

                           (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contr
                           INSERT INTO dateIntervalCompTrigger[Date*Date]
                            SELECTFROM 'x'[Date]*((rcMaxRentalDuration;(rcMaxRentalDurati

                           (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contr
                  (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEnd
                 (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDa
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate /\ c
   (MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDurat
   (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
   (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
   (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
   (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
   (MAINTAINING -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[Integer] FROM UNI rcMax
```

<------End Derivation --

```
       ON DELETE Delta FROM rcMaxRentalDuration[RentalCase*Integer] EXECUTE    -- (ECA
       ONE OF DELETE FROM contractedPickupBranch[RentalCase*Branch]
               SELECTFROM ((-rcMaxRentalDuration /\ contractedPickupBranch;branchOf;maxl

              (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcM
              DELETE FROM branchOf[Branch*CarRentalCompany]
               SELECTFROM contractedPickupBranch~;((-rcMaxRentalDuration /\ contractedP

              (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcM
              DELETE FROM maxRentalDuration[CarRentalCompany*Integer]
               SELECTFROM branchOf~;contractedPickupBranch~;((-rcMaxRentalDuration /\ c

              (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcM
     (MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentall
```

------ Derivation ----->

```
  ONE OF DELETE FROM contractedPickupBranch[RentalCase*Branch]
          SELECTFROM ((-rcMaxRentalDuration /\ contractedPickupBranch;branchOf;maxRenta

         (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRen
         DELETE FROM branchOf[Branch*CarRentalCompany]
          SELECTFROM contractedPickupBranch~;((-rcMaxRentalDuration /\ contractedPickup

         (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRen
         DELETE FROM maxRentalDuration[CarRentalCompany*Integer]
          SELECTFROM branchOf~;contractedPickupBranch~;((-rcMaxRentalDuration /\ contra
```

```
          (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRen
(MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDurat
```

<------End Derivation --

```
ON INSERT Delta IN dateIntervalCompTrigger[Date*Date] EXECUTE    -- (ECA rule 81
INSERT INTO Isn{detyp=Date}
 SELECTFROM (Delta;Delta~ /\ I[Date]) - I[Date] \/ (Delta~;Delta /\ I[Date]) - I
```

------ Derivation ----->

```
INSERT INTO Isn{detyp=Date}
 SELECTFROM (Delta;Delta~ /\ I[Date]) - I[Date] \/ (Delta~;Delta /\ I[Date]) - I[Date
```

<------End Derivation --

```
ON DELETE Delta FROM dateIntervalCompTrigger[Date*Date] EXECUTE    -- (ECA rule 8
ALL of ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
               SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -De

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
              DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
               SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Del

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -De

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Del

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
              DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -De

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
              DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Del

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
              DELETE FROM Isn{detyp=RentalCase}
```

```
        SELECTFROM -(contractedStartDate;(dateIntervalCompTrigger /\ -Del

      (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndD
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;(-(contracted

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
      DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
        SELECTFROM contractedStartDate;(-((dateIntervalCompTrigger /\ -De

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
      DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
        SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Del

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
      DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM contractedEndDate;contractedEndDate~;(-(contractedEndD

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
      DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM contractedStartDate;(-((dateIntervalCompTrigger /\ -De

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
      DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Del

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
      DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM contractedStartDate;contractedStartDate~;(-(contracted

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
      DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM contractedStartDate;(-((dateIntervalCompTrigger /\ -De

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
      DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Del

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
      DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM -(contractedEndDate;(dateIntervalCompTrigger~ /\ -Delta

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurati
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
      DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
```

```
 SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ cont

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM contractedEndDate;((-dateIntervalCompTrigger~ /\ contra

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;contractedSta

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM contractedEndDate;contractedEndDate~;contractedEndDate

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ cont

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedEndDate;((-dateIntervalCompTrigger~ /\ contra

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedEndDate;contractedEndDate~;contractedStartDa

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM contractedStartDate;contractedStartDate~;contractedEnd

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ cont

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM contractedEndDate;((-dateIntervalCompTrigger~ /\ contra

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedStartDate;contractedStartDate~;contractedSta

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM contractedEndDate;((-dateIntervalCompTrigger~ /\ contra

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ cont
```

```
        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRenta
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurati
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
        SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Del

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
        DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
         SELECTFROM contractedEndDate;(-((dateIntervalCompTrigger~ /\ -Del

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;(-(contracted

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Del

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM contractedEndDate;(-((dateIntervalCompTrigger~ /\ -Del

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM contractedEndDate;contractedEndDate~;(-(contractedStar

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
        DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Del

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
        DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM contractedEndDate;(-((dateIntervalCompTrigger~ /\ -Del

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM contractedStartDate;contractedStartDate~;(-(contracted

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM -(contractedStartDate;(dateIntervalCompTrigger /\ -Del

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
```

------ Derivation ----->

```
ALL of ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
               SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Delta);

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
              DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
               SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Delta~);

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Delta);

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Delta~);

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
              DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Delta);

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
              DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Delta~);

              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM -(contractedStartDate;(dateIntervalCompTrigger /\ -Delta);c

      (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;c
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;(-(contractedEndDa

              (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
              DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
               SELECTFROM contractedStartDate;(-((dateIntervalCompTrigger /\ -Delta);

              (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
              DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
               SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Delta~))

              (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
              DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM contractedEndDate;contractedEndDate~;(-(contractedEndDate;(

              (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM contractedStartDate;(-((dateIntervalCompTrigger /\ -Delta);

              (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
```

```
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Delta~))

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM contractedStartDate;contractedStartDate~;(-(contractedEndDa

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM contractedStartDate;(-((dateIntervalCompTrigger /\ -Delta);

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Delta~))

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM -(contractedEndDate;(dateIntervalCompTrigger~ /\ -Delta~))

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~ /
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate;

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
         SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ contracte

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
         SELECTFROM contractedEndDate;((-dateIntervalCompTrigger~ /\ contracted

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;contractedStartDat

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedStartDate[RentalCase*Date]
         SELECTFROM contractedEndDate;contractedEndDate~;contractedEndDate;((-d

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ contracte

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedEndDate[RentalCase*Date]
         SELECTFROM contractedEndDate;((-dateIntervalCompTrigger~ /\ contracted

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
        DELETE FROM contractedEndDate[RentalCase*Date]
```

```
 SELECTFROM contractedEndDate;contractedEndDate~;contractedStartDate;((

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM contractedStartDate;contractedStartDate~;contractedEndDate;

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ contracte

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM contractedEndDate;((-dateIntervalCompTrigger~ /\ contracted

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedStartDate;contractedStartDate~;contractedStartDat

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM contractedEndDate;((-dateIntervalCompTrigger~ /\ contracted

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ contracte

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~;c
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Delta))

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM contractedEndDate;(-((dateIntervalCompTrigger~ /\ -Delta~);

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;(-(contractedStart

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Delta))

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedEndDate;(-((dateIntervalCompTrigger~ /\ -Delta~);

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedEndDate;contractedEndDate~;(-(contractedStartDate
```

```
                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
                DELETE FROM contractedStartDate[RentalCase*Date]
                 SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Delta))

                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
                DELETE FROM contractedStartDate[RentalCase*Date]
                 SELECTFROM contractedEndDate;(-((dateIntervalCompTrigger~ /\ -Delta~);

                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
                DELETE FROM contractedEndDate[RentalCase*Date]
                 SELECTFROM contractedStartDate;contractedStartDate~;(-(contractedStart

                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
                DELETE FROM contractedEndDate[RentalCase*Date]
                 SELECTFROM -(contractedStartDate;(dateIntervalCompTrigger /\ -Delta))

                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate /\ c
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
```

<------End Derivation --

```
ON INSERT Delta IN arg1[CompRentalCharge*Amount] EXECUTE    -- (ECA rule 83)
ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
        SELECTFROM (rentalBasicCharge;(arg1 \/ Delta)~ /\ rentalPenaltyCharge;arg

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ 
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM rentalCharge~;(rentalBasicCharge;(arg1 \/ Delta)~ /\ rentalPe

       (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCha
       INSERT INTO Isn{detyp=CompRentalCharge}
        SELECTFROM (arg3;arg3~ /\ arg2;arg2~ /\ arg1;(arg1 \/ Delta)~ /\ -I[Compl

       (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCha
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM ((arg1 \/ Delta)~;arg1 /\ -I[Amount]) \/ ((arg1 \/ Delta)~;Del

       (TO MAINTAIN  -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*
       INSERT INTO Isn{detyp=CompRentalCharge}
        SELECTFROM (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]
```

```
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FR
(MAINTAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*
```

------ Derivation ----->

```
ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
        SELECTFROM (rentalBasicCharge;(arg1 \/ Delta)~ /\ rentalPenaltyCharge;arg2~ /

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM rentalCharge~;(rentalBasicCharge;(arg1 \/ Delta)~ /\ rentalPenalty

       (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
       INSERT INTO Isn{detyp=CompRentalCharge}
        SELECTFROM (arg3;arg3~ /\ arg2;arg2~ /\ arg1;(arg1 \/ Delta)~ /\ -I[CompRenta

       (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge]
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM ((arg1 \/ Delta)~;arg1 /\ -I[Amount]) \/ ((arg1 \/ Delta)~;Delta /

       (TO MAINTAIN  -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amoun
       INSERT INTO Isn{detyp=CompRentalCharge}
        SELECTFROM (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FROM Un
(MAINTAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*Amoun
```

<------End Derivation --

```
ON DELETE Delta FROM arg1[CompRentalCharge*Amount] EXECUTE    -- (ECA rule 84)
ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharg

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
       DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBas
```

```
(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM (-((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharg

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM (-(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBas

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM (-((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharg

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM (-(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBas

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
DELETE FROM Isn{detyp=CompRentalCharge}
 SELECTFROM -((arg1 /\ -Delta);(arg1 /\ -Delta)~) /\ I[CompRentalCharge]

(TO MAINTAIN  -I[CompRentalCharge] \/ arg1;I[Amount];arg1~ FROM UNI arg1:
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
(MAINTAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*
```

------ Derivation ----->

```
ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBasicCha

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBasicCha

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalBasicCharge[RentalCase*Amount]
```

```
 SELECTFROM (-((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM (-(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBasicCha

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg2

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM Isn{detyp=CompRentalCharge}
 SELECTFROM -((arg1 /\ -Delta);(arg1 /\ -Delta)~) /\ I[CompRentalCharge]

(TO MAINTAIN  -I[CompRentalCharge] \/ arg1;I[Amount];arg1~ FROM UNI arg1::Comp
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
(MAINTAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*Amoun
```

<------End Derivation --

```
ON INSERT Delta IN arg2[CompRentalCharge*Amount] EXECUTE    -- (ECA rule 85)
ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
        SELECTFROM (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 \/ Delta

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge

       (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCha
       INSERT INTO Isn{detyp=CompRentalCharge}
        SELECTFROM (arg3;arg3~ /\ arg2;(arg2 \/ Delta)~ /\ arg1;arg1~ /\ -I[Compl

       (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCha
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM ((arg2 \/ Delta)~;arg2 /\ -I[Amount]) \/ ((arg2 \/ Delta)~;Del

       (TO MAINTAIN  -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*A
       INSERT INTO Isn{detyp=CompRentalCharge}
        SELECTFROM (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FR
(MAINTAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*A
```

------ Derivation ----->

```
ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
        SELECTFROM (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 \/ Delta)~ /

       (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg

       (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
       INSERT INTO Isn{detyp=CompRentalCharge}
        SELECTFROM (arg3;arg3~ /\ arg2;(arg2 \/ Delta)~ /\ arg1;arg1~ /\ -I[CompRenta

       (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge]
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM ((arg2 \/ Delta)~;arg2 /\ -I[Amount]) \/ ((arg2 \/ Delta)~;Delta /

       (TO MAINTAIN  -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amoun
       INSERT INTO Isn{detyp=CompRentalCharge}
        SELECTFROM (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FROM Un
(MAINTAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*Amoun
```

<------End Derivation --

```
ON DELETE Delta FROM arg2[CompRentalCharge*Amount] EXECUTE    -- (ECA rule 86)
ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
       DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
       DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
       DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\
```

```
        (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
        DELETE FROM rentalBasicCharge[RentalCase*Amount]
         SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -

        (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
        DELETE FROM rentalBasicCharge[RentalCase*Amount]
         SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\

        (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
        DELETE FROM Isn{detyp=RentalCase}
         SELECTFROM -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -D

        (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
        DELETE FROM Isn{detyp=CompRentalCharge}
         SELECTFROM -((arg2 /\ -Delta);(arg2 /\ -Delta)~) /\ I[CompRentalCharge]

        (TO MAINTAIN  -I[CompRentalCharge] \/ arg2;I[Amount];arg2~ FROM UNI arg2:
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
(MAINTAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*
```

------ Derivation ----->

```
ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -Delta

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ (arg

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -Delta

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ (arg

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalBasicCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -Delta

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalBasicCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ (arg

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
```

```
          DELETE FROM Isn{detyp=RentalCase}
           SELECTFROM -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -Delta)

          (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
          DELETE FROM Isn{detyp=CompRentalCharge}
           SELECTFROM -((arg2 /\ -Delta);(arg2 /\ -Delta)~) /\ I[CompRentalCharge]

          (TO MAINTAIN  -I[CompRentalCharge] \/ arg2;I[Amount];arg2~ FROM UNI arg2::Comp
     (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
     (MAINTAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
     (MAINTAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*Amoun
```

<------End Derivation --

```
          ON INSERT Delta IN arg3[CompRentalCharge*Amount] EXECUTE    -- (ECA rule 87)
          ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
                  SELECTFROM (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta

                 (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
                 INSERT INTO Isn{detyp=Amount}
                  SELECTFROM rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge

                 (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCha
                 INSERT INTO Isn{detyp=CompRentalCharge}
                  SELECTFROM (arg3;(arg3 \/ Delta)~ /\ arg2;arg2~ /\ arg1;arg1~ /\ -I[Compl

                 (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCha
                 INSERT INTO Isn{detyp=Amount}
                  SELECTFROM ((arg3 \/ Delta)~;arg3 /\ -I[Amount]) \/ ((arg3 \/ Delta)~;Del

                 (TO MAINTAIN  -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*A
                 INSERT INTO Isn{detyp=CompRentalCharge}
                  SELECTFROM (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

                 INSERT INTO Isn{detyp=Amount}
                  SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

          (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLoc
          (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLoc
          (MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FRO
          (MAINTAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
          (MAINTAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*A
```

------ Derivation ----->

```
     ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
             SELECTFROM (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLoc
```

```
(TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
INSERT INTO Isn{detyp=Amount}
 SELECTFROM rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
INSERT INTO Isn{detyp=CompRentalCharge}
 SELECTFROM (arg3;(arg3 \/ Delta)~ /\ arg2;arg2~ /\ arg1;arg1~ /\ -I[CompRenta

(TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge]
INSERT INTO Isn{detyp=Amount}
 SELECTFROM ((arg3 \/ Delta)~;arg3 /\ -I[Amount]) \/ ((arg3 \/ Delta)~;Delta /

(TO MAINTAIN  -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amoun
INSERT INTO Isn{detyp=CompRentalCharge}
 SELECTFROM (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

INSERT INTO Isn{detyp=Amount}
 SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FROM Un
(MAINTAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*Amoun
```

<------End Derivation --

```
ON DELETE Delta FROM arg3[CompRentalCharge*Amount] EXECUTE    -- (ECA rule 88)
ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ r

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
       DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
       DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ r

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
       DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
       DELETE FROM rentalBasicCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ r
```

```
            (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
            DELETE FROM rentalBasicCharge[RentalCase*Amount]
             SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\

            (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
            DELETE FROM Isn{detyp=RentalCase}
             SELECTFROM -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ re

            (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
            DELETE FROM Isn{detyp=CompRentalCharge}
             SELECTFROM -((arg3 /\ -Delta);(arg3 /\ -Delta)~) /\ I[CompRentalCharge]

            (TO MAINTAIN  -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FROM UNI arg3:
      (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
      (MAINTAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
      (MAINTAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*
```

------ Derivation ----->

```
ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rental

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ arg2

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rental

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ arg2

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalBasicCharge[RentalCase*Amount]
        SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rental

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM rentalBasicCharge[RentalCase*Amount]
        SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ arg2

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalL

       (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
       DELETE FROM Isn{detyp=CompRentalCharge}
```

```
            SELECTFROM -((arg3 /\ -Delta);(arg3 /\ -Delta)~) /\ I[CompRentalCharge]

          (TO MAINTAIN  -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FROM UNI arg3::Comp
    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
    (MAINTAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
    (MAINTAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*Amoun
```

<------End Derivation --

```
        ON INSERT Delta IN computedRentalCharge[CompRentalCharge*Amount] EXECUTE    -- (
        ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
               SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ ren

              (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
              INSERT INTO Isn{detyp=Amount}
               SELECTFROM (rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharg

              (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
              INSERT INTO Isn{detyp=Amount}
               SELECTFROM ((computedRentalCharge \/ Delta)~;computedRentalCharge /\ -I[

              (TO MAINTAIN  -(computedRentalCharge~;I[CompRentalCharge];computedRentalC
              INSERT INTO Isn{detyp=CompRentalCharge}
               SELECTFROM (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

              INSERT INTO Isn{detyp=Amount}
               SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

        (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
        (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
        (MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~
        (MAINTAINING -(computedRentalCharge~;computedRentalCharge) \/ I[Amount] FROM UNI
```

------ Derivation ----->

```
    ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
           SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo

          (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
          INSERT INTO Isn{detyp=Amount}
           SELECTFROM (rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg

          (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
          INSERT INTO Isn{detyp=Amount}
           SELECTFROM ((computedRentalCharge \/ Delta)~;computedRentalCharge /\ -I[Amoun

          (TO MAINTAIN  -(computedRentalCharge~;I[CompRentalCharge];computedRentalCharge
```

```
          INSERT INTO Isn{detyp=CompRentalCharge}
           SELECTFROM (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

          INSERT INTO Isn{detyp=Amount}
           SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~ FROM
(MAINTAINING -(computedRentalCharge~;computedRentalCharge) \/ I[Amount] FROM UNI comp
```

<------End Derivation --

```
     ON DELETE Delta FROM computedRentalCharge[CompRentalCharge*Amount] EXECUTE    --
     DELETE FROM Isn{detyp=CompRentalCharge}
      SELECTFROM -((computedRentalCharge /\ -Delta);(computedRentalCharge /\ -Delta)~

     (TO MAINTAIN  -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~
```

------ Derivation ----->

```
DELETE FROM Isn{detyp=CompRentalCharge}
 SELECTFROM -((computedRentalCharge /\ -Delta);(computedRentalCharge /\ -Delta)~) /\

(TO MAINTAIN  -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~ FROM
```

<------End Derivation --

```
     ON INSERT Delta IN earliestDate[DateDifferencePlusOne*Date] EXECUTE    -- (ECA r
     ONE OF INSERT INTO rentalPeriod[RentalCase*Integer]
             SELECTFROM (contractedStartDate;(earliestDate \/ Delta)~ /\ rcDroppedOff

            (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;la
            INSERT INTO Isn{detyp=Integer}
             SELECTFROM rentalPeriod~;(contractedStartDate;(earliestDate \/ Delta)~ /

            (TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
            INSERT INTO Isn{detyp=DateDifferencePlusOne}
             SELECTFROM (earliestDate;(earliestDate \/ Delta)~ /\ latestDate;latestDa

            (TO MAINTAIN  -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/
            INSERT INTO projectedRentalPeriod[RentalCase*Integer]
             SELECTFROM (contractedStartDate;(earliestDate \/ Delta)~ /\ contractedEn

            (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate;l
```

```
                INSERT INTO Isn{detyp=Integer}
                 SELECTFROM projectedRentalPeriod~;(contractedStartDate;(earliestDate \/ D

                (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
                INSERT INTO Isn{detyp=Date}
                 SELECTFROM ((earliestDate \/ Delta)~;earliestDate /\ -I[Date]) \/ ((earli

                (TO MAINTAIN  -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDa
                INSERT INTO Isn{detyp=DateDifferencePlusOne}
                 SELECTFROM (Delta;Delta~ /\ I[DateDifferencePlusOne]) - I[DateDifference

                INSERT INTO Isn{detyp=Date}
                 SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

          (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
          (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
          (MAINTAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[DateDi
          (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
          (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
          (MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::Dat
          (MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT ea
```

------ Derivation ----->

```
    ONE OF INSERT INTO rentalPeriod[RentalCase*Integer]
            SELECTFROM (contractedStartDate;(earliestDate \/ Delta)~ /\ rcDroppedOffDate;

           (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestD
           INSERT INTO Isn{detyp=Integer}
            SELECTFROM rentalPeriod~;(contractedStartDate;(earliestDate \/ Delta)~ /\ rcD

           (TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
           INSERT INTO Isn{detyp=DateDifferencePlusOne}
            SELECTFROM (earliestDate;(earliestDate \/ Delta)~ /\ latestDate;latestDate~ /

           (TO MAINTAIN  -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[Dat
           INSERT INTO projectedRentalPeriod[RentalCase*Integer]
            SELECTFROM (contractedStartDate;(earliestDate \/ Delta)~ /\ contractedEndDate

           (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate;latest
           INSERT INTO Isn{detyp=Integer}
            SELECTFROM projectedRentalPeriod~;(contractedStartDate;(earliestDate \/ Delta

           (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
           INSERT INTO Isn{detyp=Date}
            SELECTFROM ((earliestDate \/ Delta)~;earliestDate /\ -I[Date]) \/ ((earliestD

           (TO MAINTAIN  -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::
```

```
          INSERT INTO Isn{detyp=DateDifferencePlusOne}
           SELECTFROM (Delta;Delta~ /\ I[DateDifferencePlusOne]) - I[DateDifferencePlusO

          INSERT INTO Isn{detyp=Date}
           SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[DateDiffere
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::DateDiff
(MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT earlies
```

<------End Derivation --

```
     ON DELETE Delta FROM earliestDate[DateDifferencePlusOne*Date] EXECUTE    -- (ECA
     ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
             SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppe

            (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
            DELETE FROM rcDroppedOffDate[RentalCase*Date]
             SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Del

            (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
            DELETE FROM contractedStartDate[RentalCase*Date]
             SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppe

            (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
            DELETE FROM contractedStartDate[RentalCase*Date]
             SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Del

            (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
            DELETE FROM Isn{detyp=RentalCase}
             SELECTFROM -((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDropped

            (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
            DELETE FROM contractedEndDate[RentalCase*Date]
             SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ contract

            (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDa
            DELETE FROM contractedEndDate[RentalCase*Date]
             SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Del

            (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDa
            DELETE FROM contractedStartDate[RentalCase*Date]
             SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ contract
```

```
                (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDa
                DELETE FROM contractedStartDate[RentalCase*Date]
                 SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Del

                (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDa
                DELETE FROM Isn{detyp=RentalCase}
                 SELECTFROM -((contractedStartDate;(earliestDate /\ -Delta)~ /\ contracte

                (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDa
                DELETE FROM Isn{detyp=DateDifferencePlusOne}
                 SELECTFROM -((earliestDate /\ -Delta);(earliestDate /\ -Delta)~) /\ I[Da

                (TO MAINTAIN  -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestD
          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
          (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contr
          (MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::Dat
          (MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT ea
```

------ Derivation ----->

```
    ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
            SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffD

           (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
           DELETE FROM rcDroppedOffDate[RentalCase*Date]
            SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Delta);c

           (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
           DELETE FROM contractedStartDate[RentalCase*Date]
            SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffD

           (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
           DELETE FROM contractedStartDate[RentalCase*Date]
            SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Delta);c

           (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
           DELETE FROM Isn{detyp=RentalCase}
            SELECTFROM -((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffDa

           (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
           DELETE FROM contractedEndDate[RentalCase*Date]
            SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ contractedEnd

           (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
           DELETE FROM contractedEndDate[RentalCase*Date]
            SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Delta);c

           (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
```

```
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ contractedEnd

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Delta);c

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((contractedStartDate;(earliestDate /\ -Delta)~ /\ contractedEndD

(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
DELETE FROM Isn{detyp=DateDifferencePlusOne}
 SELECTFROM -((earliestDate /\ -Delta);(earliestDate /\ -Delta)~) /\ I[DateDif

(TO MAINTAIN  -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate~
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted
(MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::DateDiff
(MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT earlies
```

<------End Derivation --

```
ON INSERT Delta IN latestDate[DateDifferencePlusOne*Date] EXECUTE    -- (ECA rul
ONE OF INSERT INTO rentalPeriod[RentalCase*Integer]
        SELECTFROM (contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(lates

       (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;la
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDropped

       (TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
       INSERT INTO Isn{detyp=DateDifferencePlusOne}
        SELECTFROM (earliestDate;earliestDate~ /\ latestDate;(latestDate \/ Delt

       (TO MAINTAIN  -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/
       INSERT INTO projectedRentalPeriod[RentalCase*Integer]
        SELECTFROM (contractedStartDate;earliestDate~ /\ contractedEndDate;(late

       (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate;l
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\

       (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
       INSERT INTO Isn{detyp=Date}
        SELECTFROM ((latestDate \/ Delta)~;latestDate /\ -I[Date]) \/ ((latestDa

       (TO MAINTAIN  -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::D
```

```
                INSERT INTO Isn{detyp=DateDifferencePlusOne}
                 SELECTFROM (Delta;Delta~ /\ I[DateDifferencePlusOne]) - I[DateDifference

                INSERT INTO Isn{detyp=Date}
                 SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

          (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
          (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
          (MAINTAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[DateDi
          (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
          (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
          (MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDiffe
          (MAINTAINING -I[DateDifferencePlusOne] \/ latestDate;latestDate~ FROM TOT latestD
```

------ Derivation ----->

```
     ONE OF INSERT INTO rentalPeriod[RentalCase*Integer]
             SELECTFROM (contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(latestDate

            (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestD
            INSERT INTO Isn{detyp=Integer}
             SELECTFROM rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDa

            (TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
            INSERT INTO Isn{detyp=DateDifferencePlusOne}
             SELECTFROM (earliestDate;earliestDate~ /\ latestDate;(latestDate \/ Delta)~ /

            (TO MAINTAIN  -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[Dat
            INSERT INTO projectedRentalPeriod[RentalCase*Integer]
             SELECTFROM (contractedStartDate;earliestDate~ /\ contractedEndDate;(latestDat

            (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate;latest
            INSERT INTO Isn{detyp=Integer}
             SELECTFROM projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ contr

            (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
            INSERT INTO Isn{detyp=Date}
             SELECTFROM ((latestDate \/ Delta)~;latestDate /\ -I[Date]) \/ ((latestDate \/

            (TO MAINTAIN  -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDi
            INSERT INTO Isn{detyp=DateDifferencePlusOne}
             SELECTFROM (Delta;Delta~ /\ I[DateDifferencePlusOne]) - I[DateDifferencePlusO

            INSERT INTO Isn{detyp=Date}
             SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

     (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
     (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
```

```
(MAINTAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[DateDiffere
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDifference
(MAINTAINING -I[DateDifferencePlusOne] \/ latestDate;latestDate~ FROM TOT latestDate:
```

<------End Derivation --

```
ON DELETE Delta FROM latestDate[DateDifferencePlusOne*Date] EXECUTE    -- (ECA r
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(la

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
       DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;contract

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(la

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;contract

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(lat

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-((contractedStartDate;earliestDate~ /\ contractedEndDate;(l

       (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDa
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;contract

       (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDa
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-((contractedStartDate;earliestDate~ /\ contractedEndDate;(l

       (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDa
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;contract

       (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDa
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((contractedStartDate;earliestDate~ /\ contractedEndDate;(la
```

```
        (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDa
        DELETE FROM Isn{detyp=DateDifferencePlusOne}
         SELECTFROM -((latestDate /\ -Delta);(latestDate /\ -Delta)~) /\ I[DateDi

        (TO MAINTAIN  -I[DateDifferencePlusOne] \/ latestDate;I[Date];latestDate~
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contr
(MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDiffe
(MAINTAINING -I[DateDifferencePlusOne] \/ latestDate;latestDate~ FROM TOT latest
```

------ Derivation ----->

```
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(latestD

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
       DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;contractedSta

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(latestD

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;contractedSta

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(latestDa

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-((contractedStartDate;earliestDate~ /\ contractedEndDate;(latest

       (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;contractedSta

       (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-((contractedStartDate;earliestDate~ /\ contractedEndDate;(latest

       (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifferencePlusOne];(earliestDate;contractedSta

       (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
```

```
  DELETE FROM Isn{detyp=RentalCase}
   SELECTFROM -((contractedStartDate;earliestDate~ /\ contractedEndDate;(latestD

  (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
  DELETE FROM Isn{detyp=DateDifferencePlusOne}
   SELECTFROM -((latestDate /\ -Delta);(latestDate /\ -Delta)~) /\ I[DateDiffere

  (TO MAINTAIN  -I[DateDifferencePlusOne] \/ latestDate;I[Date];latestDate~ FROM
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted
(MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDifference
(MAINTAINING -I[DateDifferencePlusOne] \/ latestDate;latestDate~ FROM TOT latestDate:
```

<------End Derivation --

```
ON INSERT Delta IN computedRentalPeriod[DateDifferencePlusOne*Integer] EXECUTE
ONE OF INSERT INTO rentalPeriod[RentalCase*Integer]
        SELECTFROM ((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;lates

       (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;la
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM (rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppe

       (TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM ((computedRentalPeriod \/ Delta)~;computedRentalPeriod /\ -I[

       (TO MAINTAIN  -(computedRentalPeriod~;I[DateDifferencePlusOne];computedRe
       INSERT INTO projectedRentalPeriod[RentalCase*Integer]
        SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;late

       (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate;la
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM (projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\

       (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
       INSERT INTO Isn{detyp=DateDifferencePlusOne}
        SELECTFROM (Delta;Delta~ /\ I[DateDifferencePlusOne]) - I[DateDifference

       INSERT INTO Isn{detyp=Integer}
        SELECTFROM (Delta~;Delta /\ I[Integer]) - I[Integer]

(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPer
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
(MAINTAINING -(computedRentalPeriod~;computedRentalPeriod) \/ I[Integer] FROM UN
```

------ Derivation ----->

```
     ONE OF INSERT INTO rentalPeriod[RentalCase*Integer]
             SELECTFROM ((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate

            (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestD
            INSERT INTO Isn{detyp=Integer}
             SELECTFROM (rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffD

            (TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
            INSERT INTO Isn{detyp=Integer}
             SELECTFROM ((computedRentalPeriod \/ Delta)~;computedRentalPeriod /\ -I[Integ

            (TO MAINTAIN  -(computedRentalPeriod~;I[DateDifferencePlusOne];computedRentalP
            INSERT INTO projectedRentalPeriod[RentalCase*Integer]
             SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat

            (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate;latest
            INSERT INTO Isn{detyp=Integer}
             SELECTFROM (projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ cont

            (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
            INSERT INTO Isn{detyp=DateDifferencePlusOne}
             SELECTFROM (Delta;Delta~ /\ I[DateDifferencePlusOne]) - I[DateDifferencePlusO

            INSERT INTO Isn{detyp=Integer}
             SELECTFROM (Delta~;Delta /\ I[Integer]) - I[Integer]

     (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
     (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
     (MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod~
     (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
     (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
     (MAINTAINING -(computedRentalPeriod~;computedRentalPeriod) \/ I[Integer] FROM UNI com
```

<------End Derivation --

```
          ON DELETE Delta FROM computedRentalPeriod[DateDifferencePlusOne*Integer] EXECUTE
          DELETE FROM Isn{detyp=DateDifferencePlusOne}
           SELECTFROM -((computedRentalPeriod /\ -Delta);(computedRentalPeriod /\ -Delta)~

          (TO MAINTAIN  -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPe
```

------ Derivation ----->

```
DELETE FROM Isn{detyp=DateDifferencePlusOne}
 SELECTFROM -((computedRentalPeriod /\ -Delta);(computedRentalPeriod /\ -Delta)~) /\

(TO MAINTAIN  -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod~
```

<------End Derivation --

```
ON INSERT Delta IN ctcNrOfDays[CompTariffedCharge*Integer] EXECUTE    -- (ECA ru
ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
        SELECTFROM (rentalPeriod;(ctcNrOfDays \/ Delta)~ /\ rcAssignedCar;carTyp

       (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rental
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM rentalBasicCharge~;(rentalPeriod;(ctcNrOfDays \/ Delta)~ /\ r

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
       INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (rentalExcessPeriod;(ctcNrOfDays \/ Delta)~ /\ rcAssignedCar;

       (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM rentalPenaltyCharge~;(rentalExcessPeriod;(ctcNrOfDays \/ Delta

       (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
       INSERT INTO Isn{detyp=CompTariffedCharge}
        SELECTFROM (ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;(ctcNrOfDays \

       (TO MAINTAIN  -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays
       INSERT INTO projectedBasicCharge[RentalCase*Amount]
        SELECTFROM (projectedRentalPeriod;(ctcNrOfDays \/ Delta)~ /\ contractedC

       (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM projectedBasicCharge~;(projectedRentalPeriod;(ctcNrOfDays \/

       (TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM ((ctcNrOfDays \/ Delta)~;ctcNrOfDays /\ -I[Integer]) \/ ((ctc

       (TO MAINTAIN  -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfD
       INSERT INTO Isn{detyp=CompTariffedCharge}
        SELECTFROM (Delta;Delta~ /\ I[CompTariffedCharge]) - I[CompTariffedCharg

       INSERT INTO Isn{detyp=Integer}
        SELECTFROM (Delta~;Delta /\ I[Integer]) - I[Integer]

(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
```

```
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTa
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTa
(MAINTAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) \/ I[C
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTar
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTar
(MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::Comp
(MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOfD
```

------ Derivation ----->

```
ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
        SELECTFROM (rentalPeriod;(ctcNrOfDays \/ Delta)~ /\ rcAssignedCar;carType;ren

       (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTari
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM rentalBasicCharge~;(rentalPeriod;(ctcNrOfDays \/ Delta)~ /\ rcAssi

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
       INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (rentalExcessPeriod;(ctcNrOfDays \/ Delta)~ /\ rcAssignedCar;carTy

       (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;exce
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM rentalPenaltyCharge~;(rentalExcessPeriod;(ctcNrOfDays \/ Delta)~ /

       (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
       INSERT INTO Isn{detyp=CompTariffedCharge}
        SELECTFROM (ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;(ctcNrOfDays \/ Del

       (TO MAINTAIN  -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) \/
       INSERT INTO projectedBasicCharge[RentalCase*Amount]
        SELECTFROM (projectedRentalPeriod;(ctcNrOfDays \/ Delta)~ /\ contractedCarTyp

       (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM projectedBasicCharge~;(projectedRentalPeriod;(ctcNrOfDays \/ Delta

       (TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM ((ctcNrOfDays \/ Delta)~;ctcNrOfDays /\ -I[Integer]) \/ ((ctcNrOfD

       (TO MAINTAIN  -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::
       INSERT INTO Isn{detyp=CompTariffedCharge}
        SELECTFROM (Delta;Delta~ /\ I[CompTariffedCharge]) - I[CompTariffedCharge]

       INSERT INTO Isn{detyp=Integer}
        SELECTFROM (Delta~;Delta /\ I[Integer]) - I[Integer]
```

```
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) \/ I[CompT
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::CompTari
(MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOfDays:
```

<------End Derivation --

```
ON DELETE Delta FROM ctcNrOfDays[CompTariffedCharge*Integer] EXECUTE    -- (ECA
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedCar;ca

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];((ctcNrOfDays /\ -Delta);

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM rentalPeriod[RentalCase*Integer]
        SELECTFROM (-((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedCar;ca

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM rentalPeriod[RentalCase*Integer]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];((ctcNrOfDays /\ -Delta);

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedCar;car

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM rentalExcessPeriod[RentalCase*Integer]
        SELECTFROM (-((rentalExcessPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssigned

       (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
       DELETE FROM rentalExcessPeriod[RentalCase*Integer]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];((ctcNrOfDays /\ -Delta);

       (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((rentalExcessPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedC

       (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM (-((projectedRentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ contrac
```

```
        (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
        DELETE FROM contractedCarType[RentalCase*CarType]
         SELECTFROM (-(V[RentalCase*CompTariffedCharge];((ctcNrOfDays /\ -Delta);

        (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
        DELETE FROM projectedRentalPeriod[RentalCase*Integer]
         SELECTFROM (-((projectedRentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ contrac

        (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
        DELETE FROM projectedRentalPeriod[RentalCase*Integer]
         SELECTFROM (-(V[RentalCase*CompTariffedCharge];((ctcNrOfDays /\ -Delta);

        (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
        DELETE FROM Isn{detyp=RentalCase}
         SELECTFROM -((projectedRentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ contract

        (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
        DELETE FROM Isn{detyp=CompTariffedCharge}
         SELECTFROM -((ctcNrOfDays /\ -Delta);(ctcNrOfDays /\ -Delta)~) /\ I[Comp

        (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDay
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[R
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rent
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;pro
(MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::Com
(MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOf
```

------ Derivation ----->

```
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedCar;carType

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];((ctcNrOfDays /\ -Delta);renta

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
       DELETE FROM rentalPeriod[RentalCase*Integer]
        SELECTFROM (-((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedCar;carType

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
       DELETE FROM rentalPeriod[RentalCase*Integer]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];((ctcNrOfDays /\ -Delta);renta

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedCar;carType;
```

```
(TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
 SELECTFROM (-((rentalExcessPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedCar;c

(TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
 SELECTFROM (-(V[RentalCase*CompTariffedCharge];((ctcNrOfDays /\ -Delta);renta

(TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((rentalExcessPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedCar;ca

(TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM (-((projectedRentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ contractedCa

(TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM (-(V[RentalCase*CompTariffedCharge];((ctcNrOfDays /\ -Delta);proje

(TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
 SELECTFROM (-((projectedRentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ contractedCa

(TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
 SELECTFROM (-(V[RentalCase*CompTariffedCharge];((ctcNrOfDays /\ -Delta);proje

(TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((projectedRentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ contractedCar

(TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM Isn{detyp=CompTariffedCharge}
 SELECTFROM -((ctcNrOfDays /\ -Delta);(ctcNrOfDays /\ -Delta)~) /\ I[CompTarif

(TO MAINTAIN  -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays~ FR
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Rental
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExc
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
(MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::CompTari
(MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOfDays:
```

<------End Derivation --

```
ON INSERT Delta IN ctcDailyAmount[CompTariffedCharge*Amount] EXECUTE    -- (ECA
ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
        SELECTFROM (rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTar
```

```
(TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rental
INSERT INTO Isn{detyp=Amount}
 SELECTFROM rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCa

(TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM (rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;exc

(TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
INSERT INTO Isn{detyp=Amount}
 SELECTFROM rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAs

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
INSERT INTO Isn{detyp=CompTariffedCharge}
 SELECTFROM (ctcDailyAmount;(ctcDailyAmount \/ Delta)~ /\ ctcNrOfDays;ctc

(TO MAINTAIN  -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays
INSERT INTO projectedBasicCharge[RentalCase*Amount]
 SELECTFROM (projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rent

(TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;
INSERT INTO Isn{detyp=Amount}
 SELECTFROM projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
INSERT INTO Isn{detyp=Amount}
 SELECTFROM ((ctcDailyAmount \/ Delta)~;ctcDailyAmount /\ -I[Amount]) \/

(TO MAINTAIN  -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctc
INSERT INTO Isn{detyp=CompTariffedCharge}
 SELECTFROM (Delta;Delta~ /\ I[CompTariffedCharge]) - I[CompTariffedCharg

INSERT INTO Isn{detyp=Amount}
 SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINTAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) \/ I[
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINTAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmo
(MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT c
```

------ Derivation ----->

```
ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
        SELECTFROM (rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPe

       (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTari
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;car

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
       INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTa

       (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;exce
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAssigne

       (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
       INSERT INTO Isn{detyp=CompTariffedCharge}
        SELECTFROM (ctcDailyAmount;(ctcDailyAmount \/ Delta)~ /\ ctcNrOfDays;ctcNrOfD

       (TO MAINTAIN  -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) \/
       INSERT INTO projectedBasicCharge[RentalCase*Amount]
        SELECTFROM (projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTar

       (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ contr

       (TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM ((ctcDailyAmount \/ Delta)~;ctcDailyAmount /\ -I[Amount]) \/ ((ctc

       (TO MAINTAIN  -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDaily
       INSERT INTO Isn{detyp=CompTariffedCharge}
        SELECTFROM (Delta;Delta~ /\ I[CompTariffedCharge]) - I[CompTariffedCharge]

       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) \/ I[CompT
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmount::
(MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT ctcDai
```

<------End Derivation --

```
ON DELETE Delta FROM ctcDailyAmount[CompTariffedCharge*Amount] EXECUTE    -- (EC
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rental

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM rentalPeriod[RentalCase*Integer]
        SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rental

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM rentalPeriod[RentalCase*Integer]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalT

       (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod
       DELETE FROM rentalExcessPeriod[RentalCase*Integer]
        SELECTFROM (-((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;

       (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
       DELETE FROM rentalExcessPeriod[RentalCase*Integer]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalExcess

       (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;e

       (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM (-((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;r

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;projectedRen

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
       DELETE FROM projectedRentalPeriod[RentalCase*Integer]
        SELECTFROM (-((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;r

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
       DELETE FROM projectedRentalPeriod[RentalCase*Integer]
        SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;projectedRen

       (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
```

```
                DELETE FROM Isn{detyp=RentalCase}
                 SELECTFROM -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;re

                (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe
                DELETE FROM Isn{detyp=CompTariffedCharge}
                 SELECTFROM -((ctcDailyAmount /\ -Delta);(ctcDailyAmount /\ -Delta)~) /\

                (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amount];ctcDaily
          (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[R
          (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rent
          (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;pro
          (MAINTAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmo
          (MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT c
```

------ Derivation ----->

```
    ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
            SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTarif

           (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
           DELETE FROM rcAssignedCar[RentalCase*Car]
            SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod~ /\

           (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
           DELETE FROM rentalPeriod[RentalCase*Integer]
            SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTarif

           (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
           DELETE FROM rentalPeriod[RentalCase*Integer]
            SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod~ /\

           (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
           DELETE FROM Isn{detyp=RentalCase}
            SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff

           (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\
           DELETE FROM rentalExcessPeriod[RentalCase*Integer]
            SELECTFROM (-((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;exces

           (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
           DELETE FROM rentalExcessPeriod[RentalCase*Integer]
            SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalExcessPerio

           (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
           DELETE FROM Isn{detyp=RentalCase}
            SELECTFROM -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excess

           (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
```

```
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM (-((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rental

(TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;projectedRentalPe

(TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
 SELECTFROM (-((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rental

(TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
 SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;projectedRentalPe

(TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalT

(TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM Isn{detyp=CompTariffedCharge}
 SELECTFROM -((ctcDailyAmount /\ -Delta);(ctcDailyAmount /\ -Delta)~) /\ I[Com

(TO MAINTAIN  -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amount];ctcDailyAmoun
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Rental
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExc
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
(MAINTAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmount::
(MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT ctcDai
```

<------End Derivation --

```
ON INSERT Delta IN computedTariffedCharge[CompTariffedCharge*Amount] EXECUTE
ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
        SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTa

       (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;renta
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedC

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
       INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;ex

       (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcA
```

```
                (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ r
                INSERT INTO Isn{detyp=Amount}
                 SELECTFROM ((computedTariffedCharge \/ Delta)~;computedTariffedCharge /\

                (TO MAINTAIN  -(computedTariffedCharge~;I[CompTariffedCharge];computedTar
                INSERT INTO projectedBasicCharge[RentalCase*Amount]
                 SELECTFROM ((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;ren

                (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;r
                INSERT INTO Isn{detyp=Amount}
                 SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\

                (TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
                INSERT INTO Isn{detyp=CompTariffedCharge}
                 SELECTFROM (Delta;Delta~ /\ I[CompTariffedCharge]) - I[CompTariffedCharg

                INSERT INTO Isn{detyp=Amount}
                 SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

          (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
          (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
          (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
          (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
          (MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCh
          (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
          (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
          (MAINTAINING -(computedTariffedCharge~;computedTariffedCharge) \/ I[Amount] FROM
```

------ Derivation ----->

```
    ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
            SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP

           (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTari
           INSERT INTO Isn{detyp=Amount}
            SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;ca

           (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
           INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
            SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT

           (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;exce
           INSERT INTO Isn{detyp=Amount}
            SELECTFROM (rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAssign

           (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
           INSERT INTO Isn{detyp=Amount}
            SELECTFROM ((computedTariffedCharge \/ Delta)~;computedTariffedCharge /\ -I[A
```

```
(TO MAINTAIN  -(computedTariffedCharge~;I[CompTariffedCharge];computedTariffed
INSERT INTO projectedBasicCharge[RentalCase*Amount]
 SELECTFROM ((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa

(TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
INSERT INTO Isn{detyp=Amount}
 SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ cont

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
INSERT INTO Isn{detyp=CompTariffedCharge}
 SELECTFROM (Delta;Delta~ /\ I[CompTariffedCharge]) - I[CompTariffedCharge]

INSERT INTO Isn{detyp=Amount}
 SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]

(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCharge~
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTAINING -(computedTariffedCharge~;computedTariffedCharge) \/ I[Amount] FROM UNI
```

<------End Derivation --

```
ON DELETE Delta FROM computedTariffedCharge[CompTariffedCharge*Amount] EXECUTE
DELETE FROM Isn{detyp=CompTariffedCharge}
 SELECTFROM -((computedTariffedCharge /\ -Delta);(computedTariffedCharge /\ -Del

(TO MAINTAIN  -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedC
```

------ Derivation ----->

```
DELETE FROM Isn{detyp=CompTariffedCharge}
 SELECTFROM -((computedTariffedCharge /\ -Delta);(computedTariffedCharge /\ -Delta)~)

(TO MAINTAIN  -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCharge
```

<------End Derivation --

```
ON INSERT Delta IN firstDate[DateDifference*Date] EXECUTE    -- (ECA rule 103)
ONE OF INSERT INTO rentalExcessPeriod[RentalCase*Integer]
        SELECTFROM (rcDroppedOffDate;lastDate~ /\ contractedEndDate;(firstDate \
```

```
                (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDat
                INSERT INTO Isn{detyp=Integer}
                 SELECTFROM rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contracted

                (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
                INSERT INTO Isn{detyp=DateDifference}
                 SELECTFROM (lastDate;lastDate~ /\ firstDate;(firstDate \/ Delta)~ /\ -I[

                (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDiff
                INSERT INTO Isn{detyp=Date}
                 SELECTFROM ((firstDate \/ Delta)~;firstDate /\ -I[Date]) \/ ((firstDate

                (TO MAINTAIN  -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::Datel
                INSERT INTO Isn{detyp=DateDifference}
                 SELECTFROM (Delta;Delta~ /\ I[DateDifference]) - I[DateDifference]

                INSERT INTO Isn{detyp=Date}
                 SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

          (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compu
          (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compu
          (MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference]
          (MAINTAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifferen
          (MAINTAINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::Datel
```

------ Derivation ----->

```
    ONE OF INSERT INTO rentalExcessPeriod[RentalCase*Integer]
            SELECTFROM (rcDroppedOffDate;lastDate~ /\ contractedEndDate;(firstDate \/ Del

           (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);c
           INSERT INTO Isn{detyp=Integer}
            SELECTFROM rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEndDa

           (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
           INSERT INTO Isn{detyp=DateDifference}
            SELECTFROM (lastDate;lastDate~ /\ firstDate;(firstDate \/ Delta)~ /\ -I[DateD

           (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifferenc
           INSERT INTO Isn{detyp=Date}
            SELECTFROM ((firstDate \/ Delta)~;firstDate /\ -I[Date]) \/ ((firstDate \/ De

           (TO MAINTAIN  -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDiffe
           INSERT INTO Isn{detyp=DateDifference}
            SELECTFROM (Delta;Delta~ /\ I[DateDifference]) - I[DateDifference]

           INSERT INTO Isn{detyp=Date}
```

```
          SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

     (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
     (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
     (MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference] FROM
     (MAINTAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifference*Da
     (MAINTAINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::DateDiffe
```

<------End Derivation --

```
          ON DELETE Delta FROM firstDate[DateDifference*Date] EXECUTE    -- (ECA rule 104)
          ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
                  SELECTFROM (-((contractedEndDate;(firstDate /\ -Delta)~ /\ rcDroppedOffDa

                 (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
                 DELETE FROM rcDroppedOffDate[RentalCase*Date]
                  SELECTFROM (-(V[RentalCase*DateDifference];((firstDate /\ -Delta);contra

                 (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
                 DELETE FROM contractedEndDate[RentalCase*Date]
                  SELECTFROM (-((contractedEndDate;(firstDate /\ -Delta)~ /\ rcDroppedOffDa

                 (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
                 DELETE FROM contractedEndDate[RentalCase*Date]
                  SELECTFROM (-(V[RentalCase*DateDifference];((firstDate /\ -Delta);contra

                 (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
                 DELETE FROM Isn{detyp=RentalCase}
                  SELECTFROM -((contractedEndDate;(firstDate /\ -Delta)~ /\ rcDroppedOffDat

                 (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
                 DELETE FROM Isn{detyp=DateDifference}
                  SELECTFROM -((firstDate /\ -Delta);(firstDate /\ -Delta)~) /\ I[DateDiff

                 (TO MAINTAIN  -I[DateDifference] \/ firstDate;I[Date];firstDate~ FROM UNI
          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
          (MAINTAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifferen
          (MAINTAINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::Datel
```

------ Derivation ----->

```
     ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
             SELECTFROM (-((contractedEndDate;(firstDate /\ -Delta)~ /\ rcDroppedOffDate;l

            (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
            DELETE FROM rcDroppedOffDate[RentalCase*Date]
             SELECTFROM (-(V[RentalCase*DateDifference];((firstDate /\ -Delta);contractedE
```

```
(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM (-((contractedEndDate;(firstDate /\ -Delta)~ /\ rcDroppedOffDate;l

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM (-(V[RentalCase*DateDifference];((firstDate /\ -Delta);contractedE

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((contractedEndDate;(firstDate /\ -Delta)~ /\ rcDroppedOffDate;la

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
DELETE FROM Isn{detyp=DateDifference}
 SELECTFROM -((firstDate /\ -Delta);(firstDate /\ -Delta)~) /\ I[DateDifferenc

(TO MAINTAIN  -I[DateDifference] \/ firstDate;I[Date];firstDate~ FROM UNI firs
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINTAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifference*Da
(MAINTAINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::DateDiffe
```

<------End Derivation --

```
ON INSERT Delta IN lastDate[DateDifference*Date] EXECUTE    -- (ECA rule 105)
ONE OF INSERT INTO rentalExcessPeriod[RentalCase*Integer]
        SELECTFROM (rcDroppedOffDate;(lastDate \/ Delta)~ /\ contractedEndDate;f

       (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDat
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM rentalExcessPeriod~;(rcDroppedOffDate;(lastDate \/ Delta)~ /\

       (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
       INSERT INTO Isn{detyp=DateDifference}
        SELECTFROM (lastDate;(lastDate \/ Delta)~ /\ firstDate;firstDate~ /\ -I[

       (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDiff
       INSERT INTO Isn{detyp=Date}
        SELECTFROM ((lastDate \/ Delta)~;lastDate /\ -I[Date]) \/ ((lastDate \/ I

       (TO MAINTAIN  -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDif
       INSERT INTO Isn{detyp=DateDifference}
        SELECTFROM (Delta;Delta~ /\ I[DateDifference]) - I[DateDifference]

       INSERT INTO Isn{detyp=Date}
        SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
```

```
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
(MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference] 
(MAINTAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*
(MAINTAINING -I[DateDifference] \/ lastDate;lastDate~ FROM TOT lastDate::DateDif
```

------ Derivation ----->

```
ONE OF INSERT INTO rentalExcessPeriod[RentalCase*Integer]
        SELECTFROM (rcDroppedOffDate;(lastDate \/ Delta)~ /\ contractedEndDate;firstD

       (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);c
       INSERT INTO Isn{detyp=Integer}
        SELECTFROM rentalExcessPeriod~;(rcDroppedOffDate;(lastDate \/ Delta)~ /\ cont

       (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
       INSERT INTO Isn{detyp=DateDifference}
        SELECTFROM (lastDate;(lastDate \/ Delta)~ /\ firstDate;firstDate~ /\ -I[DateD

       (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifferenc
       INSERT INTO Isn{detyp=Date}
        SELECTFROM ((lastDate \/ Delta)~;lastDate /\ -I[Date]) \/ ((lastDate \/ Delta

       (TO MAINTAIN  -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifferen
       INSERT INTO Isn{detyp=DateDifference}
        SELECTFROM (Delta;Delta~ /\ I[DateDifference]) - I[DateDifference]

       INSERT INTO Isn{detyp=Date}
        SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference] FROM 
(MAINTAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*Date)
(MAINTAINING -I[DateDifference] \/ lastDate;lastDate~ FROM TOT lastDate::DateDifferen
```

<------End Derivation --

```
ON DELETE Delta FROM lastDate[DateDifference*Date] EXECUTE    -- (ECA rule 106)
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-((contractedEndDate;firstDate~ /\ rcDroppedOffDate;(lastDat

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
       DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifference];(firstDate;contractedEndDate~

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
       DELETE FROM contractedEndDate[RentalCase*Date]
```

```
 SELECTFROM (-((contractedEndDate;firstDate~ /\ rcDroppedOffDate;(lastDat

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM (-(V[RentalCase*DateDifference];(firstDate;contractedEndDate~

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM -((contractedEndDate;firstDate~ /\ rcDroppedOffDate;(lastDate

(TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
DELETE FROM Isn{detyp=DateDifference}
 SELECTFROM -((lastDate /\ -Delta);(lastDate /\ -Delta)~) /\ I[DateDiffer

(TO MAINTAIN  -I[DateDifference] \/ lastDate;I[Date];lastDate~ FROM UNI l
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
(MAINTAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*
(MAINTAINING -I[DateDifference] \/ lastDate;lastDate~ FROM TOT lastDate::DateDif
```

------ Derivation ----->

```
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-((contractedEndDate;firstDate~ /\ rcDroppedOffDate;(lastDate /\

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
       DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifference];(firstDate;contractedEndDate~ /\ (

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-((contractedEndDate;firstDate~ /\ rcDroppedOffDate;(lastDate /\

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM (-(V[RentalCase*DateDifference];(firstDate;contractedEndDate~ /\ (

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM -((contractedEndDate;firstDate~ /\ rcDroppedOffDate;(lastDate /\ -

       (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
       DELETE FROM Isn{detyp=DateDifference}
        SELECTFROM -((lastDate /\ -Delta);(lastDate /\ -Delta)~) /\ I[DateDifference]

       (TO MAINTAIN  -I[DateDifference] \/ lastDate;I[Date];lastDate~ FROM UNI lastDa
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINTAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*Date)
(MAINTAINING -I[DateDifference] \/ lastDate;lastDate~ FROM TOT lastDate::DateDifferen
```

<------End Derivation --

```
        ON INSERT Delta IN computedNrOfExcessDays[DateDifference*Integer] EXECUTE    --
        ONE OF INSERT INTO rentalExcessPeriod[RentalCase*Integer]
                SELECTFROM ((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~)

               (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDat
               INSERT INTO Isn{detyp=Integer}
                SELECTFROM (rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contracte

               (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
               INSERT INTO Isn{detyp=Integer}
                SELECTFROM ((computedNrOfExcessDays \/ Delta)~;computedNrOfExcessDays /\

               (TO MAINTAIN  -(computedNrOfExcessDays~;I[DateDifference];computedNrOfExc
               INSERT INTO Isn{detyp=DateDifference}
                SELECTFROM (Delta;Delta~ /\ I[DateDifference]) - I[DateDifference]

               INSERT INTO Isn{detyp=Integer}
                SELECTFROM (Delta~;Delta /\ I[Integer]) - I[Integer]

        (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
        (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
        (MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDays
        (MAINTAINING -(computedNrOfExcessDays~;computedNrOfExcessDays) \/ I[Integer] FRO
```

------ Derivation ----->

```
     ONE OF INSERT INTO rentalExcessPeriod[RentalCase*Integer]
             SELECTFROM ((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp

            (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);c
            INSERT INTO Isn{detyp=Integer}
             SELECTFROM (rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEndD

            (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
            INSERT INTO Isn{detyp=Integer}
             SELECTFROM ((computedNrOfExcessDays \/ Delta)~;computedNrOfExcessDays /\ -I[I

            (TO MAINTAIN  -(computedNrOfExcessDays~;I[DateDifference];computedNrOfExcessDa
            INSERT INTO Isn{detyp=DateDifference}
             SELECTFROM (Delta;Delta~ /\ I[DateDifference]) - I[DateDifference]

            INSERT INTO Isn{detyp=Integer}
             SELECTFROM (Delta~;Delta /\ I[Integer]) - I[Integer]

     (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
```

```
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDays~ FRO
(MAINTAINING -(computedNrOfExcessDays~;computedNrOfExcessDays) \/ I[Integer] FROM UNI
```

<------End Derivation --

```
ON DELETE Delta FROM computedNrOfExcessDays[DateDifference*Integer] EXECUTE    -
DELETE FROM Isn{detyp=DateDifference}
 SELECTFROM -((computedNrOfExcessDays /\ -Delta);(computedNrOfExcessDays /\ -Del

(TO MAINTAIN  -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDay
```

------ Derivation ----->

```
DELETE FROM Isn{detyp=DateDifference}
 SELECTFROM -((computedNrOfExcessDays /\ -Delta);(computedNrOfExcessDays /\ -Delta)~)

(TO MAINTAIN  -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDays~ FR
```

<------End Derivation --

```
ON INSERT Delta IN distbranch[DistanceBetweenLocations*Branch] EXECUTE    -- (EC
ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (rcDroppedOffBranch;(distbranch \/ Delta)~ /\ contractedDropo

       (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranc
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM rentalLocationPenaltyCharge~;(rcDroppedOffBranch;(distbranch

       (TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
       ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDroppedOffBranch;(dis
                    THEN INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amo
                          SELECTFROM 'a'[RentalCase]*'b'[Amount]

                         (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ cont
                    PICK a,b FROM rentalLocationPenaltyCharge~;(rcDroppedOffBra
                    THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetw
                          SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

                         (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ cont
              (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoff
              NEW x:Amount;
                ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount
                       SELECTFROM (rcDroppedOffBranch;(distbranch \/ Delta)~ /\
```

```
                                    (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contract
                                    INSERT INTO computedLocationPenaltyCharge[DistanceBetween
                                     SELECTFROM ((distbranch \/ Delta);rcDroppedOffBranch~ /\

                                    (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contract
                                (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropo
                              (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoff
                        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
                        INSERT INTO Isn{detyp=DistanceBetweenLocations}
                         SELECTFROM (Delta;Delta~ /\ I[DistanceBetweenLocations]) - I[DistanceBet

                        INSERT INTO Isn{detyp=Branch}
                         SELECTFROM (Delta~;Delta /\ I[Branch]) - I[Branch]

                  (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbra
                  (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbra
                  (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbra
```

------ Derivation ----->

```
     ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
             SELECTFROM (rcDroppedOffBranch;(distbranch \/ Delta)~ /\ contractedDropoffBra

            (TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;dis
            INSERT INTO Isn{detyp=Amount}
             SELECTFROM rentalLocationPenaltyCharge~;(rcDroppedOffBranch;(distbranch \/ De

            (TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /
            ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDroppedOffBranch;(distbran
                          THEN INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
                                SELECTFROM 'a'[RentalCase]*'b'[Amount]

                               (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contracte
                          PICK a,b FROM rentalLocationPenaltyCharge~;(rcDroppedOffBranch;(
                          THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLo
                                SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

                               (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contracte
                        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranc
                        NEW x:Amount;
                          ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
                                  SELECTFROM (rcDroppedOffBranch;(distbranch \/ Delta)~ /\ cont

                                 (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDr
                                 INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocat
                                  SELECTFROM ((distbranch \/ Delta);rcDroppedOffBranch~ /\ (dis

                                 (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDr
```

```
                    (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBra
                  (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranc
            (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distb
            INSERT INTO Isn{detyp=DistanceBetweenLocations}
             SELECTFROM (Delta;Delta~ /\ I[DistanceBetweenLocations]) - I[DistanceBetweenL

            INSERT INTO Isn{detyp=Branch}
             SELECTFROM (Delta~;Delta /\ I[Branch]) - I[Branch]

     (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
     (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
     (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
```

<------End Derivation --

```
          ON DELETE Delta FROM distbranch[DistanceBetweenLocations*Branch] EXECUTE    -- (
          BLOCK
          (CANNOT CHANGE V[Branch*Branch] FROM Completeness of distance table)
```

------ Derivation ----->

```
     BLOCK
     (CANNOT CHANGE V[Branch*Branch] FROM Completeness of distance table)
```

<------End Derivation --

```
          ON INSERT Delta IN distance[DistanceBetweenLocations*Distance] EXECUTE    -- (EC
          ONE OF INSERT INTO Isn{detyp=Distance}
                  SELECTFROM ((distance \/ Delta)~;distance /\ -I[Distance]) \/ ((distance

                 (TO MAINTAIN  -(distance~;distance) \/ I[Distance] FROM UNI distance::Dis
                 INSERT INTO Isn{detyp=DistanceBetweenLocations}
                  SELECTFROM (Delta;Delta~ /\ I[DistanceBetweenLocations]) - I[DistanceBet

                 INSERT INTO Isn{detyp=Distance}
                  SELECTFROM (Delta~;Delta /\ I[Distance]) - I[Distance]

          (MAINTAINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBet
          (MAINTAINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distanc
```

------ Derivation ----->

```
     ONE OF INSERT INTO Isn{detyp=Distance}
             SELECTFROM ((distance \/ Delta)~;distance /\ -I[Distance]) \/ ((distance \/ D
```

```
(TO MAINTAIN  -(distance~;distance) \/ I[Distance] FROM UNI distance::Distance
INSERT INTO Isn{detyp=DistanceBetweenLocations}
 SELECTFROM (Delta;Delta~ /\ I[DistanceBetweenLocations]) - I[DistanceBetweenL

INSERT INTO Isn{detyp=Distance}
 SELECTFROM (Delta~;Delta /\ I[Distance]) - I[Distance]

(MAINTAINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBetweenL
(MAINTAINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distance::Di
```

<------End Derivation --

```
ON DELETE Delta FROM distance[DistanceBetweenLocations*Distance] EXECUTE    -- (
DELETE FROM Isn{detyp=DistanceBetweenLocations}
 SELECTFROM -((distance /\ -Delta);(distance /\ -Delta)~) /\ I[DistanceBetweenLo

(TO MAINTAIN  -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBe
(TO MAINTAIN  -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distan
```

------ Derivation ----->

```
DELETE FROM Isn{detyp=DistanceBetweenLocations}
 SELECTFROM -((distance /\ -Delta);(distance /\ -Delta)~) /\ I[DistanceBetweenLocatio

(TO MAINTAIN  -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBetween
(TO MAINTAIN  -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distance::D
```

<------End Derivation --

```
ON INSERT Delta IN projectedRentalPeriod[RentalCase*Integer] EXECUTE    -- (ECA
ALL of INSERT INTO Isn{detyp=Integer}
        SELECTFROM ((projectedRentalPeriod \/ Delta)~;(contractedStartDate;earli

       (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
       (TO MAINTAIN  -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Intege
       INSERT INTO projectedBasicCharge[RentalCase*Amount]
        SELECTFROM ((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;ren

       (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\

       (TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
       INSERT INTO Isn{detyp=RentalCase}
```

```
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedCarType;contractedC
      THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                  THEN INSERT INTO projectedRentalPeriod[R
                                       SELECTFROM 'a'[RentalCase]*'b'[Int

                                            (TO MAINTAIN  -(contractedCarType;c
                                  PICK a,b FROM projectedRentalPeriod~;('a
                                  THEN INSERT INTO ctcNrOfDays[CompTariffe
                                       SELECTFROM 'b'[CompTariffedCharge]

                                            (TO MAINTAIN  -(contractedCarType;c
                             (MAINTAINING -(contractedCarType;contractedCarT
                             NEW x:Integer;
                               ALL of INSERT INTO projectedRentalPeriod[Renta
                                       SELECTFROM 'a'[RentalCase]*'b'[CompTa

                                         (TO MAINTAIN  -(contractedCarType;cont
                                         INSERT INTO ctcNrOfDays[CompTariffedCh
                                          SELECTFROM 'b'[CompTariffedCharge]*'a

                                         (TO MAINTAIN  -(contractedCarType;cont
                                  (MAINTAINING -(contractedCarType;contractedCa
                             (MAINTAINING -(contractedCarType;contractedCarT
                      (MAINTAINING -(contractedCarType;contractedCarType~ /\
                      ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                  THEN INSERT INTO contractedCarType[Rental
                                       SELECTFROM 'a'[RentalCase]*'b'[Car

                                            (TO MAINTAIN  -(contractedCarType;c
                                  PICK a,b FROM contractedCarType~;('a'[Re
                                  THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                  THEN INSERT INTO rent
                                                       SELECTFROM 'a'[

                                                       (TO MAINTAIN  -(
                                                  PICK a,b FROM rentalT
                                                  THEN INSERT INTO ctcD
                                                       SELECTFROM 'b'[

                                                       (TO MAINTAIN  -(
                                             (MAINTAINING -(contractedCar
                                             NEW x:Amount;
                                               ALL of INSERT INTO rentalT
                                                       SELECTFROM 'a'[Car

                                                 (TO MAINTAIN  -(con
                                                 INSERT INTO ctcDail
                                                  SELECTFROM 'b'[Com
```

(TO MAINTAIN -(con
(MAINTAINING -(contractedC
(MAINTAINING -(contractedCar
(MAINTAINING -(contractedCarType;co
(MAINTAINING -(contractedCarType;contractedCarT
NEW x:CarType;
ALL of INSERT INTO contractedCarType[RentalCa
SELECTFROM 'a'[RentalCase]*'b'[CompTa
(TO MAINTAIN -(contractedCarType;cont
ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
THEN INSERT INTO rentalT
SELECTFROM 'a'[Car
(TO MAINTAIN -(con
PICK a,b FROM rentalTari
THEN INSERT INTO ctcDail
SELECTFROM 'b'[Com
(TO MAINTAIN -(con
(MAINTAINING -(contractedCarTyp
NEW x:Amount;
ALL of INSERT INTO rentalTari
SELECTFROM 'x'[CarTyp
(TO MAINTAIN -(contra
INSERT INTO ctcDailyAm
SELECTFROM 'b'[CompTa
(TO MAINTAIN -(contra
(MAINTAINING -(contractedCarT
(MAINTAINING -(contractedCarTyp
(MAINTAINING -(contractedCarType;contra
(MAINTAINING -(contractedCarType;contractedCa
(MAINTAINING -(contractedCarType;contractedCarT
(MAINTAINING -(contractedCarType;contractedCarType~ /\
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projec
PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmoun
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPer
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;pro
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINTAINING -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Integer] FROM

------ Derivation ----->

```
ALL of INSERT INTO Isn{detyp=Integer}
        SELECTFROM ((projectedRentalPeriod \/ Delta)~;(contractedStartDate;earliestDa

       (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
       (TO MAINTAIN  -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Integer] FR
       INSERT INTO projectedBasicCharge[RentalCase*Amount]
        SELECTFROM ((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa

       (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
       INSERT INTO Isn{detyp=Amount}
        SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ cont

       (TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
       INSERT INTO Isn{detyp=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedCarType;contractedCarTyp
              THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                     THEN INSERT INTO projectedRentalPeriod[Rental
                                           SELECTFROM 'a'[RentalCase]*'b'[Integer]

                                          (TO MAINTAIN  -(contractedCarType;contra
                                     PICK a,b FROM projectedRentalPeriod~;('a'[Ren
                                     THEN INSERT INTO ctcNrOfDays[CompTariffedChar
                                           SELECTFROM 'b'[CompTariffedCharge]*'a'[

                                               (TO MAINTAIN  -(contractedCarType;contra
                                  (MAINTAINING -(contractedCarType;contractedCarType~
                                  NEW x:Integer;
                                    ALL of INSERT INTO projectedRentalPeriod[RentalCas
                                            SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

                                             (TO MAINTAIN  -(contractedCarType;contracte
                                             INSERT INTO ctcNrOfDays[CompTariffedCharge*
                                              SELECTFROM 'b'[CompTariffedCharge]*'a'[Ren

                                               (TO MAINTAIN  -(contractedCarType;contracte
                                    (MAINTAINING -(contractedCarType;contractedCarType
                                  (MAINTAINING -(contractedCarType;contractedCarType~
                           (MAINTAINING -(contractedCarType;contractedCarType~ /\ proj
                           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                     THEN INSERT INTO contractedCarType[RentalCase
                                           SELECTFROM 'a'[RentalCase]*'b'[CarType]

                                          (TO MAINTAIN  -(contractedCarType;contra
                                     PICK a,b FROM contractedCarType~;('a'[RentalC
                                     THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                    THEN INSERT INTO rentalTar
                                                          SELECTFROM 'a'[CarTy
```

```
                                                    (TO MAINTAIN  -(contr
                                                PICK a,b FROM rentalTariff
                                                THEN INSERT INTO ctcDailyA
                                                      SELECTFROM 'b'[CompT

                                                          (TO MAINTAIN  -(contr
                                                (MAINTAINING -(contractedCarType;
                                                NEW x:Amount;
                                                  ALL of INSERT INTO rentalTariff
                                                          SELECTFROM 'a'[CarType]

                                                            (TO MAINTAIN  -(contract
                                                            INSERT INTO ctcDailyAmou
                                                             SELECTFROM 'b'[CompTari

                                                           (TO MAINTAIN  -(contract
                                                  (MAINTAINING -(contractedCarTyp
                                                (MAINTAINING -(contractedCarType;
                                          (MAINTAINING -(contractedCarType;contrac
                                  (MAINTAINING -(contractedCarType;contractedCarType~
                                  NEW x:CarType;
                                    ALL of INSERT INTO contractedCarType[RentalCase*Ca
                                            SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

                                                 (TO MAINTAIN  -(contractedCarType;contracte
                                                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                          THEN INSERT INTO rentalTariff
                                                                SELECTFROM 'a'[CarType]

                                                                (TO MAINTAIN  -(contract
                                                          PICK a,b FROM rentalTariffPer
                                                          THEN INSERT INTO ctcDailyAmou
                                                                SELECTFROM 'b'[CompTari

                                                              (TO MAINTAIN  -(contract
                                                    (MAINTAINING -(contractedCarType;con
                                                    NEW x:Amount;
                                                      ALL of INSERT INTO rentalTariffPer
                                                              SELECTFROM 'x'[CarType]*'a

                                                               (TO MAINTAIN  -(contractedC
                                                               INSERT INTO ctcDailyAmount[
                                                                SELECTFROM 'b'[CompTariffe

                                                             (TO MAINTAIN  -(contractedC
                                                      (MAINTAINING -(contractedCarType;c
                                                    (MAINTAINING -(contractedCarType;con
                                            (MAINTAINING -(contractedCarType;contracted
                                    (MAINTAINING -(contractedCarType;contractedCarType
```

```
                                        (MAINTAINING -(contractedCarType;contractedCarType~
                                   (MAINTAINING -(contractedCarType;contractedCarType~ /\ proj
                              (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRe
                         PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount;ren
                         THEN BLOCK
                              (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger proje
                    (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;p
               (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
               (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
               (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
               (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
               (MAINTAINING -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Integer] FROM UNI p
```

<------End Derivation --

```
          ON DELETE Delta FROM projectedRentalPeriod[RentalCase*Integer] EXECUTE    -- (EC
          ALL of ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
                         SELECTFROM ((-projectedRentalPeriod /\ (contractedStartDate;earli

                        (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEn
                        DELETE FROM earliestDate[DateDifferencePlusOne*Date]
                         SELECTFROM computedRentalPeriod;((-projectedRentalPeriod~ /\ comp

                        (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEn
                        DELETE FROM contractedEndDate[RentalCase*Date]
                         SELECTFROM ((-projectedRentalPeriod /\ (contractedStartDate;earli

                        (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEn
                        DELETE FROM latestDate[DateDifferencePlusOne*Date]
                         SELECTFROM computedRentalPeriod;((-projectedRentalPeriod~ /\ comp

                        (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEn
                        DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
                         SELECTFROM (earliestDate;contractedStartDate~ /\ latestDate;contr

                        (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEn
                    (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;la
                    ONE OF DELETE FROM contractedCarType[RentalCase*CarType]
                         SELECTFROM (-(((projectedRentalPeriod /\ -Delta);ctcNrOfDays~ /\

                        (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedR
                        DELETE FROM contractedCarType[RentalCase*CarType]
                         SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;(proj

                        (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedR
                        DELETE FROM projectedRentalPeriod[RentalCase*Integer]
                         SELECTFROM (-(((projectedRentalPeriod /\ -Delta);ctcNrOfDays~ /\
```

```
                    (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedR
                    DELETE FROM projectedRentalPeriod[RentalCase*Integer]
                     SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;(proj

                    (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedR
                    DELETE FROM Isn{detyp=RentalCase}
                     SELECTFROM -(((projectedRentalPeriod /\ -Delta);ctcNrOfDays~ /\ c

                    (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedR
          (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeri
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;proj
```

------ Derivation ----->

```
ALL of ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
               SELECTFROM ((-projectedRentalPeriod /\ (contractedStartDate;earliestDa

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate
              DELETE FROM earliestDate[DateDifferencePlusOne*Date]
               SELECTFROM computedRentalPeriod;((-projectedRentalPeriod~ /\ computedR

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate
              DELETE FROM contractedEndDate[RentalCase*Date]
               SELECTFROM ((-projectedRentalPeriod /\ (contractedStartDate;earliestDa

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate
              DELETE FROM latestDate[DateDifferencePlusOne*Date]
               SELECTFROM computedRentalPeriod;((-projectedRentalPeriod~ /\ computedR

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate
              DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
               SELECTFROM (earliestDate;contractedStartDate~ /\ latestDate;contracted

              (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate
       (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestD
       ONE OF DELETE FROM contractedCarType[RentalCase*CarType]
               SELECTFROM (-(((projectedRentalPeriod /\ -Delta);ctcNrOfDays~ /\ contr

              (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRental
              DELETE FROM contractedCarType[RentalCase*CarType]
               SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;(projected

              (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRental
              DELETE FROM projectedRentalPeriod[RentalCase*Integer]
               SELECTFROM (-(((projectedRentalPeriod /\ -Delta);ctcNrOfDays~ /\ contr

              (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRental
```

```
                    DELETE FROM projectedRentalPeriod[RentalCase*Integer]
                     SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;(projected

                    (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRental
                    DELETE FROM Isn{detyp=RentalCase}
                     SELECTFROM -(((projectedRentalPeriod /\ -Delta);ctcNrOfDays~ /\ contra

                    (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRental
              (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;p
      (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
      (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
```

<------End Derivation --

```
           ON INSERT Delta IN projectedBasicCharge[RentalCase*Amount] EXECUTE    -- (ECA ru
           ALL of INSERT INTO Isn{detyp=Amount}
                   SELECTFROM ((projectedBasicCharge \/ Delta)~;(projectedRentalPeriod;ctcN

                  (TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
                  (TO MAINTAIN  -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] I
                  INSERT INTO Isn{detyp=RentalCase}
                   SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

           (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
           (MAINTAINING -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] FROM UNI
```

------ Derivation ----->

```
      ALL of INSERT INTO Isn{detyp=Amount}
              SELECTFROM ((projectedBasicCharge \/ Delta)~;(projectedRentalPeriod;ctcNrOfDa

             (TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
             (TO MAINTAIN  -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] FROM
             INSERT INTO Isn{detyp=RentalCase}
              SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

      (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
      (MAINTAINING -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] FROM UNI proj
```

<------End Derivation --

```
           ON DELETE Delta FROM projectedBasicCharge[RentalCase*Amount] EXECUTE    -- (ECA
           ONE OF DELETE FROM projectedRentalPeriod[RentalCase*Integer]
                   SELECTFROM ((-projectedBasicCharge /\ (projectedRentalPeriod;ctcNrOfDays
```

```
                (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;
                DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
                 SELECTFROM computedTariffedCharge;((-projectedBasicCharge~ /\ computedTa

                (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;
                DELETE FROM contractedCarType[RentalCase*CarType]
                 SELECTFROM ((-projectedBasicCharge /\ (projectedRentalPeriod;ctcNrOfDays

                (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;
                DELETE FROM rentalTariffPerDay[CarType*Amount]
                 SELECTFROM contractedCarType~;((-projectedBasicCharge /\ (projectedRental

                (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;
                DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
                 SELECTFROM computedTariffedCharge;((-projectedBasicCharge~ /\ computedTa

                (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;
                DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
                 SELECTFROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount;rentalT

                (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;
          (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
```

------ Derivation ----->

```
    ONE OF DELETE FROM projectedRentalPeriod[RentalCase*Integer]
            SELECTFROM ((-projectedBasicCharge /\ (projectedRentalPeriod;ctcNrOfDays~ /\

           (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
           DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
            SELECTFROM computedTariffedCharge;((-projectedBasicCharge~ /\ computedTariffe

           (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
           DELETE FROM contractedCarType[RentalCase*CarType]
            SELECTFROM ((-projectedBasicCharge /\ (projectedRentalPeriod;ctcNrOfDays~ /\

           (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
           DELETE FROM rentalTariffPerDay[CarType*Amount]
            SELECTFROM contractedCarType~;((-projectedBasicCharge /\ (projectedRentalPeri

           (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
           DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
            SELECTFROM computedTariffedCharge;((-projectedBasicCharge~ /\ computedTariffe

           (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
           DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
            SELECTFROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount;rentalTariff
```

```
       (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
```

<------End Derivation --

```
     ON INSERT Delta IN sessionUser[SESSION*Person] EXECUTE    -- (ECA rule 117)
     ALL of INSERT INTO Isn{detyp=Person}
             SELECTFROM ((sessionUser \/ Delta)~;sessionUser /\ -I[Person]) \/ ((sess

            (TO MAINTAIN  -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUs
            INSERT INTO Isn{detyp=SESSION}
             SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

     (MAINTAINING -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUser::SESS
```

------ Derivation ----->

```
ALL of INSERT INTO Isn{detyp=Person}
        SELECTFROM ((sessionUser \/ Delta)~;sessionUser /\ -I[Person]) \/ ((sessionUs

       (TO MAINTAIN  -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUser::S
       INSERT INTO Isn{detyp=SESSION}
        SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

(MAINTAINING -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUser::SESSION*P
```

<------End Derivation --

```
     ON INSERT Delta IN sessionToday[SESSION*Date] EXECUTE    -- (ECA rule 119)
     ONE OF INSERT INTO Isn{detyp=Date}
             SELECTFROM ((sessionToday \/ Delta)~;sessionToday /\ -I[Date]) \/ ((sess

            (TO MAINTAIN  -(sessionToday~;I[SESSION];sessionToday) \/ I[Date] FROM In
            INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBr

            (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
            INSERT INTO Isn{detyp=Date}
             SELECTFROM (contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Y

            (TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
            INSERT INTO rcDroppedOffDate[RentalCase*Date]
             SELECTFROM (rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));

            (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
```

```
                INSERT INTO Isn{detyp=Date}
                 SELECTFROM (rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;

                (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailable
                INSERT INTO Isn{detyp=SESSION}
                 SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

                INSERT INTO Isn{detyp=Date}
                 SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

          (MAINTAINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize today's d
          (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
          (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
          (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
          (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
          (MAINTAINING -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionToday::SES
```

------ Derivation ----->

```
     ONE OF INSERT INTO Isn{detyp=Date}
             SELECTFROM ((sessionToday \/ Delta)~;sessionToday /\ -I[Date]) \/ ((sessionTo

            (TO MAINTAIN  -(sessionToday~;I[SESSION];sessionToday) \/ I[Date] FROM Initial
            INSERT INTO contractedStartDate[RentalCase*Date]
             SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR

            (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBran
            INSERT INTO Isn{detyp=Date}
             SELECTFROM (contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[Y

            (TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
            INSERT INTO rcDroppedOffDate[RentalCase*Date]
             SELECTFROM (rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi

            (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se
            INSERT INTO Isn{detyp=Date}
             SELECTFROM (rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAv

            (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;ca
            INSERT INTO Isn{detyp=SESSION}
             SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

            INSERT INTO Isn{detyp=Date}
             SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]

      (MAINTAINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize today's date)
      (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
      (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
```

```
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINTAINING -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionToday::SESSION*
```

<------End Derivation --

```
ON DELETE Delta FROM sessionToday[SESSION*Date] EXECUTE    -- (ECA rule 120)
DELETE FROM Isn{detyp=SESSION}
 SELECTFROM -((sessionToday /\ -Delta);(sessionToday /\ -Delta)~) /\ I[SESSION]

(TO MAINTAIN  -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize today's
```

------ Derivation ----->

```
DELETE FROM Isn{detyp=SESSION}
 SELECTFROM -((sessionToday /\ -Delta);(sessionToday /\ -Delta)~) /\ I[SESSION]

(TO MAINTAIN  -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize today's date)
```

<------End Derivation --

```
ON INSERT Delta IN sessionNewUserRC[SESSION*RentalCase] EXECUTE    -- (ECA rule
ALL of INSERT INTO Isn{detyp=SESSION}
        SELECTFROM (sessionNewUserRC;(sessionNewUserRC \/ Delta)~ /\ -I[SESSION]

       (TO MAINTAIN  -(sessionNewUserRC;sessionNewUserRC~) \/ I[SESSION] FROM IN
       INSERT INTO Isn{detyp=RentalCase}
        SELECTFROM ((sessionNewUserRC \/ Delta)~;sessionNewUserRC /\ -I[RentalCa

       (TO MAINTAIN  -(sessionNewUserRC~;sessionNewUserRC) \/ I[RentalCase] FROM
       ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];se
                    THEN INSERT INTO sessionNewUserRC[SESSION*RentalCase]
                          SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC)
                    PICK a,b FROM sessionNewUserRC~;(('_SESSION'[SESSION];sessi
                    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                    THEN INSERT INTO rcUserRequestedQ[Rental
                                          SELECTFROM 'a'[RentalCase]*'b'[Yes

                                         (TO MAINTAIN  -('_SESSION'[SESSION]
                                    PICK a,b FROM rcUserRequestedQ~;('a'[Ren
                                    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                    THEN BLOCK
                                                         (CANNOT CHANGE '
```

```
                                                    PICK a,b FROM 'Yes'[Y
                                                    THEN BLOCK
                                                         (CANNOT CHANGE V
                                                (MAINTAINING -('_SESSION'[SES
                                                NEW x:YesNoAnswer;
                                                  ALL of BLOCK
                                                         (CANNOT CHANGE 'Yes
                                                         BLOCK
                                                         (CANNOT CHANGE V[Ye
                                                  (MAINTAINING -('_SESSION'[
                                                (MAINTAINING -('_SESSION'[SE
                                           (MAINTAINING -('_SESSION'[SESSION];
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewUs
                                    NEW x:YesNoAnswer;
                                      ALL of INSERT INTO rcUserRequestedQ[RentalCas
                                              SELECTFROM 'a'[RentalCase]*'b'[Rental

                                             (TO MAINTAIN  -('_SESSION'[SESSION];se
                                             ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                          THEN BLOCK
                                                               (CANNOT CHANGE 'Yes
                                                          PICK a,b FROM 'Yes'[YesN
                                                          THEN BLOCK
                                                               (CANNOT CHANGE V[Ye
                                                    (MAINTAINING -('_SESSION'[SESSI
                                                    NEW x:YesNoAnswer;
                                                      ALL of BLOCK
                                                             (CANNOT CHANGE 'Yes'[Y
                                                             BLOCK
                                                             (CANNOT CHANGE V[YesNo
                                                      (MAINTAINING -('_SESSION'[SES
                                                    (MAINTAINING -('_SESSION'[SESSI
                                                (MAINTAINING -('_SESSION'[SESSION];ses
                                          (MAINTAINING -('_SESSION'[SESSION];sessionNew
                                       (MAINTAINING -('_SESSION'[SESSION];sessionNewUs
                                  (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNew
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewUserRC[SESSION*RentalCase]
          SELECTFROM (('_SESSION'[SESSION];sessionNewUserRC /\ -(s

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \/ s
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Ren
                       THEN INSERT INTO rcUserRequestedQ[RentalCas
                             SELECTFROM 'a'[RentalCase]*'b'[YesNoA

                             (TO MAINTAIN  -('_SESSION'[SESSION];se
                       PICK a,b FROM rcUserRequestedQ~;('x'[Rental
                       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                    THEN BLOCK
```

```
                                                    (CANNOT CHANGE 'Yes
                                                PICK a,b FROM 'Yes'[YesN
                                                THEN BLOCK
                                                    (CANNOT CHANGE V[Ye
                                            (MAINTAINING -('_SESSION'[SESSI
                                            NEW x:YesNoAnswer;
                                              ALL of BLOCK
                                                     (CANNOT CHANGE 'Yes'[Y
                                                     BLOCK
                                                     (CANNOT CHANGE V[YesNo
                                              (MAINTAINING -('_SESSION'[SES
                                            (MAINTAINING -('_SESSION'[SESSI
                                  (MAINTAINING -('_SESSION'[SESSION];ses
                              (MAINTAINING -('_SESSION'[SESSION];sessionNewUserR
                              NEW x:YesNoAnswer;
                                ALL of INSERT INTO rcUserRequestedQ[RentalCase*Y
                                       SELECTFROM 'x'[RentalCase]*(('_SESSION'[

                                     (TO MAINTAIN  -('_SESSION'[SESSION];sessi
                                     ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
                                         THEN BLOCK
                                              (CANNOT CHANGE 'Yes'[YesNoAns
                                         PICK a,b FROM 'Yes'[YesNoAnswer];(
                                         THEN BLOCK
                                              (CANNOT CHANGE V[YesNoAnswer*
                                     (MAINTAINING -('_SESSION'[SESSION];sessio
                                (MAINTAINING -('_SESSION'[SESSION];sessionNewUse
                              (MAINTAINING -('_SESSION'[SESSION];sessionNewUserR
                        (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ s
                  (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionN
             (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNew
       (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((sessionNewUserRC \/ D
         THEN INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
               SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

            (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];
         PICK a,b FROM rcUserRequestedQ~;(((sessionNewUserRC \/ Delt
         THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                         THEN BLOCK
                              (CANNOT CHANGE 'Yes'[YesNoAnswer] F
                         PICK a,b FROM 'Yes'[YesNoAnswer];('a'[Ye
                         THEN BLOCK
                              (CANNOT CHANGE V[YesNoAnswer*Rental
                    (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SES
                    NEW x:YesNoAnswer;
                      ALL of BLOCK
                             (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM
                             BLOCK
                             (CANNOT CHANGE V[YesNoAnswer*RentalCas
```

```
                                                (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SI
                                              (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SES
                                            (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];s
                                  (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUse
                                  NEW x:YesNoAnswer;
                                    ALL of INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
                                            SELECTFROM (((sessionNewUserRC \/ Delta)~;'_SESSION'[SES

                                           (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];ses
                                           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswe
                                                  THEN BLOCK
                                                       (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Submit
                                                  PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]
                                                  THEN BLOCK
                                                       (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM
                                           (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sess
                                    (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewU
                                  (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUse
                         (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \/
                 (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserR
                 (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserR
                 (MAINTAINING -(sessionNewUserRC;sessionNewUserRC~) \/ I[SESSION] FROM INJ sessio
                 (MAINTAINING -(sessionNewUserRC~;sessionNewUserRC) \/ I[RentalCase] FROM UNI ses
```

------ Derivation ----->

```
     ALL of INSERT INTO Isn{detyp=SESSION}
             SELECTFROM (sessionNewUserRC;(sessionNewUserRC \/ Delta)~ /\ -I[SESSION]) \/

            (TO MAINTAIN  -(sessionNewUserRC;sessionNewUserRC~) \/ I[SESSION] FROM INJ ses
            INSERT INTO Isn{detyp=RentalCase}
             SELECTFROM ((sessionNewUserRC \/ Delta)~;sessionNewUserRC /\ -I[RentalCase])

            (TO MAINTAIN  -(sessionNewUserRC~;sessionNewUserRC) \/ I[RentalCase] FROM UNI
            ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];session
                          THEN INSERT INTO sessionNewUserRC[SESSION*RentalCase]
                                SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                               (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \/ se
                            PICK a,b FROM sessionNewUserRC~;(('_SESSION'[SESSION];sessionNew
                            THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                                  THEN INSERT INTO rcUserRequestedQ[RentalCase*
                                                        SELECTFROM 'a'[RentalCase]*'b'[YesNoAns

                                                       (TO MAINTAIN  -('_SESSION'[SESSION];sess
                                                  PICK a,b FROM rcUserRequestedQ~;('a'[RentalCa
                                                  THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                                THEN BLOCK
```

```
                                                    (CANNOT CHANGE 'Yes'[
                                                  PICK a,b FROM 'Yes'[YesNoA
                                                  THEN BLOCK
                                                       (CANNOT CHANGE V[YesN
                                             (MAINTAINING -('_SESSION'[SESSION
                                             NEW x:YesNoAnswer;
                                               ALL of BLOCK
                                                      (CANNOT CHANGE 'Yes'[Yes
                                                      BLOCK
                                                      (CANNOT CHANGE V[YesNoAn
                                                (MAINTAINING -('_SESSION'[SESSI
                                               (MAINTAINING -('_SESSION'[SESSION
                                          (MAINTAINING -('_SESSION'[SESSION];sessi
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC)
                                    NEW x:YesNoAnswer;
                                      ALL of INSERT INTO rcUserRequestedQ[RentalCase*Yes
                                              SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                             (TO MAINTAIN  -('_SESSION'[SESSION];session
                                             ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                          THEN BLOCK
                                                               (CANNOT CHANGE 'Yes'[Yes
                                                             PICK a,b FROM 'Yes'[YesNoAnsw
                                                             THEN BLOCK
                                                               (CANNOT CHANGE V[YesNoAn
                                                    (MAINTAINING -('_SESSION'[SESSION];s
                                                    NEW x:YesNoAnswer;
                                                      ALL of BLOCK
                                                             (CANNOT CHANGE 'Yes'[YesNoA
                                                             BLOCK
                                                             (CANNOT CHANGE V[YesNoAnswe
                                                       (MAINTAINING -('_SESSION'[SESSION]
                                                    (MAINTAINING -('_SESSION'[SESSION];s
                                             (MAINTAINING -('_SESSION'[SESSION];sessionN
                                       (MAINTAINING -('_SESSION'[SESSION];sessionNewUserR
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC)
                          (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ ses
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserR
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewUserRC[SESSION*RentalCase]
          SELECTFROM (('_SESSION'[SESSION];sessionNewUserRC /\ -(sessio

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \/ sessi
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCa
                       THEN INSERT INTO rcUserRequestedQ[RentalCase*Yes
                             SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer

                            (TO MAINTAIN  -('_SESSION'[SESSION];session
                          PICK a,b FROM rcUserRequestedQ~;('x'[RentalCase]
                          THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
```

```
                                                    THEN BLOCK
                                                         (CANNOT CHANGE 'Yes'[Yes
                                                    PICK a,b FROM 'Yes'[YesNoAnsw
                                                    THEN BLOCK
                                                         (CANNOT CHANGE V[YesNoAn
                                               (MAINTAINING -('_SESSION'[SESSION];s
                                               NEW x:YesNoAnswer;
                                                 ALL of BLOCK
                                                        (CANNOT CHANGE 'Yes'[YesNoA
                                                        BLOCK
                                                        (CANNOT CHANGE V[YesNoAnswe
                                                  (MAINTAINING -('_SESSION'[SESSION]
                                               (MAINTAINING -('_SESSION'[SESSION];s
                                        (MAINTAINING -('_SESSION'[SESSION];sessionN
                                  (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/
                                  NEW x:YesNoAnswer;
                                    ALL of INSERT INTO rcUserRequestedQ[RentalCase*YesNoA
                                            SELECTFROM 'x'[RentalCase]*(('_SESSION'[SESSI

                                           (TO MAINTAIN  -('_SESSION'[SESSION];sessionNew
                                           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'
                                                  THEN BLOCK
                                                       (CANNOT CHANGE 'Yes'[YesNoAnswer]
                                                  PICK a,b FROM 'Yes'[YesNoAnswer];('x'[Y
                                                  THEN BLOCK
                                                       (CANNOT CHANGE V[YesNoAnswer*Renta
                                           (MAINTAINING -('_SESSION'[SESSION];sessionNewU
                                     (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC)
                                  (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/
                            (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessio
                      (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUse
                (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserR
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUse
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((sessionNewUserRC \/ Delta)
          THEN INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
               SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

               (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessi
          PICK a,b FROM rcUserRequestedQ~;(((sessionNewUserRC \/ Delta)~;'
          THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNo
                              THEN BLOCK
                                   (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM S
                              PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAn
                              THEN BLOCK
                                   (CANNOT CHANGE V[YesNoAnswer*RentalCase]
                            (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION]
                            NEW x:YesNoAnswer;
                              ALL of BLOCK
                                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Subm
                                     BLOCK
```

```
                                                    (CANNOT CHANGE V[YesNoAnswer*RentalCase] FR
                                                 (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSIO
                                              (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION]
                                           (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessio
                        (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
                        NEW x:YesNoAnswer;
                          ALL of INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
                                  SELECTFROM (((sessionNewUserRC \/ Delta)~;'_SESSION'[SESSION]

                                     (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionN
                                     ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*((
                                           THEN BLOCK
                                                (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Submit rent
                                           PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*(((s
                                           THEN BLOCK
                                                (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Subm
                                     (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNe
                          (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC
                        (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
                 (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \/ rcUs
        (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserReques
        (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserReques
        (MAINTAINING -(sessionNewUserRC;sessionNewUserRC~) \/ I[SESSION] FROM INJ sessionNewU
        (MAINTAINING -(sessionNewUserRC~;sessionNewUserRC) \/ I[RentalCase] FROM UNI sessionN
```

<------End Derivation --

```
           ON DELETE Delta FROM sessionNewUserRC[SESSION*RentalCase] EXECUTE    -- (ECA rul
           DELETE FROM sessionNewUserRC[SESSION*RentalCase]
            SELECTFROM '_SESSION'[SESSION];(-((sessionNewUserRC /\ -Delta);rcUserRequestedQ

           (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserR
```

------ Derivation ----->

```
        DELETE FROM sessionNewUserRC[SESSION*RentalCase]
         SELECTFROM '_SESSION'[SESSION];(-((sessionNewUserRC /\ -Delta);rcUserRequestedQ;'Yes

        (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserReque
```

<------End Derivation --

```
           ON INSERT Delta IN sessionBranch[SESSION*Branch] EXECUTE    -- (ECA rule 123)
           ALL of INSERT INTO contractedPickupBranch[RentalCase*Branch]
                   SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBr
```

```
                (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
                INSERT INTO Isn{detyp=Branch}
                 SELECTFROM (contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ

                (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequest
                (TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailab
                (TO MAINTAIN  -(sessionBranch~;sessionBranch) \/ I[Branch] FROM UNI sessi
                INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
                 SELECTFROM (rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));

                (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
                INSERT INTO Isn{detyp=SESSION}
                 SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

          (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
          (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
          (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
          (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
          (MAINTAINING -(sessionBranch~;sessionBranch) \/ I[Branch] FROM UNI sessionBranch
```

------ Derivation ----->

```
     ALL of INSERT INTO contractedPickupBranch[RentalCase*Branch]
             SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR

            (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBran
            INSERT INTO Isn{detyp=Branch}
             SELECTFROM (contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes

            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'
            (TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;
            (TO MAINTAIN  -(sessionBranch~;sessionBranch) \/ I[Branch] FROM UNI sessionBra
            INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
             SELECTFROM (rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi

            (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se
            INSERT INTO Isn{detyp=SESSION}
             SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

     (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
     (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
     (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
     (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
     (MAINTAINING -(sessionBranch~;sessionBranch) \/ I[Branch] FROM UNI sessionBranch::SES
```

<------End Derivation --

```
ON INSERT Delta IN sessionNewBranchRC[SESSION*RentalCase] EXECUTE    -- (ECA rul
ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM ((sessionNewBranchRC \/ Delta)~;sessionNewBranchRC;(I[RentalC

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\
       INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra

       (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
       INSERT INTO Isn{detyp=Branch}
        SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;

       (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequest
       INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra

       (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
       INSERT INTO Isn{detyp=Date}
        SELECTFROM contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Ye

       (TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
       INSERT INTO Isn{detyp=RentalCase}
        SELECTFROM ((sessionNewBranchRC \/ Delta)~;sessionNewBranchRC /\ -I[Renta

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] I
       INSERT INTO Isn{detyp=SESSION}
        SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

       ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];se
                    THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                          SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC
                    PICK a,b FROM sessionNewBranchRC~;(('_SESSION'[SESSION];ses
                    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                   THEN INSERT INTO rcBranchRequestedQ[Renta
                                         SELECTFROM 'a'[RentalCase]*'b'[Yes

                                        (TO MAINTAIN  -('_SESSION'[SESSION]
                                   PICK a,b FROM rcBranchRequestedQ~;('a'[R
                                   THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                  THEN BLOCK
                                                       (CANNOT CHANGE '
                                                  PICK a,b FROM 'Yes'[Y
                                                  THEN BLOCK
                                                       (CANNOT CHANGE V
                                              (MAINTAINING -('_SESSION'[SES
                                              NEW x:YesNoAnswer;
                                                ALL of BLOCK
```

```
                                                    (CANNOT CHANGE 'Yes
                                                    BLOCK
                                                    (CANNOT CHANGE V[Ye
                                                (MAINTAINING -('_SESSION'[
                                              (MAINTAINING -('_SESSION'[SE
                                          (MAINTAINING -('_SESSION'[SESSION];
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBr
                                    NEW x:YesNoAnswer;
                                      ALL of INSERT INTO rcBranchRequestedQ[RentalC
                                              SELECTFROM 'a'[RentalCase]*'b'[Rental

                                              (TO MAINTAIN  -('_SESSION'[SESSION];se
                                              ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                          THEN BLOCK
                                                               (CANNOT CHANGE 'Yes
                                                          PICK a,b FROM 'Yes'[YesN
                                                          THEN BLOCK
                                                               (CANNOT CHANGE V[Ye
                                                    (MAINTAINING -('_SESSION'[SESSI
                                                    NEW x:YesNoAnswer;
                                                      ALL of BLOCK
                                                             (CANNOT CHANGE 'Yes'[Y
                                                             BLOCK
                                                             (CANNOT CHANGE V[YesNo
                                                      (MAINTAINING -('_SESSION'[SES
                                                    (MAINTAINING -('_SESSION'[SESSI
                                              (MAINTAINING -('_SESSION'[SESSION];ses
                                        (MAINTAINING -('_SESSION'[SESSION];sessionNew
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBr
                          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC)
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionN
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
          SELECTFROM (('_SESSION'[SESSION];sessionNewBranchRC /\ -

        (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Ren
                    THEN INSERT INTO rcBranchRequestedQ[RentalC
                          SELECTFROM 'a'[RentalCase]*'b'[YesNoA

                          (TO MAINTAIN  -('_SESSION'[SESSION];se
                        PICK a,b FROM rcBranchRequestedQ~;('x'[Rent
                        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                    THEN BLOCK
                                         (CANNOT CHANGE 'Yes
                                    PICK a,b FROM 'Yes'[YesN
                                    THEN BLOCK
                                         (CANNOT CHANGE V[Ye
                                (MAINTAINING -('_SESSION'[SESSI
                                NEW x:YesNoAnswer;
```

```
                                                    ALL of BLOCK
                                                           (CANNOT CHANGE 'Yes'[Y
                                                           BLOCK
                                                           (CANNOT CHANGE V[YesNo
                                                    (MAINTAINING -('_SESSION'[SES
                                                 (MAINTAINING -('_SESSION'[SESSI
                                           (MAINTAINING -('_SESSION'[SESSION];ses
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                                    NEW x:YesNoAnswer;
                                      ALL of INSERT INTO rcBranchRequestedQ[RentalCase
                                              SELECTFROM 'x'[RentalCase]*(('_SESSION'[

                                                    (TO MAINTAIN  -('_SESSION'[SESSION];sessi
                                                    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
                                                           THEN BLOCK
                                                                (CANNOT CHANGE 'Yes'[YesNoAns
                                                           PICK a,b FROM 'Yes'[YesNoAnswer];(
                                                           THEN BLOCK
                                                                (CANNOT CHANGE V[YesNoAnswer*
                                                    (MAINTAINING -('_SESSION'[SESSION];sessio
                                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBra
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                             (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/
                       (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessio
                 (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionN
           (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranc
           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((sessionNewBranchRC \/
                         THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                               SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                                    (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION]
                                    PICK a,b FROM rcBranchRequestedQ~;(((sessionNewBranchRC \/
                                    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                                   THEN BLOCK
                                                        (CANNOT CHANGE 'Yes'[YesNoAnswer] F
                                                   PICK a,b FROM 'Yes'[YesNoAnswer];('a'[Ye
                                                   THEN BLOCK
                                                        (CANNOT CHANGE V[YesNoAnswer*Rental
                                              (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[S
                                              NEW x:YesNoAnswer;
                                                ALL of BLOCK
                                                       (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM
                                                       BLOCK
                                                       (CANNOT CHANGE V[YesNoAnswer*RentalCas
                                                (MAINTAINING -(sessionNewBranchRC~;'_SESSION'
                                              (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[S
                                        (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
                                 (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewB
                                 NEW x:YesNoAnswer;
                                   ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
```

```
                    SELECTFROM (((sessionNewBranchRC \/ Delta)~;'_SESSION'[SE

                   (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];se
                   ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswe
                          THEN BLOCK
                               (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Comple
                          PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]
                          THEN BLOCK
                               (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM
                  (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];ses
            (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
         (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBr
  (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
 ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];ses
               THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                    SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                   (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC
                  PICK a,b FROM sessionNewBranchRC~;(('_SESSION'[SESSION];ses
                  THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                  THEN INSERT INTO rcKeysHandedOverQ[Rental
                                       SELECTFROM 'a'[RentalCase]*'b'[Yes

                                      (TO MAINTAIN  -('_SESSION'[SESSION]
                                  PICK a,b FROM rcKeysHandedOverQ~;('a'[Re
                                  THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                  THEN BLOCK
                                                       (CANNOT CHANGE '
                                                  PICK a,b FROM 'Yes'[Y
                                                  THEN BLOCK
                                                       (CANNOT CHANGE V
                                             (MAINTAINING -('_SESSION'[SES
                                             NEW x:YesNoAnswer;
                                               ALL of BLOCK
                                                      (CANNOT CHANGE 'Yes
                                                      BLOCK
                                                       (CANNOT CHANGE V[Ye
                                                (MAINTAINING -('_SESSION'[
                                               (MAINTAINING -('_SESSION'[SE
                                          (MAINTAINING -('_SESSION'[SESSION];
                                     (MAINTAINING -('_SESSION'[SESSION];sessionNewBr
                                     NEW x:YesNoAnswer;
                                       ALL of INSERT INTO rcKeysHandedOverQ[RentalCa
                                               SELECTFROM 'a'[RentalCase]*'b'[Rental

                                              (TO MAINTAIN  -('_SESSION'[SESSION];se
                                              ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                           THEN BLOCK
                                                                (CANNOT CHANGE 'Yes
                                                           PICK a,b FROM 'Yes'[YesN
```

```
                                                    THEN BLOCK
                                                         (CANNOT CHANGE V[Ye
                                                (MAINTAINING -('_SESSION'[SESSI
                                                NEW x:YesNoAnswer;
                                                  ALL of BLOCK
                                                          (CANNOT CHANGE 'Yes'[Y
                                                          BLOCK
                                                          (CANNOT CHANGE V[YesNo
                                                  (MAINTAINING -('_SESSION'[SES
                                                (MAINTAINING -('_SESSION'[SESSI
                                        (MAINTAINING -('_SESSION'[SESSION];ses
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNew
                                (MAINTAINING -('_SESSION'[SESSION];sessionNewBr
                            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBe
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
          SELECTFROM (('_SESSION'[SESSION];sessionNewBranchRC;(ren

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(r
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Ren
                       THEN INSERT INTO rcKeysHandedOverQ[RentalCa
                            SELECTFROM 'a'[RentalCase]*'b'[YesNoA

                            (TO MAINTAIN  -('_SESSION'[SESSION];se
                       PICK a,b FROM rcKeysHandedOverQ~;('x'[Renta
                       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                          THEN BLOCK
                                               (CANNOT CHANGE 'Yes
                                          PICK a,b FROM 'Yes'[YesN
                                          THEN BLOCK
                                               (CANNOT CHANGE V[Ye
                                  (MAINTAINING -('_SESSION'[SESSI
                                  NEW x:YesNoAnswer;
                                    ALL of BLOCK
                                            (CANNOT CHANGE 'Yes'[Y
                                            BLOCK
                                            (CANNOT CHANGE V[YesNo
                                    (MAINTAINING -('_SESSION'[SES
                                  (MAINTAINING -('_SESSION'[SESSI
                              (MAINTAINING -('_SESSION'[SESSION];ses
                          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                          NEW x:YesNoAnswer;
                            ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*
                                    SELECTFROM 'x'[RentalCase]*(('_SESSION'[

                                   (TO MAINTAIN  -('_SESSION'[SESSION];sessi
                                   ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
                                          THEN BLOCK
                                               (CANNOT CHANGE 'Yes'[YesNoAns
```

```
                                                PICK a,b FROM 'Yes'[YesNoAnswer];(
                                                THEN BLOCK
                                                     (CANNOT CHANGE V[YesNoAnswer*
                                           (MAINTAINING -('_SESSION'[SESSION];sessio
                                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBra
                                 (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(re
                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHas
                 (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBe
           (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromi
           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((sessionNewBranchRC \/
                         THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                              SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                                   (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION]
                         PICK a,b FROM rcKeysHandedOverQ~;(((sessionNewBranchRC \/ D
                         THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                        THEN BLOCK
                                             (CANNOT CHANGE 'Yes'[YesNoAnswer] F
                                        PICK a,b FROM 'Yes'[YesNoAnswer];('a'[Ye
                                        THEN BLOCK
                                             (CANNOT CHANGE V[YesNoAnswer*Rental
                                   (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[S
                                   NEW x:YesNoAnswer;
                                     ALL of BLOCK
                                            (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM
                                            BLOCK
                                            (CANNOT CHANGE V[YesNoAnswer*RentalCas
                                     (MAINTAINING -(sessionNewBranchRC~;'_SESSION'
                                   (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[S
                              (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
                 (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewB
                 NEW x:YesNoAnswer;
                   ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                           SELECTFROM (((sessionNewBranchRC \/ Delta)~;'_SESSION'[S

                             (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];s
                             ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswe
                                    THEN BLOCK
                                         (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand t
                                    PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]
                                    THEN BLOCK
                                         (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM
                              (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];se
                        (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNe
                 (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewB
           (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionNewBranchRC;(I[
                         THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                              SELECTFROM 'a'[SESSION]*'b'[RentalCase]
```

```
                                    (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ r
                                PICK a,b FROM sessionNewBranchRC~;((sessionNewBranchRC;(I[R
                                THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                                      SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                                    (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ r
                            (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
                            NEW x:RentalCase;
                              ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                                      SELECTFROM ((sessionNewBranchRC;(I[RentalCase] /\ rcAssig

                                     (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAs
                                     INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                                      SELECTFROM 'x'[RentalCase]*((sessionNewBranchRC;(I[Renta

                                     (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAs
                              (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCa
                            (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
                       (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssig
                  (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcB
                  (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcB
                  (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\
                  (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\
                  (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
                  (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
                  (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
                  (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
                  (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
                  (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
                  (MAINTAINING -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] FROM UNI
```

------ Derivation ----->

```
ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM ((sessionNewBranchRC \/ Delta)~;sessionNewBranchRC;(I[RentalCase]

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAss
       INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe

       (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBran
       INSERT INTO Isn{detyp=Branch}
        SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'

       (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'
       INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
```

```
(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBran
INSERT INTO Isn{detyp=Date}
 SELECTFROM contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[Ye

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
INSERT INTO Isn{detyp=RentalCase}
 SELECTFROM ((sessionNewBranchRC \/ Delta)~;sessionNewBranchRC /\ -I[RentalCas

(TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] FROM
INSERT INTO Isn{detyp=SESSION}
 SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];session
              THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                    SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                   (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \/
              PICK a,b FROM sessionNewBranchRC~;(('_SESSION'[SESSION];sessionN
              THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                   THEN INSERT INTO rcBranchRequestedQ[RentalCas
                                         SELECTFROM 'a'[RentalCase]*'b'[YesNoAns

                                        (TO MAINTAIN  -('_SESSION'[SESSION];sess
                                   PICK a,b FROM rcBranchRequestedQ~;('a'[Rental
                                   THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                       THEN BLOCK
                                                            (CANNOT CHANGE 'Yes'[
                                                       PICK a,b FROM 'Yes'[YesNoA
                                                       THEN BLOCK
                                                            (CANNOT CHANGE V[YesN
                                              (MAINTAINING -('_SESSION'[SESSION
                                              NEW x:YesNoAnswer;
                                                ALL of BLOCK
                                                       (CANNOT CHANGE 'Yes'[Yes
                                                       BLOCK
                                                       (CANNOT CHANGE V[YesNoAn
                                                 (MAINTAINING -('_SESSION'[SESSI
                                              (MAINTAINING -('_SESSION'[SESSION
                                         (MAINTAINING -('_SESSION'[SESSION];sessi
                                   (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchR
                                   NEW x:YesNoAnswer;
                                     ALL of INSERT INTO rcBranchRequestedQ[RentalCase*Y
                                             SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                            (TO MAINTAIN  -('_SESSION'[SESSION];session
                                            ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                         THEN BLOCK
                                                              (CANNOT CHANGE 'Yes'[Yes
                                                         PICK a,b FROM 'Yes'[YesNoAnsw
```

```
                                                    THEN BLOCK
                                                         (CANNOT CHANGE V[YesNoAn
                                                (MAINTAINING -('_SESSION'[SESSION];s
                                                NEW x:YesNoAnswer;
                                                  ALL of BLOCK
                                                         (CANNOT CHANGE 'Yes'[YesNoA
                                                         BLOCK
                                                         (CANNOT CHANGE V[YesNoAnswe
                                                   (MAINTAINING -('_SESSION'[SESSION]
                                                (MAINTAINING -('_SESSION'[SESSION];s
                                           (MAINTAINING -('_SESSION'[SESSION];sessionN
                                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                                 (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchR
                            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ s
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBra
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
          SELECTFROM (('_SESSION'[SESSION];sessionNewBranchRC /\ -(sess

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \/ ses
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCa
                       THEN INSERT INTO rcBranchRequestedQ[RentalCase*Y
                             SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer

                            (TO MAINTAIN  -('_SESSION'[SESSION];session
                       PICK a,b FROM rcBranchRequestedQ~;('x'[RentalCas
                       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                    THEN BLOCK
                                         (CANNOT CHANGE 'Yes'[Yes
                                    PICK a,b FROM 'Yes'[YesNoAnsw
                                    THEN BLOCK
                                         (CANNOT CHANGE V[YesNoAn
                                (MAINTAINING -('_SESSION'[SESSION];s
                                NEW x:YesNoAnswer;
                                  ALL of BLOCK
                                         (CANNOT CHANGE 'Yes'[YesNoA
                                         BLOCK
                                         (CANNOT CHANGE V[YesNoAnswe
                                   (MAINTAINING -('_SESSION'[SESSION]
                                (MAINTAINING -('_SESSION'[SESSION];s
                           (MAINTAINING -('_SESSION'[SESSION];sessionN
                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC)
                      NEW x:YesNoAnswer;
                        ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesN
                                SELECTFROM 'x'[RentalCase]*(('_SESSION'[SESSI

                               (TO MAINTAIN  -('_SESSION'[SESSION];sessionNew
                               ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'
                                      THEN BLOCK
                                           (CANNOT CHANGE 'Yes'[YesNoAnswer]
```

```
                                                PICK a,b FROM 'Yes'[YesNoAnswer];('x'[Y
                                                THEN BLOCK
                                                     (CANNOT CHANGE V[YesNoAnswer*Renta
                                           (MAINTAINING -('_SESSION'[SESSION];sessionNewB
                                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC
                                 (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC)
                            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sess
                     (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewB
              (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBra
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;r
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((sessionNewBranchRC \/ Delt
              THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                   SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                        (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];ses
                   PICK a,b FROM rcBranchRequestedQ~;(((sessionNewBranchRC \/ Delta
                   THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNo
                                THEN BLOCK
                                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM C
                                PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAn
                                THEN BLOCK
                                     (CANNOT CHANGE V[YesNoAnswer*RentalCase]
                           (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSIO
                           NEW x:YesNoAnswer;
                             ALL of BLOCK
                                    (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Comp
                                    BLOCK
                                    (CANNOT CHANGE V[YesNoAnswer*RentalCase] FR
                             (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESS
                           (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSIO
                      (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sess
              (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
              NEW x:YesNoAnswer;
                ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                       SELECTFROM (((sessionNewBranchRC \/ Delta)~;'_SESSION'[SESSIO

                        (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessio
                        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*((
                              THEN BLOCK
                                   (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Complete br
                              PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*(((s
                              THEN BLOCK
                                   (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Comp
                        (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];session
                (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBran
              (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC) \/
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];session
              THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                   SELECTFROM 'a'[SESSION]*'b'[RentalCase]
```

```
     (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(ren
PICK a,b FROM sessionNewBranchRC~;(('_SESSION'[SESSION];sessionN
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                    THEN INSERT INTO rcKeysHandedOverQ[RentalCase
                          SELECTFROM 'a'[RentalCase]*'b'[YesNoAns

                         (TO MAINTAIN  -('_SESSION'[SESSION];sess
                    PICK a,b FROM rcKeysHandedOverQ~;('a'[RentalC
                    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                    THEN BLOCK
                                         (CANNOT CHANGE 'Yes'[
                                    PICK a,b FROM 'Yes'[YesNoA
                                    THEN BLOCK
                                         (CANNOT CHANGE V[YesN
                               (MAINTAINING -('_SESSION'[SESSION
                               NEW x:YesNoAnswer;
                                 ALL of BLOCK
                                        (CANNOT CHANGE 'Yes'[Yes
                                        BLOCK
                                        (CANNOT CHANGE V[YesNoAn
                                 (MAINTAINING -('_SESSION'[SESSI
                               (MAINTAINING -('_SESSION'[SESSION
                          (MAINTAINING -('_SESSION'[SESSION];sessi
                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchR
                    NEW x:YesNoAnswer;
                      ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*Ye
                              SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                             (TO MAINTAIN  -('_SESSION'[SESSION];session
                             ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                          THEN BLOCK
                                               (CANNOT CHANGE 'Yes'[Yes
                                          PICK a,b FROM 'Yes'[YesNoAnsw
                                          THEN BLOCK
                                               (CANNOT CHANGE V[YesNoAn
                                    (MAINTAINING -('_SESSION'[SESSION];s
                                    NEW x:YesNoAnswer;
                                      ALL of BLOCK
                                             (CANNOT CHANGE 'Yes'[YesNoA
                                             BLOCK
                                             (CANNOT CHANGE V[YesNoAnswe
                                      (MAINTAINING -('_SESSION'[SESSION]
                                    (MAINTAINING -('_SESSION'[SESSION];s
                               (MAINTAINING -('_SESSION'[SESSION];sessionN
                          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchR
               (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rent
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPro
NEW x:RentalCase;
```

```
ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM (('_SESSION'[SESSION];sessionNewBranchRC;(rentalHa

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rental
       ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCa
                    THEN INSERT INTO rcKeysHandedOverQ[RentalCase*Ye
                          SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer

                               (TO MAINTAIN  -('_SESSION'[SESSION];session
                             PICK a,b FROM rcKeysHandedOverQ~;('x'[RentalCase
                             THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                             THEN BLOCK
                                                  (CANNOT CHANGE 'Yes'[Yes
                                             PICK a,b FROM 'Yes'[YesNoAnsw
                                             THEN BLOCK
                                                  (CANNOT CHANGE V[YesNoAn
                                        (MAINTAINING -('_SESSION'[SESSION];s
                                        NEW x:YesNoAnswer;
                                          ALL of BLOCK
                                                 (CANNOT CHANGE 'Yes'[YesNoA
                                                 BLOCK
                                                  (CANNOT CHANGE V[YesNoAnswe
                                           (MAINTAINING -('_SESSION'[SESSION]
                                        (MAINTAINING -('_SESSION'[SESSION];s
                                  (MAINTAINING -('_SESSION'[SESSION];sessionN
                             (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(
                             NEW x:YesNoAnswer;
                               ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNo
                                       SELECTFROM 'x'[RentalCase]*(('_SESSION'[SESSI

                                       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNew
                                       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'
                                              THEN BLOCK
                                                   (CANNOT CHANGE 'Yes'[YesNoAnswer]
                                              PICK a,b FROM 'Yes'[YesNoAnswer];('x'[Y
                                              THEN BLOCK
                                                   (CANNOT CHANGE V[YesNoAnswer*Renta
                                     (MAINTAINING -('_SESSION'[SESSION];sessionNewB
                                (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC
                             (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(
                       (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalH
                 (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenP
           (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPro
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((sessionNewBranchRC \/ Delt
       THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
             SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

            (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];ses
          PICK a,b FROM rcKeysHandedOverQ~;(((sessionNewBranchRC \/ Delta)
```

```
                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNo
                                THEN BLOCK
                                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM H
                                PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAn
                                THEN BLOCK
                                     (CANNOT CHANGE V[YesNoAnswer*RentalCase]
                           (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSIO
                           NEW x:YesNoAnswer;
                             ALL of BLOCK
                                    (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand
                                    BLOCK
                                    (CANNOT CHANGE V[YesNoAnswer*RentalCase] FR
                             (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESS
                           (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSIO
                      (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sess
             (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
             NEW x:YesNoAnswer;
               ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                       SELECTFROM (((sessionNewBranchRC \/ Delta)~;'_SESSION'[SESSIO

                         (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessio
                         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*((
                                THEN BLOCK
                                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand the ca
                                PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*(((s
                                THEN BLOCK
                                     (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Hand
                         (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];session
               (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBran
             (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
      (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(ren
      ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionNewBranchRC;(I[Renta
                      THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                            SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                           (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssi
                         PICK a,b FROM sessionNewBranchRC~;((sessionNewBranchRC;(I[Rental
                         THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                               SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                           (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssi
             (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAss
             NEW x:RentalCase;
               ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                       SELECTFROM ((sessionNewBranchRC;(I[RentalCase] /\ rcAssignedC

                         (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssigne
                         INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                          SELECTFROM 'x'[RentalCase]*((sessionNewBranchRC;(I[RentalCase
```

```
                        (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssigne
                   (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcA
              (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAss
         (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCa
    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
    (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
    (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
    (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
    (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
    (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
    (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
    (MAINTAINING -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] FROM UNI sess
```

<------End Derivation --

```
ON DELETE Delta FROM sessionNewBranchRC[SESSION*RentalCase] EXECUTE    -- (ECA r
ALL of DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];(-((sessionNewBranchRC /\ -Delta);rcBranc

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBran
       ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];(-((sessionNewBranchRC /\ -Delta);

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
              DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-((sessionNew

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-((sessionNew

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM (-(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];rcKeys

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
       (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromi
       ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM (-((sessionNewBranchRC /\ -Delta);rcBranchRequestedQ)

              (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
              DELETE FROM Isn{detyp=RentalCase}
               SELECTFROM sessionNewBranchRC~;(-((sessionNewBranchRC /\ -Delta);

              (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
```

```
                    DELETE FROM rcAssignedCar[RentalCase*Car]
                     SELECTFROM sessionNewBranchRC~;(-((sessionNewBranchRC /\ -Delta);

                    (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
                    DELETE FROM rcAssignedCar[RentalCase*Car]
                     SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];(-(rcBranchReques

                    (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
                    DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                     SELECTFROM (I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);sessio

                    (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
              (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssig
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcB
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\
        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
```

------ Derivation ----->

```
  ALL of DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
          SELECTFROM '_SESSION'[SESSION];(-((sessionNewBranchRC /\ -Delta);rcBranchRequ

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;
         ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
                 SELECTFROM '_SESSION'[SESSION];(-((sessionNewBranchRC /\ -Delta);rcKey

                (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
                DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
                 SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-((sessionNewBranc

                (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
                DELETE FROM rcAssignedCar[RentalCase*Car]
                 SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-((sessionNewBranc

                (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
                DELETE FROM rcAssignedCar[RentalCase*Car]
                 SELECTFROM (-(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];rcKeysHande

                (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
              (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
              ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
                 SELECTFROM (-((sessionNewBranchRC /\ -Delta);rcBranchRequestedQ) /\ se

                (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAs
                DELETE FROM Isn{detyp=RentalCase}
                 SELECTFROM sessionNewBranchRC~;(-((sessionNewBranchRC /\ -Delta);rcBra

                (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAs
```

```
                    DELETE FROM rcAssignedCar[RentalCase*Car]
                     SELECTFROM sessionNewBranchRC~;(-((sessionNewBranchRC /\ -Delta);rcBra

                    (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAs
                    DELETE FROM rcAssignedCar[RentalCase*Car]
                     SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];(-(rcBranchRequestedQ~

                    (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAs
                    DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                     SELECTFROM (I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);sessionNewB

                    (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAs
            (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCa
      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
      (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
```

<------End Derivation --

```
           ON INSERT Delta IN sessionPickupPerson[SESSION*Person] EXECUTE    -- (ECA rule 1
           ALL of INSERT INTO Isn{detyp=Person}
                   SELECTFROM ((sessionPickupPerson \/ Delta)~;sessionPickupPerson /\ -I[Pe

                  (TO MAINTAIN  -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FR
                  INSERT INTO Isn{detyp=SESSION}
                   SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

           (MAINTAINING -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FROM UNI s
```

------ Derivation ----->

```
      ALL of INSERT INTO Isn{detyp=Person}
              SELECTFROM ((sessionPickupPerson \/ Delta)~;sessionPickupPerson /\ -I[Person]

             (TO MAINTAIN  -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FROM UN
             INSERT INTO Isn{detyp=SESSION}
              SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

      (MAINTAINING -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FROM UNI sessio
```

<------End Derivation --

```
           ON INSERT Delta IN sessionDroppedoffCar[SESSION*Car] EXECUTE    -- (ECA rule 129
           ALL of INSERT INTO Isn{detyp=Car}
                   SELECTFROM ((sessionDroppedoffCar \/ Delta)~;'_SESSION'[SESSION];session
```

```
(TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedo
(TO MAINTAIN  -(sessionDroppedoffCar~;sessionDroppedoffCar) \/ I[Car] FRO
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
 SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));(

(TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
INSERT INTO Isn{detyp=Branch}
 SELECTFROM rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt

(TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailab
INSERT INTO rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));(

(TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
INSERT INTO Isn{detyp=Date}
 SELECTFROM rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;c

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailable
INSERT INTO Isn{detyp=SESSION}
 SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];se
              THEN INSERT INTO sessionDroppedoffCar[SESSION*Car]
                    SELECTFROM 'a'[SESSION]*'b'[Car]

                   (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffC
              PICK a,b FROM sessionDroppedoffCar~;(('_SESSION'[SESSION];s
              THEN ALL of INSERT INTO Isn{detyp=Car}
                           SELECTFROM 'a'[Car]*'b'[Car]

                                (TO MAINTAIN  -('_SESSION'[SESSION];sessionDrop
                                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FRO
                                             THEN INSERT INTO rcAssignedCar[Re
                                                   SELECTFROM 'b'[RentalCase]*

                                                        (TO MAINTAIN  -('_SESSION'[S
                                             PICK a,b FROM rcAssignedCar;('a'[
                                             THEN ONE OF ONE NONEMPTY ALTERNAT
                                                                  THEN ALL of IN
                                                                               S

                                                                              (T
                                                                              DE
                                                                               S

                                                                              (T
                                                                   (MAINTAIN
                                                              PICK a,b FROM
                                                              THEN INSERT IN
```

```
                                                                SELECTFR

                                                              (TO MAINT
                                                    (MAINTAINING -('_SESS
                                                    NEW x:RentalCase;
                                                      ALL of ALL of INSER
                                                                    SELE

                                                                  (TO M
                                                                  DELET
                                                                   SELE

                                                                  (TO M
                                                           (MAINTAINING
                                                           INSERT INTO
                                                            SELECTFROM

                                                           (TO MAINTAIN
                                                     (MAINTAINING -('_SE
                                                   (MAINTAINING -('_SESS
                                          (MAINTAINING -('_SESSION'[SE
(MAINTAINING -('_SESSION'[SESSION];sessi
NEW x:RentalCase;
  ALL of INSERT INTO rcAssignedCar[Renta
          SELECTFROM 'x'[RentalCase]*'b'

         (TO MAINTAIN  -('_SESSION'[SESS
        ONE OF ONE NONEMPTY ALTERNATIVE
                       THEN ALL of INSER
                                    SELE

                                  (TO M
                                  DELET
                                   SELE

                                  (TO M
                                (MAINTAINING
                             PICK a,b FROM (re
                             THEN INSERT INTO
                                   SELECTFROM

                                (TO MAINTAIN
                    (MAINTAINING -('_SESSION
                    NEW x:RentalCase;
                      ALL of ALL of INSERT I
                                     SELECTF

                                  (TO MAIN
                                  DELETE F
                                   SELECTF
```

```
                                                                    (TO MAINT
                                                                (MAINTAINING -(
                                                                INSERT INTO rcA
                                                                 SELECTFROM 'x'

                                                                    (TO MAINTAIN  -
                                                              (MAINTAINING -('_SESSI
                                                            (MAINTAINING -('_SESSION
                                                      (MAINTAINING -('_SESSION'[SESSI
                                                  (MAINTAINING -('_SESSION'[SESSION];ses
                                                (MAINTAINING -('_SESSION'[SESSION];sessi
                                          (MAINTAINING -('_SESSION'[SESSION];sessionDropp
                                    (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCa
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessio
NEW x:Car;
  ALL of INSERT INTO sessionDroppedoffCar[SESSION*Car]
          SELECTFROM (('_SESSION'[SESSION];sessionDroppedoffCar /\

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar)
         INSERT INTO Isn{detyp=Car}
          SELECTFROM 'x'[Car]*(('_SESSION'[SESSION];sessionDropped

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar)
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Car]
                      THEN INSERT INTO rcAssignedCar[RentalCase*C
                            SELECTFROM 'b'[RentalCase]*'a'[Car]

                           (TO MAINTAIN  -('_SESSION'[SESSION];se
                      PICK a,b FROM rcAssignedCar;('x'[Car]*(('_S
                      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                          THEN ALL of INSERT INTO
                                                       SELECTFROM

                                                      (TO MAINTAIN
                                                      DELETE FROM
                                                       SELECTFROM

                                                      (TO MAINTAIN
                                                (MAINTAINING -('_SE
                                              PICK a,b FROM (rentalHas
                                              THEN INSERT INTO rcAssig
                                                    SELECTFROM 'a'[Ren

                                                   (TO MAINTAIN  -('_S
                                        (MAINTAINING -('_SESSION'[SESSI
                                        NEW x:RentalCase;
                                          ALL of ALL of INSERT INTO ren
                                                       SELECTFROM 'a'
```

```
                                                    (TO MAINTAIN  -
                                                    DELETE FROM ren
                                                     SELECTFROM 'a'

                                                    (TO MAINTAIN  -
                                                (MAINTAINING -('_SESSI
                                                INSERT INTO rcAssigned
                                                 SELECTFROM 'x'[Rental

                                                (TO MAINTAIN  -('_SESS
                                        (MAINTAINING -('_SESSION'[SES
                                    (MAINTAINING -('_SESSION'[SESSI
                                (MAINTAINING -('_SESSION'[SESSION];ses
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedo
NEW x:RentalCase;
  ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
         SELECTFROM 'x'[RentalCase]*((sessionDrop

                (TO MAINTAIN  -('_SESSION'[SESSION];sessi
                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a
                              THEN ALL of INSERT INTO ren
                                           SELECTFROM 'a'

                                           (TO MAINTAIN  -
                                           DELETE FROM ren
                                            SELECTFROM 'a'

                                                  (TO MAINTAIN  -
                                               (MAINTAINING -('_SESSI
                                          PICK a,b FROM (rentalHasBee
                                          THEN INSERT INTO rcAssigned
                                                SELECTFROM 'a'[Rental

                                               (TO MAINTAIN  -('_SESS
                                    (MAINTAINING -('_SESSION'[SESSION]
                                    NEW x:RentalCase;
                                      ALL of INSERT INTO rentalHasBeen
                                               SELECTFROM 'x'[RentalCas

                                              (TO MAINTAIN  -('_SESSION
                                              DELETE FROM rentalHasBeen
                                               SELECTFROM 'x'[RentalCas

                                              (TO MAINTAIN  -('_SESSION
                                              INSERT INTO rcAssignedCar
                                               SELECTFROM 'x'[RentalCas

                                              (TO MAINTAIN  -('_SESSION
                                        (MAINTAINING -('_SESSION'[SESSIO
                                    (MAINTAINING -('_SESSION'[SESSION]
```

```
                                        (MAINTAINING -('_SESSION'[SESSION];sessio
                                    (MAINTAINING -('_SESSION'[SESSION];sessionDroppe
                                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedo
                            (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar)
                        (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sess
                    (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessio
                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppe
            ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((sessionDroppedoffCar
                        THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                             SELECTFROM 'b'[RentalCase]*'a'[Car]

                                (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSI
                        PICK a,b FROM rcAssignedCar;(((sessionDroppedoffCar \/ Delt
                        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                        THEN ALL of INSERT INTO rentalHasBeenSta
                                             SELECTFROM 'a'[RentalCase]*

                                            (TO MAINTAIN  -(sessionDropp
                                            DELETE FROM rentalHasBeenEnd
                                             SELECTFROM 'a'[RentalCase]*

                                            (TO MAINTAIN  -(sessionDropp
                                        (MAINTAINING -(sessionDroppedoffCar
                                    PICK a,b FROM (rentalHasBeenStarted~ /\
                                    THEN INSERT INTO rcAssignedCar[RentalCas
                                         SELECTFROM 'a'[RentalCase]*'b'[Car

                                                (TO MAINTAIN  -(sessionDroppedoffCa
                                    (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'
                                    NEW x:RentalCase;
                                      ALL of ALL of INSERT INTO rentalHasBeenStarte
                                                     SELECTFROM 'a'[RentalCase]*'b'

                                                    (TO MAINTAIN  -(sessionDroppedo
                                                    DELETE FROM rentalHasBeenEnded[
                                                     SELECTFROM 'a'[RentalCase]*'b'

                                                    (TO MAINTAIN  -(sessionDroppedo
                                                (MAINTAINING -(sessionDroppedoffCar~;'
                                                INSERT INTO rcAssignedCar[RentalCase*C
                                                 SELECTFROM 'x'[RentalCase]*'a'[Rental

                                                (TO MAINTAIN  -(sessionDroppedoffCar~;
                                            (MAINTAINING -(sessionDroppedoffCar~;'_SESSIO
                                        (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'
                                    (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSIO
                                (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDr
                                NEW x:RentalCase;
                                  ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
                                         SELECTFROM 'x'[RentalCase]*((sessionDroppedoffCar~;'_SES
```

```
(TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION]
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Ren
              THEN ALL of INSERT INTO rentalHasBeenStarte
                           SELECTFROM 'a'[RentalCase]*'b'

                          (TO MAINTAIN  -(sessionDroppedo
                          DELETE FROM rentalHasBeenEnded[
                           SELECTFROM 'a'[RentalCase]*'b'

                                 (TO MAINTAIN  -(sessionDroppedo
                               (MAINTAINING -(sessionDroppedoffCar~;'
                          PICK a,b FROM (rentalHasBeenStarted~ /\ -re
                          THEN INSERT INTO rcAssignedCar[RentalCase*C
                                SELECTFROM 'a'[RentalCase]*'b'[Car]

                                (TO MAINTAIN  -(sessionDroppedoffCar~;
                     (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SE
                     NEW x:RentalCase;
                       ALL of INSERT INTO rentalHasBeenStarted[RentalCa
                                SELECTFROM 'x'[RentalCase]*(((sessionDro

                                (TO MAINTAIN  -(sessionDroppedoffCar~;'_S
                                DELETE FROM rentalHasBeenEnded[RentalCase
                                SELECTFROM 'x'[RentalCase]*(((sessionDro

                                (TO MAINTAIN  -(sessionDroppedoffCar~;'_S
                                INSERT INTO rcAssignedCar[RentalCase*Car]
                                SELECTFROM 'x'[RentalCase]*'x'[RentalCas

                                (TO MAINTAIN  -(sessionDroppedoffCar~;'_S
                       (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[
                     (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SE
               (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];
         (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];session
       (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDr
(MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedof
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];sessionDr
       THEN BLOCK
            (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handli
       PICK a,b FROM V[RentalCase*SESSION];(('_SESSION'[SESSION];sessionD
       THEN ALL of INSERT INTO Isn{detyp=RentalCase}
                    SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                  (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffC
                  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                               THEN INSERT INTO rentalIsPaidQ[RentalCas
                                     SELECTFROM 'a'[RentalCase]*'b'[Yes

                                    (TO MAINTAIN  -('_SESSION'[SESSION]
```

```
                                                PICK a,b FROM rentalIsPaidQ~;('a'[Rental
                                                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                                THEN BLOCK
                                                                     (CANNOT CHANGE '
                                                                PICK a,b FROM 'Yes'[Y
                                                                THEN INSERT INTO rent
                                                                      SELECTFROM 'b'[

                                                                          (TO MAINTAIN  -(
                                                                (MAINTAINING -('_SESSION'[SE
                                                                NEW x:YesNoAnswer;
                                                                  ALL of BLOCK
                                                                         (CANNOT CHANGE 'Yes
                                                                         INSERT INTO rentalI
                                                                          SELECTFROM 'b'[Ren

                                                                         (TO MAINTAIN  -('_S
                                                                  (MAINTAINING -('_SESSION'[
                                                                (MAINTAINING -('_SESSION'[SE
                                                           (MAINTAINING -('_SESSION'[SESSION];
                                                (MAINTAINING -('_SESSION'[SESSION];sessionDropp
                                                NEW x:YesNoAnswer;
                                                  ALL of INSERT INTO rentalIsPaidQ[RentalCase*Y
                                                          SELECTFROM 'a'[RentalCase]*'b'[Rental

                                                         (TO MAINTAIN  -('_SESSION'[SESSION];se
                                                         ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                                 THEN BLOCK
                                                                      (CANNOT CHANGE 'Yes
                                                                 PICK a,b FROM 'Yes'[YesN
                                                                 THEN INSERT INTO rentalI
                                                                       SELECTFROM 'b'[Ren

                                                                         (TO MAINTAIN  -('_S
                                                            (MAINTAINING -('_SESSION'[SESSI
                                                            NEW x:YesNoAnswer;
                                                              ALL of BLOCK
                                                                     (CANNOT CHANGE 'Yes'[Y
                                                                     INSERT INTO rentalIsPa
                                                                      SELECTFROM 'b'[Rental

                                                                     (TO MAINTAIN  -('_SESS
                                                              (MAINTAINING -('_SESSION'[SES
                                                            (MAINTAINING -('_SESSION'[SESSI
                                                     (MAINTAINING -('_SESSION'[SESSION];ses
                                              (MAINTAINING -('_SESSION'[SESSION];sessionDro
                                             (MAINTAINING -('_SESSION'[SESSION];sessionDropp
                                      (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCa
                            (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAss
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I
```

```
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rental
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(sessionDroppedoffCar~;sessionDroppedoffCar) \/ I[Car] FROM UNI se
```

------ Derivation ----->

```
ALL of INSERT INTO Isn{detyp=Car}
        SELECTFROM ((sessionDroppedoffCar \/ Delta)~;'_SESSION'[SESSION];sessionDropp

       (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar
       (TO MAINTAIN  -(sessionDroppedoffCar~;sessionDroppedoffCar) \/ I[Car] FROM UNI
       INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
        SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));(sessi

       (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se
       INSERT INTO Isn{detyp=Branch}
        SELECTFROM rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carA

       (TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;
       INSERT INTO rcDroppedOffDate[RentalCase*Date]
        SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));(sessi

       (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se
       INSERT INTO Isn{detyp=Date}
        SELECTFROM rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAva

       (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;ca
       INSERT INTO Isn{detyp=SESSION}
        SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

       ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];session
                     THEN INSERT INTO sessionDroppedoffCar[SESSION*Car]
                           SELECTFROM 'a'[SESSION]*'b'[Car]

                          (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \
                     PICK a,b FROM sessionDroppedoffCar~;(('_SESSION'[SESSION];sessio
                     THEN ALL of INSERT INTO Isn{detyp=Car}
                                  SELECTFROM 'a'[Car]*'b'[Car]

                                 (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedof
                                 ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a
                                               THEN INSERT INTO rcAssignedCar[RentalC
                                                     SELECTFROM 'b'[RentalCase]*'a'[C
```

```
     (TO MAINTAIN  -('_SESSION'[SESSIO
PICK a,b FROM rcAssignedCar;('a'[Car]*
THEN ONE OF ONE NONEMPTY ALTERNATIVE O
                    THEN ALL of INSERT
                                SELECT

                               (TO MAI
                               DELETE
                                SELECT

                                    (TO MAI
                               (MAINTAINING -
                          PICK a,b FROM (rent
                          THEN INSERT INTO rc
                                SELECTFROM 'a

                                (TO MAINTAIN
                    (MAINTAINING -('_SESSION'[
                    NEW x:RentalCase;
                      ALL of ALL of INSERT INT
                                    SELECTFRO

                                (TO MAINTA
                                DELETE FRO
                                 SELECTFRO

                                     (TO MAINTA
                                (MAINTAINING -('_
                                INSERT INTO rcAss
                                 SELECTFROM 'x'[R

                                (TO MAINTAIN  -('
                          (MAINTAINING -('_SESSION
                     (MAINTAINING -('_SESSION'[
               (MAINTAINING -('_SESSION'[SESSION
(MAINTAINING -('_SESSION'[SESSION];sessionDro
NEW x:RentalCase;
  ALL of INSERT INTO rcAssignedCar[RentalCase
          SELECTFROM 'x'[RentalCase]*'b'[Car]

         (TO MAINTAIN  -('_SESSION'[SESSION];
        ONE OF ONE NONEMPTY ALTERNATIVE OF P
                     THEN ALL of INSERT INT
                                SELECTFRO

                                (TO MAINTA
                                DELETE FRO
                                 SELECTFRO
```

```
                                                                    (TO MAINTA
                                                                (MAINTAINING -('_
                                                            PICK a,b FROM (rentalH
                                                            THEN INSERT INTO rcAss
                                                                  SELECTFROM 'a'[R

                                                                       (TO MAINTAIN  -('
                                                            (MAINTAINING -('_SESSION'[SES
                                                            NEW x:RentalCase;
                                                              ALL of ALL of INSERT INTO r
                                                                           SELECTFROM '

                                                                              (TO MAINTAIN
                                                                              DELETE FROM r
                                                                               SELECTFROM '

                                                                              (TO MAINTAIN
                                                                    (MAINTAINING -('_SES
                                                                    INSERT INTO rcAssign
                                                                     SELECTFROM 'x'[Rent

                                                                       (TO MAINTAIN  -('_SE
                                                                (MAINTAINING -('_SESSION'[S
                                                            (MAINTAINING -('_SESSION'[SES
                                                    (MAINTAINING -('_SESSION'[SESSION];s
                                                (MAINTAINING -('_SESSION'[SESSION];sessionD
                                            (MAINTAINING -('_SESSION'[SESSION];sessionDro
                                        (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                                    (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/
                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDrop
NEW x:Car;
  ALL of INSERT INTO sessionDroppedoffCar[SESSION*Car]
           SELECTFROM (('_SESSION'[SESSION];sessionDroppedoffCar /\ -(se

          (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ s
          INSERT INTO Isn{detyp=Car}
           SELECTFROM 'x'[Car]*(('_SESSION'[SESSION];sessionDroppedoffCa

          (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ s
          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Car]*(('
                        THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                              SELECTFROM 'b'[RentalCase]*'a'[Car]

                             (TO MAINTAIN  -('_SESSION'[SESSION];session
                        PICK a,b FROM rcAssignedCar;('x'[Car]*(('_SESSIO
                        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                        THEN ALL of INSERT INTO renta
                                                     SELECTFROM 'a'[R

                                                   (TO MAINTAIN  -('
```

```
                                                    DELETE FROM renta
                                                     SELECTFROM 'a'[R

                                                           (TO MAINTAIN  -('
                                                 (MAINTAINING -('_SESSION
                                          PICK a,b FROM (rentalHasBeenS
                                          THEN INSERT INTO rcAssignedCa
                                                SELECTFROM 'a'[RentalCa

                                                      (TO MAINTAIN  -('_SESSIO
                                           (MAINTAINING -('_SESSION'[SESSION];s
                                           NEW x:RentalCase;
                                             ALL of ALL of INSERT INTO rentalHa
                                                           SELECTFROM 'a'[Rent

                                                          (TO MAINTAIN  -('_SE
                                                          DELETE FROM rentalHa
                                                           SELECTFROM 'a'[Rent

                                                          (TO MAINTAIN  -('_SE
                                                 (MAINTAINING -('_SESSION'[S
                                                 INSERT INTO rcAssignedCar[R
                                                  SELECTFROM 'x'[RentalCase]

                                                 (TO MAINTAIN  -('_SESSION'[
                                            (MAINTAINING -('_SESSION'[SESSION]
                                          (MAINTAINING -('_SESSION'[SESSION];s
                                    (MAINTAINING -('_SESSION'[SESSION];sessionD
                                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar
                                NEW x:RentalCase;
                                  ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
                                          SELECTFROM 'x'[RentalCase]*((sessionDroppedof

                                        (TO MAINTAIN  -('_SESSION'[SESSION];sessionDro
                                        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FR
                                                      THEN ALL of INSERT INTO rentalHa
                                                           SELECTFROM 'a'[Rent

                                                          (TO MAINTAIN  -('_SE
                                                          DELETE FROM rentalHa
                                                           SELECTFROM 'a'[Rent

                                                          (TO MAINTAIN  -('_SE
                                                 (MAINTAINING -('_SESSION'[S
                                               PICK a,b FROM (rentalHasBeenStar
                                               THEN INSERT INTO rcAssignedCar[R
                                                     SELECTFROM 'a'[RentalCase]

                                                    (TO MAINTAIN  -('_SESSION'[
                                          (MAINTAINING -('_SESSION'[SESSION];sess
```

```
                                                NEW x:RentalCase;
                                                  ALL of INSERT INTO rentalHasBeenStart
                                                          SELECTFROM 'x'[RentalCase]*'x

                                                         (TO MAINTAIN  -('_SESSION'[SES
                                                         DELETE FROM rentalHasBeenEnded
                                                          SELECTFROM 'x'[RentalCase]*'x

                                                         (TO MAINTAIN  -('_SESSION'[SES
                                                         INSERT INTO rcAssignedCar[Rent
                                                          SELECTFROM 'x'[RentalCase]*'x

                                                                 (TO MAINTAIN  -('_SESSION'[SES
                                                           (MAINTAINING -('_SESSION'[SESSION];se
                                                         (MAINTAINING -('_SESSION'[SESSION];sess
                                                 (MAINTAINING -('_SESSION'[SESSION];sessionDrop
                                               (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffC
                                             (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar
                                          (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ se
                                       (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDr
                                    (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDrop
                             (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffC
                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((sessionDroppedoffCar \/ De
                                        THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                                              SELECTFROM 'b'[RentalCase]*'a'[Car]

                                             (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];s
                                           PICK a,b FROM rcAssignedCar;(((sessionDroppedoffCar \/ Delta)~;'
                                           THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                                                THEN ALL of INSERT INTO rentalHasBeenStarted[
                                                                      SELECTFROM 'a'[RentalCase]*'b'[R

                                                                    (TO MAINTAIN  -(sessionDroppedoff
                                                                   DELETE FROM rentalHasBeenEnded[Re
                                                                    SELECTFROM 'a'[RentalCase]*'b'[R

                                                                    (TO MAINTAIN  -(sessionDroppedoff
                                                                 (MAINTAINING -(sessionDroppedoffCar~;'_S
                                                               PICK a,b FROM (rentalHasBeenStarted~ /\ -rent
                                                               THEN INSERT INTO rcAssignedCar[RentalCase*Car
                                                                     SELECTFROM 'a'[RentalCase]*'b'[Car]

                                                                 (TO MAINTAIN  -(sessionDroppedoffCar~;'_
                                                              (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESS
                                                             NEW x:RentalCase;
                                                               ALL of ALL of INSERT INTO rentalHasBeenStarted[Ren
                                                                       SELECTFROM 'a'[RentalCase]*'b'[Car]

                                                                    (TO MAINTAIN  -(sessionDroppedoffCar
                                                                   DELETE FROM rentalHasBeenEnded[Renta
```

```
                                                SELECTFROM 'a'[RentalCase]*'b'[Car]

                                                       (TO MAINTAIN  -(sessionDroppedoffCar
                                                (MAINTAINING -(sessionDroppedoffCar~;'_SESS
                                                INSERT INTO rcAssignedCar[RentalCase*Car]
                                                 SELECTFROM 'x'[RentalCase]*'a'[RentalCase]

                                                (TO MAINTAIN  -(sessionDroppedoffCar~;'_SES
                                        (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SE
                                    (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESS
                                (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];se
(MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDropped
NEW x:RentalCase;
  ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
          SELECTFROM 'x'[RentalCase]*((sessionDroppedoffCar~;'_SESSION'

                (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sess
                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCa
                              THEN ALL of INSERT INTO rentalHasBeenStarted[Ren
                                           SELECTFROM 'a'[RentalCase]*'b'[Rent

                                                (TO MAINTAIN  -(sessionDroppedoffCar
                                               DELETE FROM rentalHasBeenEnded[Renta
                                                SELECTFROM 'a'[RentalCase]*'b'[Rent

                                                       (TO MAINTAIN  -(sessionDroppedoffCar
                                                (MAINTAINING -(sessionDroppedoffCar~;'_SESS
                                             PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalH
                                             THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                                                   SELECTFROM 'a'[RentalCase]*'b'[Car]

                                                        (TO MAINTAIN  -(sessionDroppedoffCar~;'_SES
                                                (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION
                                                NEW x:RentalCase;
                                                  ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Re
                                                          SELECTFROM 'x'[RentalCase]*(((sessionDroppedo

                                                         (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSIO
                                                         DELETE FROM rentalHasBeenEnded[RentalCase*Rent
                                                          SELECTFROM 'x'[RentalCase]*(((sessionDroppedo

                                                         (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSIO
                                                         INSERT INTO rcAssignedCar[RentalCase*Car]
                                                          SELECTFROM 'x'[RentalCase]*'x'[RentalCase]*((

                                                         (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSIO
                                                  (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSI
                                                (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION
                                        (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessi
                                  (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDropp
```

```
       (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDropped
(MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar)
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];sessionDropped
       THEN BLOCK
            (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handling)
       PICK a,b FROM V[RentalCase*SESSION];(('_SESSION'[SESSION];sessionDroppe
       THEN ALL of INSERT INTO Isn{detyp=RentalCase}
                   SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                  (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rc
                  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                              THEN INSERT INTO rentalIsPaidQ[RentalCase*Yes
                                    SELECTFROM 'a'[RentalCase]*'b'[YesNoAns

                                        (TO MAINTAIN  -('_SESSION'[SESSION];sess
                                   PICK a,b FROM rentalIsPaidQ~;('a'[RentalCase]
                                   THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                    THEN BLOCK
                                                         (CANNOT CHANGE 'Yes'[
                                                    PICK a,b FROM 'Yes'[YesNoA
                                                    THEN INSERT INTO rentalIsP
                                                          SELECTFROM 'b'[Renta

                                                             (TO MAINTAIN  -('_SES
                                                (MAINTAINING -('_SESSION'[SESSION
                                                NEW x:YesNoAnswer;
                                                  ALL of BLOCK
                                                          (CANNOT CHANGE 'Yes'[Yes
                                                          INSERT INTO rentalIsPaid
                                                           SELECTFROM 'b'[RentalCa

                                                                  (TO MAINTAIN  -('_SESSIO
                                                            (MAINTAINING -('_SESSION'[SESSI
                                                          (MAINTAINING -('_SESSION'[SESSION
                                                     (MAINTAINING -('_SESSION'[SESSION];sessi
                                                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                                                NEW x:YesNoAnswer;
                                                  ALL of INSERT INTO rentalIsPaidQ[RentalCase*YesNoA
                                                          SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                                        (TO MAINTAIN  -('_SESSION'[SESSION];session
                                                        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                                    THEN BLOCK
                                                                         (CANNOT CHANGE 'Yes'[Yes
                                                                    PICK a,b FROM 'Yes'[YesNoAnsw
                                                                    THEN INSERT INTO rentalIsPaid
                                                                          SELECTFROM 'b'[RentalCa

                                                                             (TO MAINTAIN  -('_SESSIO
                                                                  (MAINTAINING -('_SESSION'[SESSION];s
```

```
                                                                NEW x:YesNoAnswer;
                                                                  ALL of BLOCK
                                                                         (CANNOT CHANGE 'Yes'[YesNoA
                                                                         INSERT INTO rentalIsPaidQ[R
                                                                          SELECTFROM 'b'[RentalCase]

                                                                         (TO MAINTAIN  -('_SESSION'[
                                                                   (MAINTAINING -('_SESSION'[SESSION]
                                                                 (MAINTAINING -('_SESSION'[SESSION];s
                                                           (MAINTAINING -('_SESSION'[SESSION];sessionD
                                                     (MAINTAINING -('_SESSION'[SESSION];sessionDroppedo
                                                   (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                                          (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcA
                                 (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigned
          (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rent
    (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
    (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
    (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]
    (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
    (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
    (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
    (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
    (MAINTAINING -(sessionDroppedoffCar~;sessionDroppedoffCar) \/ I[Car] FROM UNI session
```

<------End Derivation --

```
        ON DELETE Delta FROM sessionDroppedoffCar[SESSION*Car] EXECUTE    -- (ECA rule 1
        DELETE FROM sessionDroppedoffCar[SESSION*Car]
         SELECTFROM '_SESSION'[SESSION];(-((sessionDroppedoffCar /\ -Delta);(I[Car] /\ r

        (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCa
```

------ Derivation ----->

```
    DELETE FROM sessionDroppedoffCar[SESSION*Car]
     SELECTFROM '_SESSION'[SESSION];(-((sessionDroppedoffCar /\ -Delta);(I[Car] /\ rcAssi

    (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[
```

<------End Derivation --

```
        ON INSERT Delta IN sessionDroppedoffPerson[SESSION*Person] EXECUTE    -- (ECA ru
        ALL of INSERT INTO Isn{detyp=Person}
                SELECTFROM ((sessionDroppedoffPerson \/ Delta)~;sessionDroppedoffPerson
```

```
                (TO MAINTAIN  -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Pe
                INSERT INTO Isn{detyp=SESSION}
                 SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

          (MAINTAINING -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person] FR
```

------ Derivation ----->

```
     ALL of INSERT INTO Isn{detyp=Person}
             SELECTFROM ((sessionDroppedoffPerson \/ Delta)~;sessionDroppedoffPerson /\ -I

            (TO MAINTAIN  -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person]
            INSERT INTO Isn{detyp=SESSION}
             SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

     (MAINTAINING -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person] FROM UN
```

<------End Derivation --

```
          ON INSERT Delta IN Isn{detyp=Branch} EXECUTE    -- (ECA rule 133)
          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Branch] /\ -(branchOf;'EU-Re
                       THEN INSERT INTO branchOf[Branch*CarRentalCompany]
                             SELECTFROM 'a'[Branch]*'b'[CarRentalCompany]

                            (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompa
                       PICK a,b FROM branchOf~;(I[Branch] /\ -(branchOf;'EU-Rent'[CarRenta
                       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[CarRenta
                                       THEN BLOCK
                                            (CANNOT CHANGE 'EU-Rent'[CarRentalCompany]
                                       PICK a,b FROM 'EU-Rent'[CarRentalCompany];('a'[
                                       THEN INSERT INTO branchOf[Branch*CarRentalCompa
                                             SELECTFROM 'b'[Branch]*'a'[CarRentalCompa

                                                  (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-R
                                     (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRenta
                                     NEW x:CarRentalCompany;
                                       ALL of BLOCK
                                              (CANNOT CHANGE 'EU-Rent'[CarRentalCompany] FR
                                              INSERT INTO branchOf[Branch*CarRentalCompany]
                                               SELECTFROM 'b'[Branch]*'a'[CarRentalCompany]

                                              (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent
                                       (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRen
                                     (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRenta
                               (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompan
                     (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branchOf~
                     NEW x:CarRentalCompany;
```

```
  ALL of INSERT INTO branchOf[Branch*CarRentalCompany]
          SELECTFROM (I[Branch] /\ -(branchOf;'EU-Rent'[CarRentalCompany]

         (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany]
         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[CarRentalCompany]
                THEN BLOCK
                     (CANNOT CHANGE 'EU-Rent'[CarRentalCompany] FROM EURe
                PICK a,b FROM 'EU-Rent'[CarRentalCompany];('x'[CarRentalC
                THEN INSERT INTO branchOf[Branch*CarRentalCompany]
                      SELECTFROM 'b'[Branch]*'a'[CarRentalCompany]

                     (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRe
           (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];
    (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branchO
  (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branchOf~
  ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Branch] /\ -(branchOf;branch
        THEN INSERT INTO branchOf[Branch*CarRentalCompany]
             SELECTFROM 'a'[Branch]*'b'[CarRentalCompany]

            (TO MAINTAIN  -I[Branch] \/ branchOf;I[CarRentalCompany];bran
        PICK a,b FROM branchOf~;(I[Branch] /\ -(branchOf;branchOf~))
        THEN INSERT INTO branchOf[Branch*CarRentalCompany]
             SELECTFROM 'b'[Branch]*'a'[CarRentalCompany]

            (TO MAINTAIN  -I[Branch] \/ branchOf;I[CarRentalCompany];bran
  (MAINTAINING -I[Branch] \/ branchOf;I[CarRentalCompany];branchOf~ FROM UN
  ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Branch] /\ -(branchLocation;
        THEN INSERT INTO branchLocation[Branch*Location]
             SELECTFROM 'a'[Branch]*'b'[Location]

            (TO MAINTAIN  -I[Branch] \/ branchLocation;I[Location];branch
        PICK a,b FROM branchLocation~;(I[Branch] /\ -(branchLocation;branc
        THEN INSERT INTO branchLocation[Branch*Location]
             SELECTFROM 'b'[Branch]*'a'[Location]

            (TO MAINTAIN  -I[Branch] \/ branchLocation;I[Location];branch
  (MAINTAINING -I[Branch] \/ branchLocation;I[Location];branchLocation~ FRO
  NEW x:Location;
    INSERT INTO branchLocation[Branch*Location]
     SELECTFROM (I[Branch] /\ -(branchLocation;branchLocation~))*'x'[Locati

    (TO MAINTAIN  -I[Branch] \/ branchLocation;I[Location];branchLocation~
   (MAINTAINING -I[Branch] \/ branchLocation;I[Location];branchLocation~ FRO
(MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branc
(MAINTAINING -(branchOf~;branchOf) \/ I[CarRentalCompany] FROM UNI branchOf::Bra
(MAINTAINING -I[Branch] \/ branchOf;branchOf~ FROM TOT branchOf::Branch*CarRenta
(MAINTAINING -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLoc
(MAINTAINING -I[Branch] \/ branchLocation;branchLocation~ FROM TOT branchLocatio
```

------ Derivation ----->

```
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Branch] /\ -(branchOf;'EU-Rent'[C
              THEN INSERT INTO branchOf[Branch*CarRentalCompany]
                    SELECTFROM 'a'[Branch]*'b'[CarRentalCompany]

                   (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];b
              PICK a,b FROM branchOf~;(I[Branch] /\ -(branchOf;'EU-Rent'[CarRentalCom
              THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[CarRentalCom
                                   THEN BLOCK
                                        (CANNOT CHANGE 'EU-Rent'[CarRentalCompany] FROM
                                   PICK a,b FROM 'EU-Rent'[CarRentalCompany];('a'[CarRe
                                   THEN INSERT INTO branchOf[Branch*CarRentalCompany]
                                         SELECTFROM 'b'[Branch]*'a'[CarRentalCompany]

                                              (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[
                                 (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalComp
                                 NEW x:CarRentalCompany;
                                   ALL of BLOCK
                                          (CANNOT CHANGE 'EU-Rent'[CarRentalCompany] FROM EU
                                          INSERT INTO branchOf[Branch*CarRentalCompany]
                                           SELECTFROM 'b'[Branch]*'a'[CarRentalCompany]*'x'[

                                          (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[Car
                                   (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCo
                                 (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalComp
                          (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];br
        (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branchOf~ FROM
        NEW x:CarRentalCompany;
          ALL of INSERT INTO branchOf[Branch*CarRentalCompany]
                  SELECTFROM (I[Branch] /\ -(branchOf;'EU-Rent'[CarRentalCompany];bran

                    (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];bran
                    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[CarRentalCompany]*(I[B
                           THEN BLOCK
                                (CANNOT CHANGE 'EU-Rent'[CarRentalCompany] FROM EURent br
                           PICK a,b FROM 'EU-Rent'[CarRentalCompany];('x'[CarRentalCompan
                           THEN INSERT INTO branchOf[Branch*CarRentalCompany]
                                 SELECTFROM 'b'[Branch]*'a'[CarRentalCompany]

                                 (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRentalC
                    (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branc
          (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branchOf~ FR
        (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branchOf~ FROM
        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Branch] /\ -(branchOf;branchOf~))
              THEN INSERT INTO branchOf[Branch*CarRentalCompany]
                    SELECTFROM 'a'[Branch]*'b'[CarRentalCompany]

                   (TO MAINTAIN  -I[Branch] \/ branchOf;I[CarRentalCompany];branchOf~
              PICK a,b FROM branchOf~;(I[Branch] /\ -(branchOf;branchOf~))
              THEN INSERT INTO branchOf[Branch*CarRentalCompany]
```

```
                        SELECTFROM 'b'[Branch]*'a'[CarRentalCompany]

                     (TO MAINTAIN  -I[Branch] \/ branchOf;I[CarRentalCompany];branchOf~
            (MAINTAINING -I[Branch] \/ branchOf;I[CarRentalCompany];branchOf~ FROM UNI bra
            ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Branch] /\ -(branchLocation;branc
                   THEN INSERT INTO branchLocation[Branch*Location]
                         SELECTFROM 'a'[Branch]*'b'[Location]

                         (TO MAINTAIN  -I[Branch] \/ branchLocation;I[Location];branchLocat
                   PICK a,b FROM branchLocation~;(I[Branch] /\ -(branchLocation;branchLoca
                   THEN INSERT INTO branchLocation[Branch*Location]
                         SELECTFROM 'b'[Branch]*'a'[Location]

                     (TO MAINTAIN  -I[Branch] \/ branchLocation;I[Location];branchLocat
            (MAINTAINING -I[Branch] \/ branchLocation;I[Location];branchLocation~ FROM UNI
            NEW x:Location;
              INSERT INTO branchLocation[Branch*Location]
               SELECTFROM (I[Branch] /\ -(branchLocation;branchLocation~))*'x'[Location]

              (TO MAINTAIN  -I[Branch] \/ branchLocation;I[Location];branchLocation~ FROM
            (MAINTAINING -I[Branch] \/ branchLocation;I[Location];branchLocation~ FROM UNI
      (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
      (MAINTAINING -(branchOf~;branchOf) \/ I[CarRentalCompany] FROM UNI branchOf::Branch*C
      (MAINTAINING -I[Branch] \/ branchOf;branchOf~ FROM TOT branchOf::Branch*CarRentalComp
      (MAINTAINING -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLocation
      (MAINTAINING -I[Branch] \/ branchLocation;branchLocation~ FROM TOT branchLocation::Br
```

<------End Derivation --

```
          ON DELETE Delta FROM Isn{detyp=Branch} EXECUTE    -- (ECA rule 134)
          BLOCK
          (CANNOT CHANGE V[Branch*Branch] FROM Completeness of distance table)
```

------ Derivation ----->

```
     BLOCK
     (CANNOT CHANGE V[Branch*Branch] FROM Completeness of distance table)
```

<------End Derivation --

```
          ON INSERT Delta IN Isn{detyp=CarRentalCompany} EXECUTE    -- (ECA rule 135)
          ONE OF INSERT INTO Isn{detyp=CarRentalCompany}
                  SELECTFROM 'EU-Rent'[CarRentalCompany];branchOf~;branchOf /\ -I[CarRenta

                 (TO MAINTAIN  -('EU-Rent'[CarRentalCompany];branchOf~;branchOf) \/ I[CarR
```

```
                INSERT INTO Isn{detyp=CarRentalCompany}
                 SELECTFROM branchOf~;branchOf;'EU-Rent'[CarRentalCompany] /\ -I[CarRental

                (TO MAINTAIN  -(branchOf~;branchOf;'EU-Rent'[CarRentalCompany]) \/ I[CarR
                INSERT INTO branchOf[Branch*CarRentalCompany]
                 SELECTFROM branchOf;'EU-Rent'[CarRentalCompany] /\ -branchOf

                (TO MAINTAIN  -(branchOf;'EU-Rent'[CarRentalCompany]) \/ branchOf FROM EUR
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branch
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branch
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branch
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branch
```

------ Derivation ----->

```
     ONE OF INSERT INTO Isn{detyp=CarRentalCompany}
             SELECTFROM 'EU-Rent'[CarRentalCompany];branchOf~;branchOf /\ -I[CarRentalCompa

            (TO MAINTAIN  -('EU-Rent'[CarRentalCompany];branchOf~;branchOf) \/ I[CarRental
            INSERT INTO Isn{detyp=CarRentalCompany}
             SELECTFROM branchOf~;branchOf;'EU-Rent'[CarRentalCompany] /\ -I[CarRentalCompa

            (TO MAINTAIN  -(branchOf~;branchOf;'EU-Rent'[CarRentalCompany]) \/ I[CarRental
            INSERT INTO branchOf[Branch*CarRentalCompany]
             SELECTFROM branchOf;'EU-Rent'[CarRentalCompany] /\ -branchOf

            (TO MAINTAIN  -(branchOf;'EU-Rent'[CarRentalCompany]) \/ branchOf FROM EURent
      (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
      (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
      (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
      (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
```

<------End Derivation --

```
          ON DELETE Delta FROM Isn{detyp=CarRentalCompany} EXECUTE    -- (ECA rule 136)
          ONE OF DELETE FROM branchOf[Branch*CarRentalCompany]
                  SELECTFROM -(branchOf;'EU-Rent'[CarRentalCompany]) /\ branchOf

                 (TO MAINTAIN  -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURen
                 DELETE FROM branchOf[Branch*CarRentalCompany]
                  SELECTFROM branchOf;(-'EU-Rent'[CarRentalCompany] /\ branchOf~;branchOf)

                 (TO MAINTAIN  -(branchOf~;branchOf) \/ 'EU-Rent'[CarRentalCompany] FROM EU
                 DELETE FROM branchOf[Branch*CarRentalCompany]
                  SELECTFROM branchOf;(-I[CarRentalCompany] /\ branchOf~;branchOf;'EU-Rent

                 (TO MAINTAIN  -('EU-Rent'[CarRentalCompany];branchOf~;branchOf) \/ I[CarR
```

```
                DELETE FROM branchOf[Branch*CarRentalCompany]
                 SELECTFROM branchOf;'EU-Rent'[CarRentalCompany];(-I[CarRentalCompany] /\

                (TO MAINTAIN  -('EU-Rent'[CarRentalCompany];branchOf~;branchOf) \/ I[CarR
                DELETE FROM branchOf[Branch*CarRentalCompany]
                 SELECTFROM branchOf;'EU-Rent'[CarRentalCompany];(-I[CarRentalCompany] /\

                (TO MAINTAIN  -(branchOf~;branchOf;'EU-Rent'[CarRentalCompany]) \/ I[CarR
                DELETE FROM branchOf[Branch*CarRentalCompany]
                 SELECTFROM branchOf;(-I[CarRentalCompany] /\ branchOf~;branchOf;'EU-Rent

                (TO MAINTAIN  -(branchOf~;branchOf;'EU-Rent'[CarRentalCompany]) \/ I[CarR
                DELETE FROM Isn{detyp=Branch}
                 SELECTFROM -(branchOf;'EU-Rent'[CarRentalCompany];branchOf~) /\ I[Branch

                (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branchOf
                DELETE FROM branchOf[Branch*CarRentalCompany]
                 SELECTFROM branchOf;(-I[CarRentalCompany] /\ branchOf~;branchOf)

                (TO MAINTAIN  -(branchOf~;branchOf) \/ I[CarRentalCompany] FROM UNI branc
                DELETE FROM branchOf[Branch*CarRentalCompany]
                 SELECTFROM V[Branch*CarRentalCompany];Delta

                DELETE FROM maxRentalDuration[CarRentalCompany*Integer]
                 SELECTFROM Delta;V[CarRentalCompany*Integer]

          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branc
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branc
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branc
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branc
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branc
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branc
          (MAINTAINING -(branchOf~;branchOf) \/ I[CarRentalCompany] FROM UNI branchOf::Bra
          (MAINTAINING -I[Branch] \/ branchOf;branchOf~ FROM TOT branchOf::Branch*CarRentala
```

------ Derivation ----->

```
    ONE OF DELETE FROM branchOf[Branch*CarRentalCompany]
            SELECTFROM -(branchOf;'EU-Rent'[CarRentalCompany]) /\ branchOf

           (TO MAINTAIN  -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent br
           DELETE FROM branchOf[Branch*CarRentalCompany]
            SELECTFROM branchOf;(-'EU-Rent'[CarRentalCompany] /\ branchOf~;branchOf)

           (TO MAINTAIN  -(branchOf~;branchOf) \/ 'EU-Rent'[CarRentalCompany] FROM EURent
           DELETE FROM branchOf[Branch*CarRentalCompany]
            SELECTFROM branchOf;(-I[CarRentalCompany] /\ branchOf~;branchOf;'EU-Rent'[Car
```

```
(TO MAINTAIN  -('EU-Rent'[CarRentalCompany];branchOf~;branchOf) \/ I[CarRental
DELETE FROM branchOf[Branch*CarRentalCompany]
 SELECTFROM branchOf;'EU-Rent'[CarRentalCompany];(-I[CarRentalCompany] /\ 'EU-

(TO MAINTAIN  -('EU-Rent'[CarRentalCompany];branchOf~;branchOf) \/ I[CarRental
DELETE FROM branchOf[Branch*CarRentalCompany]
 SELECTFROM branchOf;'EU-Rent'[CarRentalCompany];(-I[CarRentalCompany] /\ 'EU-

(TO MAINTAIN  -(branchOf~;branchOf;'EU-Rent'[CarRentalCompany]) \/ I[CarRental
DELETE FROM branchOf[Branch*CarRentalCompany]
 SELECTFROM branchOf;(-I[CarRentalCompany] /\ branchOf~;branchOf;'EU-Rent'[Car

(TO MAINTAIN  -(branchOf~;branchOf;'EU-Rent'[CarRentalCompany]) \/ I[CarRental
DELETE FROM Isn{detyp=Branch}
 SELECTFROM -(branchOf;'EU-Rent'[CarRentalCompany];branchOf~) /\ I[Branch]

(TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branchOf~ FRO
DELETE FROM branchOf[Branch*CarRentalCompany]
 SELECTFROM branchOf;(-I[CarRentalCompany] /\ branchOf~;branchOf)

(TO MAINTAIN  -(branchOf~;branchOf) \/ I[CarRentalCompany] FROM UNI branchOf::
DELETE FROM branchOf[Branch*CarRentalCompany]
 SELECTFROM V[Branch*CarRentalCompany];Delta

DELETE FROM maxRentalDuration[CarRentalCompany*Integer]
 SELECTFROM Delta;V[CarRentalCompany*Integer]

(MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
(MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
(MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
(MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
(MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
(MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branches)
(MAINTAINING -(branchOf~;branchOf) \/ I[CarRentalCompany] FROM UNI branchOf::Branch*C
(MAINTAINING -I[Branch] \/ branchOf;branchOf~ FROM TOT branchOf::Branch*CarRentalComp
```

<------End Derivation --

```
ON INSERT Delta IN Isn{detyp=Car} EXECUTE    -- (ECA rule 137)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Car] /\ -(carAvailableAt;car
             THEN INSERT INTO carAvailableAt[Car*Branch]
                   SELECTFROM 'a'[Car]*'b'[Branch]

                  (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rc
             PICK a,b FROM carAvailableAt~;(I[Car] /\ -(carAvailableAt;carAvail
             THEN INSERT INTO carAvailableAt[Car*Branch]
                   SELECTFROM 'b'[Car]*'a'[Branch]
```

```
            (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rc
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;
NEW x:Branch;
  INSERT INTO carAvailableAt[Car*Branch]
   SELECTFROM (I[Car] /\ -(carAvailableAt;carAvailableAt~) /\ -(rcAssigne

  (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCa
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Car] /\ -(carAvailableAt;car
       THEN INSERT INTO rcAssignedCar[RentalCase*Car]
             SELECTFROM 'b'[RentalCase]*'a'[Car]

            (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rc
       PICK a,b FROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailab
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalC
                           THEN ALL of INSERT INTO rentalHasBeenStarted[Re
                                        SELECTFROM 'a'[RentalCase]*'b'[Ren

                                       (TO MAINTAIN  -I[Car] \/ carAvailab
                                      DELETE FROM rentalHasBeenEnded[Rent
                                       SELECTFROM 'a'[RentalCase]*'b'[Ren

                                       (TO MAINTAIN  -I[Car] \/ carAvailab
                                  (MAINTAINING -I[Car] \/ carAvailableAt;car
                           PICK a,b FROM (rentalHasBeenStarted~ /\ -rentall
                           THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                                 SELECTFROM 'a'[RentalCase]*'b'[Car]

                                    (TO MAINTAIN  -I[Car] \/ carAvailableAt;ca
                     (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~
                     NEW x:RentalCase;
                       ALL of ALL of INSERT INTO rentalHasBeenStarted[Rental
                                       SELECTFROM 'a'[RentalCase]*'b'[Car]*'

                                      (TO MAINTAIN  -I[Car] \/ carAvailableA
                                     DELETE FROM rentalHasBeenEnded[RentalC
                                      SELECTFROM 'a'[RentalCase]*'b'[Car]*'

                                      (TO MAINTAIN  -I[Car] \/ carAvailableA
                                (MAINTAINING -I[Car] \/ carAvailableAt;carAva
                                INSERT INTO rcAssignedCar[RentalCase*Car]
                                 SELECTFROM 'x'[RentalCase]*'a'[RentalCase]*'

                                    (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAv
                       (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableA
                     (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~
            (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcA
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;
NEW x:RentalCase;
  ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
```

```
 SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvaila

(TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAss
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCase
              THEN ALL of INSERT INTO rentalHasBeenStarted[Renta
                           SELECTFROM 'a'[RentalCase]*'b'[Rental

                          (TO MAINTAIN  -I[Car] \/ carAvailableA
                          DELETE FROM rentalHasBeenEnded[RentalC
                           SELECTFROM 'a'[RentalCase]*'b'[Rental

                                 (TO MAINTAIN  -I[Car] \/ carAvailableA
                       (MAINTAINING -I[Car] \/ carAvailableAt;carAva
                 PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHas
                 THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                       SELECTFROM 'a'[RentalCase]*'b'[Car]

                           (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAv
             (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/
             NEW x:RentalCase;
               ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Renta
                        SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvail

                          (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvaila
                          DELETE FROM rentalHasBeenEnded[RentalCase*Rental
                           SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvail

                          (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvaila
                          INSERT INTO rcAssignedCar[RentalCase*Car]
                           SELECTFROM 'x'[RentalCase]*'x'[RentalCase]*(I[Ca

                          (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvaila
               (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~
             (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssig
  (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
 SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));s

(TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
INSERT INTO Isn{detyp=Branch}
 SELECTFROM rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt

(TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailab
INSERT INTO rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));s

(TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
INSERT INTO Isn{detyp=Date}
```

```
 SELECTFROM rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;c

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailable
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Car] /\ -(carType;carType~))
       THEN INSERT INTO carType[Car*CarType]
             SELECTFROM 'a'[Car]*'b'[CarType]

            (TO MAINTAIN  -I[Car] \/ carType;I[CarType];carType~ FROM UNI
       PICK a,b FROM carType~;(I[Car] /\ -(carType;carType~))
       THEN INSERT INTO carType[Car*CarType]
             SELECTFROM 'b'[Car]*'a'[CarType]

            (TO MAINTAIN  -I[Car] \/ carType;I[CarType];carType~ FROM UNI
(MAINTAINING -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::Car
NEW x:CarType;
  INSERT INTO carType[Car*CarType]
   SELECTFROM (I[Car] /\ -(carType;carType~))*'x'[CarType]

  (TO MAINTAIN  -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::
(MAINTAINING -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::Car
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rentall
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
(MAINTAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)
```

------ Derivation ----->

```
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Car] /\ -(carAvailableAt;carAvail
       THEN INSERT INTO carAvailableAt[Car*Branch]
             SELECTFROM 'a'[Car]*'b'[Branch]

            (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssig
       PICK a,b FROM carAvailableAt~;(I[Car] /\ -(carAvailableAt;carAvailableA
       THEN INSERT INTO carAvailableAt[Car*Branch]
             SELECTFROM 'b'[Car]*'a'[Branch]

            (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssig
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rent
NEW x:Branch;
  INSERT INTO carAvailableAt[Car*Branch]
   SELECTFROM (I[Car] /\ -(carAvailableAt;carAvailableAt~) /\ -(rcAssignedCar~

  (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(r
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rent
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Car] /\ -(carAvailableAt;carAvail
```

```
          THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                SELECTFROM 'b'[RentalCase]*'a'[Car]

               (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssig
          PICK a,b FROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
          THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]*
                              THEN ALL of INSERT INTO rentalHasBeenStarted[RentalC
                                           SELECTFROM 'a'[RentalCase]*'b'[RentalCa

                                          (TO MAINTAIN  -I[Car] \/ carAvailableAt;
                                          DELETE FROM rentalHasBeenEnded[RentalCas
                                           SELECTFROM 'a'[RentalCase]*'b'[RentalCa

                                                 (TO MAINTAIN  -I[Car] \/ carAvailableAt;
                                       (MAINTAINING -I[Car] \/ carAvailableAt;carAvail
                                  PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBe
                                  THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                                        SELECTFROM 'a'[RentalCase]*'b'[Car]

                                               (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvai
                             (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ r
                             NEW x:RentalCase;
                               ALL of ALL of INSERT INTO rentalHasBeenStarted[RentalCase
                                              SELECTFROM 'a'[RentalCase]*'b'[Car]*'x'[Re

                                                 (TO MAINTAIN  -I[Car] \/ carAvailableAt;car
                                                DELETE FROM rentalHasBeenEnded[RentalCase*R
                                                 SELECTFROM 'a'[RentalCase]*'b'[Car]*'x'[Re

                                                       (TO MAINTAIN  -I[Car] \/ carAvailableAt;car
                                          (MAINTAINING -I[Car] \/ carAvailableAt;carAvailabl
                                          INSERT INTO rcAssignedCar[RentalCase*Car]
                                           SELECTFROM 'x'[RentalCase]*'a'[RentalCase]*'b'[Ca

                                                  (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailab
                                    (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/
                             (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ r
                       (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssign
          (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rent
          NEW x:RentalCase;
            ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
                   SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailableA

                    (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssigned
                    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCase]*(I[
                                    THEN ALL of INSERT INTO rentalHasBeenStarted[RentalCase
                                                 SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                                (TO MAINTAIN  -I[Car] \/ carAvailableAt;car
                                               DELETE FROM rentalHasBeenEnded[RentalCase*R
```

```
                                        SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                              (TO MAINTAIN  -I[Car] \/ carAvailableAt;car
                                    (MAINTAINING -I[Car] \/ carAvailableAt;carAvailabl
                                PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenE
                                THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                                      SELECTFROM 'a'[RentalCase]*'b'[Car]

                                         (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailab
                            (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAs
                            NEW x:RentalCase;
                              ALL of INSERT INTO rentalHasBeenStarted[RentalCase*RentalCas
                                      SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailable

                                       (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableA
                                      DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
                                       SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailable

                                       (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableA
                                      INSERT INTO rcAssignedCar[RentalCase*Car]
                                       SELECTFROM 'x'[RentalCase]*'x'[RentalCase]*(I[Car] /

                                       (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableA
                              (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rc
                            (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAs
                   (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedC
             (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(re
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rent
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
 SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessio

(TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se
INSERT INTO Isn{detyp=Branch}
 SELECTFROM rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carA

(TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;
INSERT INTO rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessio

(TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se
INSERT INTO Isn{detyp=Date}
 SELECTFROM rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAva

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;ca
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Car] /\ -(carType;carType~));carT
       THEN INSERT INTO carType[Car*CarType]
             SELECTFROM 'a'[Car]*'b'[CarType]

            (TO MAINTAIN  -I[Car] \/ carType;I[CarType];carType~ FROM UNI carT
       PICK a,b FROM carType~;(I[Car] /\ -(carType;carType~))
```

```
                THEN INSERT INTO carType[Car*CarType]
                      SELECTFROM 'b'[Car]*'a'[CarType]

                    (TO MAINTAIN  -I[Car] \/ carType;I[CarType];carType~ FROM UNI carT
              (MAINTAINING -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::Car*CarT
              NEW x:CarType;
                INSERT INTO carType[Car*CarType]
                 SELECTFROM (I[Car] /\ -(carType;carType~))*'x'[CarType]

                (TO MAINTAIN  -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::Car*C
              (MAINTAINING -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::Car*CarT
       (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rentalHasBe
       (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
       (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
       (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
       (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
       (MAINTAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
       (MAINTAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)
```

<------End Derivation --

```
     ON DELETE Delta FROM Isn{detyp=Car} EXECUTE    -- (ECA rule 138)
     ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
             SELECTFROM rentalHasBeenStarted;rcAssignedCar;(-I[Car] /\ rcAssignedCar~

            (TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar) \/ I[C
            DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
             SELECTFROM rcAssignedCar;(-I[Car] /\ rcAssignedCar~;rentalHasBeenStarted

            (TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar) \/ I[C
            DELETE FROM rcAssignedCar[RentalCase*Car]
             SELECTFROM rentalHasBeenStarted~;rcAssignedCar;(-I[Car] /\ rcAssignedCar

            (TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar) \/ I[C
            DELETE FROM rcDroppedOffCar[RentalCase*Car]
             SELECTFROM rcCarHasBeenDroppedOff;rcDroppedOffCar;(-I[Car] /\ rcDropped

            (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar)
            DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
             SELECTFROM rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCar~;rcCarHasBeenDrop

            (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar)
            DELETE FROM rcDroppedOffCar[RentalCase*Car]
             SELECTFROM rcCarHasBeenDroppedOff~;rcDroppedOffCar;(-I[Car] /\ rcDropped

            (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar)
            DELETE FROM rcAssignedCar[RentalCase*Car]
             SELECTFROM rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCar~;rcAssignedCar)
```

```
(TO MAINTAIN  -(rcAssignedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-of
DELETE FROM rcDroppedOffCar[RentalCase*Car]
 SELECTFROM rcAssignedCar;(-I[Car] /\ rcAssignedCar~;rcDroppedOffCar)

(TO MAINTAIN  -(rcAssignedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-of
DELETE FROM sessionDroppedoffCar[SESSION*Car]
 SELECTFROM '_SESSION'[SESSION];(-(sessionDroppedoffCar;(I[Car] /\ rcAssig

(TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDropp
DELETE FROM sessionDroppedoffCar[SESSION*Car]
 SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ session

(TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedo
DELETE FROM sessionDroppedoffCar[SESSION*Car]
 SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ session

(TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedo
DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM rcAssignedCar;(-I[Car] /\ rcAssignedCar~;rcAssignedCar)

(TO MAINTAIN  -(rcAssignedCar~;rcAssignedCar) \/ I[Car] FROM UNI rcAssign
DELETE FROM rcDroppedOffCar[RentalCase*Car]
 SELECTFROM rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCar~;rcDroppedOffCar)

(TO MAINTAIN  -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDr
DELETE FROM sessionDroppedoffCar[SESSION*Car]
 SELECTFROM sessionDroppedoffCar;(-I[Car] /\ sessionDroppedoffCar~;sessio

(TO MAINTAIN  -(sessionDroppedoffCar~;sessionDroppedoffCar) \/ I[Car] FRO
DELETE FROM carAvailableAt[Car*Branch]
 SELECTFROM Delta;V[Car*Branch]

DELETE FROM carType[Car*CarType]
 SELECTFROM Delta;V[Car*CarType]

DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM V[RentalCase*Car];Delta

DELETE FROM rcDroppedOffCar[RentalCase*Car]
 SELECTFROM V[RentalCase*Car];Delta

DELETE FROM sessionDroppedoffCar[SESSION*Car]
 SELECTFROM V[SESSION*Car];Delta

(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dr
(MAINTAINING -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type integri
```

```
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
(MAINTAINING -(rcAssignedCar~;rcAssignedCar) \/ I[Car] FROM UNI rcAssignedCar::R
(MAINTAINING -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDroppedOff
(MAINTAINING -(sessionDroppedoffCar~;sessionDroppedoffCar) \/ I[Car] FROM UNI se
```

------ Derivation ----->

```
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM rentalHasBeenStarted;rcAssignedCar;(-I[Car] /\ rcAssignedCar~;rent

       (TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar) \/ I[Car] F
       DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM rcAssignedCar;(-I[Car] /\ rcAssignedCar~;rentalHasBeenStarted;rcAs

       (TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar) \/ I[Car] F
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM rentalHasBeenStarted~;rcAssignedCar;(-I[Car] /\ rcAssignedCar~;ren

       (TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar) \/ I[Car] F
       DELETE FROM rcDroppedOffCar[RentalCase*Car]
        SELECTFROM rcCarHasBeenDroppedOff;rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCar

       (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ I[
       DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCar~;rcCarHasBeenDroppedOf

       (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ I[
       DELETE FROM rcDroppedOffCar[RentalCase*Car]
        SELECTFROM rcCarHasBeenDroppedOff~;rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCa

       (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ I[
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCar~;rcAssignedCar)

       (TO MAINTAIN  -(rcAssignedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off car
       DELETE FROM rcDroppedOffCar[RentalCase*Car]
        SELECTFROM rcAssignedCar;(-I[Car] /\ rcAssignedCar~;rcDroppedOffCar)

       (TO MAINTAIN  -(rcAssignedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off car
       DELETE FROM sessionDroppedoffCar[SESSION*Car]
        SELECTFROM '_SESSION'[SESSION];(-(sessionDroppedoffCar;(I[Car] /\ rcAssignedC

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoff
       DELETE FROM sessionDroppedoffCar[SESSION*Car]
        SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessionDropp

       (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar
```

```
DELETE FROM sessionDroppedoffCar[SESSION*Car]
 SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessionDropp

(TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar
DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM rcAssignedCar;(-I[Car] /\ rcAssignedCar~;rcAssignedCar)

(TO MAINTAIN  -(rcAssignedCar~;rcAssignedCar) \/ I[Car] FROM UNI rcAssignedCar
DELETE FROM rcDroppedOffCar[RentalCase*Car]
 SELECTFROM rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCar~;rcDroppedOffCar)

(TO MAINTAIN  -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDropped
DELETE FROM sessionDroppedoffCar[SESSION*Car]
 SELECTFROM sessionDroppedoffCar;(-I[Car] /\ sessionDroppedoffCar~;sessionDrop

(TO MAINTAIN  -(sessionDroppedoffCar~;sessionDroppedoffCar) \/ I[Car] FROM UNI
DELETE FROM carAvailableAt[Car*Branch]
 SELECTFROM Delta;V[Car*Branch]

DELETE FROM carType[Car*CarType]
 SELECTFROM Delta;V[Car*CarType]

DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM V[RentalCase*Car];Delta

DELETE FROM rcDroppedOffCar[RentalCase*Car]
 SELECTFROM V[RentalCase*Car];Delta

DELETE FROM sessionDroppedoffCar[SESSION*Car]
 SELECTFROM V[SESSION*Car];Delta

(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
(MAINTAINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
(MAINTAINING -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type integrity)
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
(MAINTAINING -(rcAssignedCar~;rcAssignedCar) \/ I[Car] FROM UNI rcAssignedCar::Rental
(MAINTAINING -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDroppedOffCar::
(MAINTAINING -(sessionDroppedoffCar~;sessionDroppedoffCar) \/ I[Car] FROM UNI session
```

<------End Derivation --

```
ON INSERT Delta IN Isn{detyp=RentalCase} EXECUTE    -- (ECA rule 139)
ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp
```

```
(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
 SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rc

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /
INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
 SELECTFROM rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rc

(TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDat
INSERT INTO paymentHasBeenRequested[RentalCase*RentalCase]
 SELECTFROM rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCa

(TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[Renta
INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
 SELECTFROM rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBe

(TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarH
INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAs

(TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\
INSERT INTO contractedPickupBranch[RentalCase*Branch]
 SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
INSERT INTO Isn{detyp=Branch}
 SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;

(TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequest
INSERT INTO contractedStartDate[RentalCase*Date]
 SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
INSERT INTO Isn{detyp=Date}
 SELECTFROM contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Ye

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedPickupBranch~
              THEN INSERT INTO carAvailableAt[Car*Branch]
                    SELECTFROM 'b'[Car]*'a'[Branch]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase]
              PICK a,b FROM carAvailableAt;(contractedPickupBranch~;(I[Re
              THEN INSERT INTO carType[Car*CarType]
                    SELECTFROM 'a'[Car]*'b'[CarType]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase]
       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
       NEW x:Car;
```

```
          ALL of INSERT INTO carAvailableAt[Car*Branch]
                  SELECTFROM 'x'[Car]*(contractedCarType~;(I[RentalCase] /

                 (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\
                 INSERT INTO carType[Car*CarType]
                  SELECTFROM 'x'[Car]*(contractedPickupBranch~;(I[RentalCa

                 (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\
           (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalH
         (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPro
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'
                THEN INSERT INTO rcDriver[RentalCase*Person]
                      SELECTFROM 'a'[RentalCase]*'b'[Person]

                     (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
                PICK a,b FROM rcDriver~;(rcKeysHandedOverQ;'Yes'[YesNoAnswe
                THEN INSERT INTO rcDriver[RentalCase*Person]
                      SELECTFROM 'b'[RentalCase]*'a'[Person]

                     (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
         (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
         NEW x:Person;
           INSERT INTO rcDriver[RentalCase*Person]
            SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv

           (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHande
         (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'
                THEN INSERT INTO rcRenter[RentalCase*Person]
                      SELECTFROM 'a'[RentalCase]*'b'[Person]

                     (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
                PICK a,b FROM rcRenter~;(rcKeysHandedOverQ;'Yes'[YesNoAnswe
                THEN INSERT INTO rcRenter[RentalCase*Person]
                      SELECTFROM 'b'[RentalCase]*'a'[Person]

                     (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
         (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
         NEW x:Person;
           INSERT INTO rcRenter[RentalCase*Person]
            SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv

           (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHande
         (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcMaxRentalDuration;rcM
                THEN INSERT INTO contractedStartDate[RentalCase*Date]
                      SELECTFROM 'a'[RentalCase]*'b'[Date]
```

```
     (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuratio
PICK a,b FROM contractedStartDate~;(rcMaxRentalDuration;rcM
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                    THEN INSERT INTO dateIntervalCompTrigger
                          SELECTFROM 'a'[Date]*'b'[Date]

                         (TO MAINTAIN  -(rcMaxRentalDuration
                    PICK a,b FROM dateIntervalCompTrigger~;(
                    THEN INSERT INTO contractedEndDate[Renta
                          SELECTFROM 'b'[RentalCase]*'a'[Dat

                        (TO MAINTAIN  -(rcMaxRentalDuration
                (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalD
                NEW x:Date;
                  ALL of INSERT INTO dateIntervalCompTrigger[Da
                          SELECTFROM 'a'[Date]*'b'[RentalCase]*

                        (TO MAINTAIN  -(rcMaxRentalDuration;rc
                        INSERT INTO contractedEndDate[RentalCa
                          SELECTFROM 'b'[RentalCase]*'a'[Date]*

                        (TO MAINTAIN  -(rcMaxRentalDuration;rc
                  (MAINTAINING -(rcMaxRentalDuration;rcMaxRenta
                (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalD
           (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contrac
NEW x:Date;
  ALL of INSERT INTO contractedStartDate[RentalCase*Date]
          SELECTFROM (rcMaxRentalDuration;rcMaxRentalDuration~ /\

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Dat
                    THEN INSERT INTO dateIntervalCompTrigger[Da
                          SELECTFROM 'a'[Date]*'b'[Date]

                         (TO MAINTAIN  -(rcMaxRentalDuration;rc
                    PICK a,b FROM dateIntervalCompTrigger~;('x'
                    THEN INSERT INTO contractedEndDate[RentalCa
                          SELECTFROM 'b'[RentalCase]*'a'[Date]

                        (TO MAINTAIN  -(rcMaxRentalDuration;rc
                (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDura
                NEW x:Date;
                  ALL of INSERT INTO dateIntervalCompTrigger[Date*
                          SELECTFROM 'x'[Date]*(rcMaxRentalDuratio

                        (TO MAINTAIN  -(rcMaxRentalDuration;rcMax
                        INSERT INTO contractedEndDate[RentalCase*
                          SELECTFROM (rcMaxRentalDuration;rcMaxRen
```

```
                                        (TO MAINTAIN  -(rcMaxRentalDuration;rcMax
                                  (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDu
                                (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDura
                          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /
                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contr
              (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contrac
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDa
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rentalLocationPenaltyCharge;re
             THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                        THEN INSERT INTO rentalBasicCharge[Renta
                                              SELECTFROM 'a'[RentalCase]*'b'[Amo

                                             (TO MAINTAIN  -(rentalLocationPenal
                                        PICK a,b FROM rentalBasicCharge~;('a'[Re
                                        THEN INSERT INTO arg1[CompRentalCharge*A
                                              SELECTFROM 'b'[CompRentalCharge]*'

                                                  (TO MAINTAIN  -(rentalLocationPenal
                                    (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                    NEW x:Amount;
                                      ALL of INSERT INTO rentalBasicCharge[RentalCa
                                               SELECTFROM 'a'[RentalCase]*'b'[CompRe

                                                 (TO MAINTAIN  -(rentalLocationPenaltyC
                                                 INSERT INTO arg1[CompRentalCharge*Amou
                                                  SELECTFROM 'b'[CompRentalCharge]*'a'[

                                                 (TO MAINTAIN  -(rentalLocationPenaltyC
                                      (MAINTAINING -(rentalLocationPenaltyCharge;re
                                    (MAINTAINING -(rentalLocationPenaltyCharge;rent
                              (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocat
                              ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                        THEN INSERT INTO rentalPenaltyCharge[Ren
                                              SELECTFROM 'a'[RentalCase]*'b'[Amo

                                             (TO MAINTAIN  -(rentalLocationPenal
                                        PICK a,b FROM rentalPenaltyCharge~;('a'[
                                        THEN INSERT INTO arg2[CompRentalCharge*A
                                              SELECTFROM 'b'[CompRentalCharge]*'

                                                  (TO MAINTAIN  -(rentalLocationPenal
                                    (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                    NEW x:Amount;
                                      ALL of INSERT INTO rentalPenaltyCharge[Rental
                                               SELECTFROM 'a'[RentalCase]*'b'[CompRe

                                                 (TO MAINTAIN  -(rentalLocationPenaltyC
                                                 INSERT INTO arg2[CompRentalCharge*Amou
                                                  SELECTFROM 'b'[CompRentalCharge]*'a'[
```

```
                                        (TO MAINTAIN  -(rentalLocationPenaltyC
                                  (MAINTAINING -(rentalLocationPenaltyCharge;re
                                 (MAINTAINING -(rentalLocationPenaltyCharge;rent
                           (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocat
                           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                        THEN INSERT INTO rentalLocationPenaltyCh
                                              SELECTFROM 'a'[RentalCase]*'b'[Amo

                                             (TO MAINTAIN  -(rentalLocationPenal
                                        PICK a,b FROM rentalLocationPenaltyCharg
                                        THEN INSERT INTO arg3[CompRentalCharge*A
                                              SELECTFROM 'b'[CompRentalCharge]*'

                                             (TO MAINTAIN  -(rentalLocationPenal
                                  (MAINTAINING -(rentalLocationPenaltyCharge;rent
                                  NEW x:Amount;
                                    ALL of INSERT INTO rentalLocationPenaltyCharg
                                             SELECTFROM 'a'[RentalCase]*'b'[CompRe

                                             (TO MAINTAIN  -(rentalLocationPenaltyC
                                             INSERT INTO arg3[CompRentalCharge*Amou
                                              SELECTFROM 'b'[CompRentalCharge]*'a'[

                                             (TO MAINTAIN  -(rentalLocationPenaltyC
                                    (MAINTAINING -(rentalLocationPenaltyCharge;re
                                 (MAINTAINING -(rentalLocationPenaltyCharge;rent
                           (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocat
                      (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPena
                PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge
                THEN BLOCK
                      (CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger re
         (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDroppedOffDate;rcDroppedOffD
                THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                        THEN INSERT INTO contractedStartDate[Ren
                                              SELECTFROM 'a'[RentalCase]*'b'[Dat

                                             (TO MAINTAIN  -(rcDroppedOffDate;rc
                                        PICK a,b FROM contractedStartDate~;('a'[
                                        THEN INSERT INTO earliestDate[DateDiffer
                                              SELECTFROM 'b'[DateDifferencePlusO

                                             (TO MAINTAIN  -(rcDroppedOffDate;rc
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                  NEW x:Date;
                                    ALL of INSERT INTO contractedStartDate[Rental
                                             SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                             (TO MAINTAIN  -(rcDroppedOffDate;rcDro
```

```
                                        INSERT INTO earliestDate[DateDifferenc
                                         SELECTFROM 'b'[DateDifferencePlusOne]
                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDa
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
                           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                  THEN INSERT INTO rcDroppedOffDate[Rental
                                       SELECTFROM 'a'[RentalCase]*'b'[Dat
                                      (TO MAINTAIN  -(rcDroppedOffDate;rc
                                  PICK a,b FROM rcDroppedOffDate~;('a'[Ren
                                  THEN INSERT INTO latestDate[DateDifferen
                                       SELECTFROM 'b'[DateDifferencePlusO
                                      (TO MAINTAIN  -(rcDroppedOffDate;rc
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                NEW x:Date;
                                  ALL of INSERT INTO rcDroppedOffDate[RentalCas
                                          SELECTFROM 'a'[RentalCase]*'b'[DateDi
                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                        INSERT INTO latestDate[DateDifferenceP
                                         SELECTFROM 'b'[DateDifferencePlusOne]
                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDa
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
                      (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contract
                 PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;rcD
                 THEN BLOCK
                      (CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigg
           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;
           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcAssignedCar;rcAssignedCar~ /
                 THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                  THEN INSERT INTO rentalPeriod[RentalCase
                                       SELECTFROM 'a'[RentalCase]*'b'[Int
                                      (TO MAINTAIN  -(rcAssignedCar;rcAss
                                  PICK a,b FROM rentalPeriod~;('a'[RentalC
                                  THEN INSERT INTO ctcNrOfDays[CompTariffe
                                       SELECTFROM 'b'[CompTariffedCharge]
                                      (TO MAINTAIN  -(rcAssignedCar;rcAss
                                (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
                                NEW x:Integer;
                                  ALL of INSERT INTO rentalPeriod[RentalCase*In
                                          SELECTFROM 'a'[RentalCase]*'b'[CompTa
```

```
                                                (TO MAINTAIN  -(rcAssignedCar;rcAssign
                                                INSERT INTO ctcNrOfDays[CompTariffedCh
                                                 SELECTFROM 'b'[CompTariffedCharge]*'a

                                                (TO MAINTAIN  -(rcAssignedCar;rcAssign
                                         (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /
                                       (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
                                (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalP
                                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                             THEN INSERT INTO rcAssignedCar[RentalCas
                                                   SELECTFROM 'a'[RentalCase]*'b'[Car

                                                (TO MAINTAIN  -(rcAssignedCar;rcAss
                                             PICK a,b FROM rcAssignedCar~;('a'[Rental
                                             THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                                  THEN INSERT INTO carT
                                                                        SELECTFROM 'a'[

                                                                   (TO MAINTAIN  -(
                                                                  PICK a,b FROM carType
                                                                  THEN ONE OF ONE NONEM
                                                                                       TH




                                                                                       PI
                                                                                       TH



                                                                                (MAINTAIN
                                                                                NEW x:Amo
                                                                                  ALL of


                                                                                        (MAINTA
                                                                                       (MAINTAIN
                                                                                (MAINTAINING -(r
                                                                  (MAINTAINING -(rcAssignedCar
                                                                  NEW x:CarType;
                                                                    ALL of INSERT INTO carType
                                                                            SELECTFROM 'a'[Car

                                                                     (TO MAINTAIN  -(rcA
```

```
                                                                ONE OF ONE NONEMPTY
                                                                        THEN


                                                                        PICK
                                                                        THEN


                                                                (MAINTAINING
                                                                NEW x:Amount
                                                                  ALL of INS
                                                                          SE

                                                                          (TO
                                                                          INS
                                                                          SE

                                                                          (TO
                                                                    (MAINTAINI
                                                                (MAINTAINING
                                                          (MAINTAINING -(rcAs
                                                    (MAINTAINING -(rcAssignedC
                                              (MAINTAINING -(rcAssignedCar
                                        (MAINTAINING -(rcAssignedCar;rcAssi
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
NEW x:Car;
  ALL of INSERT INTO rcAssignedCar[RentalCase*C
          SELECTFROM 'a'[RentalCase]*'b'[CompTa

          (TO MAINTAIN  -(rcAssignedCar;rcAssign
          ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                        THEN INSERT INTO carType
                              SELECTFROM 'a'[Car

                              (TO MAINTAIN  -(rcA
                        PICK a,b FROM carType~;(
                        THEN ONE OF ONE NONEMPTY
                                                                        THEN


                                                                        PICK
                                                                        THEN


                                                                (MAINTAINING
                                                                NEW x:Amount
```

```
                                                                ALL of INSE
                                                                       SE

                                                                      (TO
                                                                      INSE
                                                                       SE

                                                                      (TO
                                                                (MAINTAINI
                                                             (MAINTAINING
                                                          (MAINTAINING -(rcAs
                                                  (MAINTAINING -(rcAssignedCar;rc
                                                  NEW x:CarType;
                                                    ALL of INSERT INTO carType[Ca
                                                            SELECTFROM 'x'[Car]*'

                                                           (TO MAINTAIN  -(rcAssig
                                                           ONE OF ONE NONEMPTY AL
                                                                        THEN INSE
                                                                             SE

                                                                             (TO
                                                                           PICK a,b
                                                                           THEN INSE
                                                                             SE

                                                                             (TO
                                                                  (MAINTAINING -(
                                                                  NEW x:Amount;
                                                                    ALL of INSERT
                                                                           SELEC

                                                                          (TO MA
                                                                          INSERT
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                                                                          (TO MA
                                                                    (MAINTAINING
                                                                   (MAINTAINING -(
                                                             (MAINTAINING -(rcAssig
                                                       (MAINTAINING -(rcAssignedCar;
                                                      (MAINTAINING -(rcAssignedCar;rc
                                                (MAINTAINING -(rcAssignedCar;rcAssigne
                                              (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /
                                            (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
                                  (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalP
                       (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;r
PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalT
THEN BLOCK
     (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
```

```
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rentalExcessPeriod;rentalExces
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                   THEN INSERT INTO rentalExcessPeriod[Renta
                                         SELECTFROM 'a'[RentalCase]*'b'[Int

                                        (TO MAINTAIN  -(rentalExcessPeriod;
                                   PICK a,b FROM rentalExcessPeriod~;('a'[R
                                   THEN INSERT INTO ctcNrOfDays[CompTariffe
                                         SELECTFROM 'b'[CompTariffedCharge]

                                             (TO MAINTAIN  -(rentalExcessPeriod;
                                  (MAINTAINING -(rentalExcessPeriod;rentalExcessP
                                  NEW x:Integer;
                                    ALL of INSERT INTO rentalExcessPeriod[RentalC
                                            SELECTFROM 'a'[RentalCase]*'b'[CompTa

                                            (TO MAINTAIN  -(rentalExcessPeriod;ren
                                            INSERT INTO ctcNrOfDays[CompTariffedCh
                                             SELECTFROM 'b'[CompTariffedCharge]*'a

                                            (TO MAINTAIN  -(rentalExcessPeriod;ren
                                      (MAINTAINING -(rentalExcessPeriod;rentalExces
                                     (MAINTAINING -(rentalExcessPeriod;rentalExcessP
                               (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~
                               ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                   THEN INSERT INTO rcAssignedCar[RentalCas
                                         SELECTFROM 'a'[RentalCase]*'b'[Car

                                        (TO MAINTAIN  -(rentalExcessPeriod;
                                   PICK a,b FROM rcAssignedCar~;('a'[Rental
                                   THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                       THEN INSERT INTO carT
                                                             SELECTFROM 'a'[

                                                            (TO MAINTAIN  -(
                                                       PICK a,b FROM carType
                                                       THEN ONE OF ONE NONEM
                                                                           TH



                                                                           PI
                                                                           TH



                                                                  (MAINTAIN
                                                                  NEW x:Amo
                                                                    ALL of
```

(MAINTA
(MAINTAIN
(MAINTAINING -(r
(MAINTAINING -(rentalExcessP
NEW x:CarType;
ALL of INSERT INTO carType
SELECTFROM 'a'[Car
(TO MAINTAIN -(ren
ONE OF ONE NONEMPTY
THEN
PICK
THEN
(MAINTAINING
NEW x:Amount
ALL of INS
SE
(TO
INS
SE
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(MAINTAINI
(MAINTAINING
(MAINTAINING -(rent
(MAINTAINING -(rentalExces
(MAINTAINING -(rentalExcessP
(MAINTAINING -(rentalExcessPeriod;r
(MAINTAINING -(rentalExcessPeriod;rentalExcessP
NEW x:Car;
ALL of INSERT INTO rcAssignedCar[RentalCase*C
SELECTFROM 'a'[RentalCase]*'b'[CompTa
(TO MAINTAIN -(rentalExcessPeriod;ren
ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
THEN INSERT INTO carType

```
                                                SELECTFROM 'a'[Car
                                             (TO MAINTAIN  -(ren
                                     PICK a,b FROM carType~;(
                                     THEN ONE OF ONE NONEMPTY
                                                          THEN
                                                                PICK
                                                                THEN
                                                          (MAINTAINING
                                                          NEW x:Amount
                                                            ALL of INS
                                                                    SE
                                                                  (TO
                                                                  INS
                                                                   SE
                                                                  (TO
                                                            (MAINTAINI
                                                          (MAINTAINING
                                                 (MAINTAINING -(rent
                                 (MAINTAINING -(rentalExcessPeri
                                 NEW x:CarType;
                                   ALL of INSERT INTO carType[Ca
                                           SELECTFROM 'x'[Car]*'
                                           (TO MAINTAIN  -(rental
                                           ONE OF ONE NONEMPTY AL
                                                        THEN INS
                                                              SE
                                                                  (TO
                                                        PICK a,b
                                                        THEN INS
                                                              SE
                                                                  (TO
                                                    (MAINTAINING -(
                                                    NEW x:Amount;
                                                      ALL of INSERT
                                                              SELEC
                                                                (TO MA
                                                                INSERT
```

```
                                                
```

```
                                                (TO MAINTAIN  -(rcDroppedOffDate;rc
                                          (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                          NEW x:Date;
                                            ALL of INSERT INTO rcDroppedOffDate[RentalCas
                                                    SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                                    (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                                    INSERT INTO lastDate[DateDifference*Da
                                                     SELECTFROM 'b'[DateDifference]*'a'[Re

                                                    (TO MAINTAIN  -(rcDroppedOffDate;rcDro
                                              (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDa
                                            (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDat
                                     (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contract
                       PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedO
                       THEN BLOCK
                            (CANNOT CHANGE V[DateDifference*RentalCase] FROM Trigger exce
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;co
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedEndDate;contractedEn
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                          THEN INSERT INTO contractedStartDate[Ren
                                                SELECTFROM 'a'[RentalCase]*'b'[Dat

                                                (TO MAINTAIN  -(contractedEndDate;c
                                          PICK a,b FROM contractedStartDate~;('a'[
                                          THEN INSERT INTO earliestDate[DateDiffer
                                                SELECTFROM 'b'[DateDifferencePlusO

                                                (TO MAINTAIN  -(contractedEndDate;c
                                          (MAINTAINING -(contractedEndDate;contractedEndD
                                          NEW x:Date;
                                            ALL of INSERT INTO contractedStartDate[Rental
                                                    SELECTFROM 'a'[RentalCase]*'b'[DateDi

                                                    (TO MAINTAIN  -(contractedEndDate;cont
                                                    INSERT INTO earliestDate[DateDifferenc
                                                     SELECTFROM 'b'[DateDifferencePlusOne]

                                                    (TO MAINTAIN  -(contractedEndDate;cont
                                              (MAINTAINING -(contractedEndDate;contractedEn
                                            (MAINTAINING -(contractedEndDate;contractedEndD
                                     (MAINTAINING -(contractedEndDate;contractedEndDate~ /\
                                     ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                          THEN INSERT INTO contractedEndDate[Rental
                                                SELECTFROM 'a'[RentalCase]*'b'[Dat

                                                (TO MAINTAIN  -(contractedEndDate;c
                                          PICK a,b FROM contractedEndDate~;('a'[Re
                                          THEN INSERT INTO latestDate[DateDifferen
```

```
                                                    SELECTFROM 'b'[DateDifferencePlusO
                                                
                                                   (TO MAINTAIN  -(contractedEndDate;c
                                           (MAINTAINING -(contractedEndDate;contractedEndD
                                           NEW x:Date;
                                             ALL of INSERT INTO contractedEndDate[RentalCa
                                                     SELECTFROM 'a'[RentalCase]*'b'[DateDi
                                                
                                                    (TO MAINTAIN  -(contractedEndDate;cont
                                                    INSERT INTO latestDate[DateDifferenceP
                                                     SELECTFROM 'b'[DateDifferencePlusOne]
                                                
                                                    (TO MAINTAIN  -(contractedEndDate;cont
                                             (MAINTAINING -(contractedEndDate;contractedEn
                                           (MAINTAINING -(contractedEndDate;contractedEndD
                                  (MAINTAINING -(contractedEndDate;contractedEndDate~ /\
                        (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contra
              PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;con
              THEN BLOCK
                   (CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigg
       (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDat
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedCarType;contractedCa
              THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                          THEN INSERT INTO projectedRentalPeriod[R
                                                SELECTFROM 'a'[RentalCase]*'b'[Int
                                                
                                                (TO MAINTAIN  -(contractedCarType;c
                                          PICK a,b FROM projectedRentalPeriod~;('a
                                          THEN INSERT INTO ctcNrOfDays[CompTariffe
                                                SELECTFROM 'b'[CompTariffedCharge]
                                                
                                                (TO MAINTAIN  -(contractedCarType;c
                                           (MAINTAINING -(contractedCarType;contractedCarT
                                           NEW x:Integer;
                                             ALL of INSERT INTO projectedRentalPeriod[Renta
                                                     SELECTFROM 'a'[RentalCase]*'b'[CompTa
                                                
                                                    (TO MAINTAIN  -(contractedCarType;cont
                                                    INSERT INTO ctcNrOfDays[CompTariffedCha
                                                     SELECTFROM 'b'[CompTariffedCharge]*'a
                                                
                                                    (TO MAINTAIN  -(contractedCarType;cont
                                             (MAINTAINING -(contractedCarType;contractedCa
                                           (MAINTAINING -(contractedCarType;contractedCarT
                                  (MAINTAINING -(contractedCarType;contractedCarType~ /\
                                  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                          THEN INSERT INTO contractedCarType[Rental
                                                SELECTFROM 'a'[RentalCase]*'b'[Car
                                                
                                                (TO MAINTAIN  -(contractedCarType;c
```

```
PICK a,b FROM contractedCarType~;('a'[Re
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                    THEN INSERT INTO rent
                          SELECTFROM 'a'[

                         (TO MAINTAIN  -(
                    PICK a,b FROM rentalT
                    THEN INSERT INTO ctcD
                          SELECTFROM 'b'[

                               (TO MAINTAIN  -(
               (MAINTAINING -(contractedCar
               NEW x:Amount;
                 ALL of INSERT INTO rentalT
                          SELECTFROM 'a'[Car

                           (TO MAINTAIN  -(con
                           INSERT INTO ctcDail
                            SELECTFROM 'b'[Com

                          (TO MAINTAIN  -(con
                  (MAINTAINING -(contractedC
                 (MAINTAINING -(contractedCar
          (MAINTAINING -(contractedCarType;co
(MAINTAINING -(contractedCarType;contractedCarT
NEW x:CarType;
  ALL of INSERT INTO contractedCarType[RentalCa
          SELECTFROM 'a'[RentalCase]*'b'[CompTa

         (TO MAINTAIN  -(contractedCarType;cont
         ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                    THEN INSERT INTO rentalT
                          SELECTFROM 'a'[Car

                         (TO MAINTAIN  -(con
                    PICK a,b FROM rentalTari
                    THEN INSERT INTO ctcDail
                          SELECTFROM 'b'[Com

                          (TO MAINTAIN  -(con
                (MAINTAINING -(contractedCarTyp
                NEW x:Amount;
                  ALL of INSERT INTO rentalTari
                          SELECTFROM 'x'[CarTyp

                           (TO MAINTAIN  -(contra
                           INSERT INTO ctcDailyAm
                            SELECTFROM 'b'[CompTa

                           (TO MAINTAIN  -(contra
```

```
                                                    (MAINTAINING -(contractedCarT
                                                  (MAINTAINING -(contractedCarTyp
                                              (MAINTAINING -(contractedCarType;contra
                                          (MAINTAINING -(contractedCarType;contractedCa
                                        (MAINTAINING -(contractedCarType;contractedCarT
                                  (MAINTAINING -(contractedCarType;contractedCarType~ /\
                             (MAINTAINING -(contractedCarType;contractedCarType~ /\ projec
                        PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmoun
                        THEN BLOCK
                             (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPer
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[
                               THEN INSERT INTO rcRenter[RentalCase*Person]
                                     SELECTFROM 'a'[RentalCase]*'b'[Person]

                                     (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rc
                               PICK a,b FROM rcRenter~;(rcUserRequestedQ;'Yes'[YesNoAnswer]
                               THEN INSERT INTO rcRenter[RentalCase*Person]
                                     SELECTFROM 'b'[RentalCase]*'a'[Person]

                                     (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rc
                        (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequested
                        NEW x:Person;
                          INSERT INTO rcRenter[RentalCase*Person]
                           SELECTFROM (rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequested

                          (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReques
                        (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequested
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC;(I[R
                               THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                                     SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                                     (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ r
                               PICK a,b FROM sessionNewBranchRC~;(sessionNewBranchRC;(I[Re
                               THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                                     SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                                     (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ r
                        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
                        NEW x:RentalCase;
                          ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                                  SELECTFROM (sessionNewBranchRC;(I[RentalCase] /\ rcAssig

                                 (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAs
                                 INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                                  SELECTFROM 'x'[RentalCase]*(sessionNewBranchRC;(I[Rental

                                 (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAs
                          (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCa
```

```
       (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssig
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDriver;rcDriver~ /\ r
              THEN INSERT INTO rcRenter[RentalCase*Person]
                    SELECTFROM 'a'[RentalCase]*'b'[Person]

                   (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequeste
              PICK a,b FROM rcRenter~;(rcDriver;rcDriver~ /\ rcBranchRequ
              THEN INSERT INTO rcRenter[RentalCase*Person]
                    SELECTFROM 'b'[RentalCase]*'a'[Person]

                   (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequeste
       (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN
       NEW x:Person;
         INSERT INTO rcRenter[RentalCase*Person]
          SELECTFROM (rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN

         (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[Y
       (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionDro
       THEN BLOCK
            (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handli
       PICK a,b FROM V[RentalCase*SESSION];('_SESSION'[SESSION];sessionDr
       THEN ALL of INSERT INTO Isn{detyp=RentalCase}
                    SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                   (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffC
                   ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                THEN INSERT INTO rentalIsPaidQ[RentalCas
                                      SELECTFROM 'a'[RentalCase]*'b'[Yes

                                     (TO MAINTAIN  -('_SESSION'[SESSION]
                                PICK a,b FROM rentalIsPaidQ~;('a'[Rental
                                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                THEN BLOCK
                                                     (CANNOT CHANGE '
                                                PICK a,b FROM 'Yes'[Y
                                                THEN INSERT INTO rent
                                                      SELECTFROM 'b'[

                                                     (TO MAINTAIN  -(
                                           (MAINTAINING -('_SESSION'[SE
                                           NEW x:YesNoAnswer;
                                             ALL of BLOCK
                                                    (CANNOT CHANGE 'Yes
                                                    INSERT INTO rentalI
                                                     SELECTFROM 'b'[Ren

                                                    (TO MAINTAIN  -('_S
```

```
                                                    (MAINTAINING -('_SESSION'[
                                                  (MAINTAINING -('_SESSION'[SES
                                              (MAINTAINING -('_SESSION'[SESSION];
                                        (MAINTAINING -('_SESSION'[SESSION];sessionDropp
                                        NEW x:YesNoAnswer;
                                          ALL of INSERT INTO rentalIsPaidQ[RentalCase*Y
                                                  SELECTFROM 'a'[RentalCase]*'b'[Rental

                                                (TO MAINTAIN  -('_SESSION'[SESSION];se
                                                ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                             THEN BLOCK
                                                                  (CANNOT CHANGE 'Yes
                                                             PICK a,b FROM 'Yes'[YesN
                                                             THEN INSERT INTO rentalI
                                                                   SELECTFROM 'b'[Ren

                                                                  (TO MAINTAIN  -('_S
                                                      (MAINTAINING -('_SESSION'[SESSI
                                                      NEW x:YesNoAnswer;
                                                        ALL of BLOCK
                                                                (CANNOT CHANGE 'Yes'[Y
                                                                INSERT INTO rentalIsPa
                                                                 SELECTFROM 'b'[Rental

                                                                (TO MAINTAIN  -('_SESS
                                                        (MAINTAINING -('_SESSION'[SES
                                                      (MAINTAINING -('_SESSION'[SESSI
                                                (MAINTAINING -('_SESSION'[SESSION];ses
                                          (MAINTAINING -('_SESSION'[SESSION];sessionDro
                                        (MAINTAINING -('_SESSION'[SESSION];sessionDropp
                                  (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCa
                            (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAss
          (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssig
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
(MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDrop
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase])
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDr
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[R
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (renta
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contr
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;pro
```

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(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rental
```

------ Derivation ----->

```
ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssig

       (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcA
       INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDropp

       (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcD
       INSERT INTO paymentHasBeenRequested[RentalCase*RentalCase]
        SELECTFROM rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase] /

       (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCas
       INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
        SELECTFROM rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDro

       (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBee
       INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAssigne

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAss
       INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe

       (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBran
       INSERT INTO Isn{detyp=Branch}
        SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'

       (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'
       INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
```

```
(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBran
INSERT INTO Isn{detyp=Date}
 SELECTFROM contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[Ye

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedPickupBranch~;(I[R
              THEN INSERT INTO carAvailableAt[Car*Branch]
                    SELECTFROM 'b'[Car]*'a'[Branch]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ r
              PICK a,b FROM carAvailableAt;(contractedPickupBranch~;(I[RentalC
              THEN INSERT INTO carType[Car*CarType]
                    SELECTFROM 'a'[Car]*'b'[CarType]

                  (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ r
       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
       NEW x:Car;
         ALL of INSERT INTO carAvailableAt[Car*Branch]
                 SELECTFROM 'x'[Car]*(contractedCarType~;(I[RentalCase] /\ ren

                (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rent
                INSERT INTO carType[Car*CarType]
                 SELECTFROM 'x'[Car]*(contractedPickupBranch~;(I[RentalCase] /

                (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rent
         (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBee
       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesN
              THEN INSERT INTO rcDriver[RentalCase*Person]
                    SELECTFROM 'a'[RentalCase]*'b'[Person]

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
              PICK a,b FROM rcDriver~;(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rc
              THEN INSERT INTO rcDriver[RentalCase*Person]
                    SELECTFROM 'b'[RentalCase]*'a'[Person]

                  (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
       NEW x:Person;
         INSERT INTO rcDriver[RentalCase*Person]
          SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~

         (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOver
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Re
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesN
              THEN INSERT INTO rcRenter[RentalCase*Person]
                    SELECTFROM 'a'[RentalCase]*'b'[Person]
```

```
                    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
                PICK a,b FROM rcRenter~;(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rc
                THEN INSERT INTO rcRenter[RentalCase*Person]
                      SELECTFROM 'b'[RentalCase]*'a'[Person]

                    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
            (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
            NEW x:Person;
              INSERT INTO rcRenter[RentalCase*Person]
               SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~

              (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOver
            (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Re
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcMaxRentalDuration;rcMaxRen
                THEN INSERT INTO contractedStartDate[RentalCase*Date]
                      SELECTFROM 'a'[RentalCase]*'b'[Date]

                    (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
                PICK a,b FROM contractedStartDate~;(rcMaxRentalDuration;rcMaxRen
                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Date]
                                    THEN INSERT INTO dateIntervalCompTrigger[Date
                                          SELECTFROM 'a'[Date]*'b'[Date]

                                         (TO MAINTAIN  -(rcMaxRentalDuration;rcMa
                                    PICK a,b FROM dateIntervalCompTrigger~;('a'[D
                                    THEN INSERT INTO contractedEndDate[RentalCase
                                          SELECTFROM 'b'[RentalCase]*'a'[Date]

                                             (TO MAINTAIN  -(rcMaxRentalDuration;rcMa
                                 (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDurati
                                 NEW x:Date;
                                   ALL of INSERT INTO dateIntervalCompTrigger[Date*Da
                                           SELECTFROM 'a'[Date]*'b'[RentalCase]*'x'[D

                                            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRe
                                            INSERT INTO contractedEndDate[RentalCase*Da
                                             SELECTFROM 'b'[RentalCase]*'a'[Date]*'x'[D

                                            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRe
                                   (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDura
                                 (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDurati
                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
            (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEn
            NEW x:Date;
              ALL of INSERT INTO contractedStartDate[RentalCase*Date]
                      SELECTFROM (rcMaxRentalDuration;rcMaxRentalDuration~ /\ contr

                     (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ co
                     ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Date]*(r
```

```
                                    THEN INSERT INTO dateIntervalCompTrigger[Date*Da
                                          SELECTFROM 'a'[Date]*'b'[Date]

                                         (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRe
                                        PICK a,b FROM dateIntervalCompTrigger~;('x'[Date
                                        THEN INSERT INTO contractedEndDate[RentalCase*Da
                                          SELECTFROM 'b'[RentalCase]*'a'[Date]

                                              (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRe
                                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~
                                    NEW x:Date;
                                      ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
                                             SELECTFROM 'x'[Date]*(rcMaxRentalDuration;rcM

                                            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRenta
                                            INSERT INTO contractedEndDate[RentalCase*Date]
                                             SELECTFROM (rcMaxRentalDuration;rcMaxRentalDu

                                            (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRenta
                                      (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuratio
                                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~
                           (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ con
                     (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contracted
               (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEn
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;c
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rentalLocationPenaltyCharge;rentalL
       THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                    THEN INSERT INTO rentalBasicCharge[RentalCase
                                          SELECTFROM 'a'[RentalCase]*'b'[Amount]

                                         (TO MAINTAIN  -(rentalLocationPenaltyCha
                                        PICK a,b FROM rentalBasicCharge~;('a'[RentalC
                                        THEN INSERT INTO arg1[CompRentalCharge*Amount
                                          SELECTFROM 'b'[CompRentalCharge]*'a'[Am

                                             (TO MAINTAIN  -(rentalLocationPenaltyCha
                                      (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                      NEW x:Amount;
                                        ALL of INSERT INTO rentalBasicCharge[RentalCase*Am
                                             SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

                                            (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                            INSERT INTO arg1[CompRentalCharge*Amount]
                                             SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

                                            (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                      (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
                                    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                           (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
```

```
                                        THEN INSERT INTO rentalPenaltyCharge[RentalCa
                                              SELECTFROM 'a'[RentalCase]*'b'[Amount]

                                             (TO MAINTAIN  -(rentalLocationPenaltyCha
                                        PICK a,b FROM rentalPenaltyCharge~;('a'[Renta
                                        THEN INSERT INTO arg2[CompRentalCharge*Amount
                                              SELECTFROM 'b'[CompRentalCharge]*'a'[Am

                                                  (TO MAINTAIN  -(rentalLocationPenaltyCha
                                             (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                             NEW x:Amount;
                                               ALL of INSERT INTO rentalPenaltyCharge[RentalCase*
                                                       SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

                                                    (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                                    INSERT INTO arg2[CompRentalCharge*Amount]
                                                     SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

                                                    (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                               (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
                                             (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
                                        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                        THEN INSERT INTO rentalLocationPenaltyCharge[
                                              SELECTFROM 'a'[RentalCase]*'b'[Amount]

                                             (TO MAINTAIN  -(rentalLocationPenaltyCha
                                        PICK a,b FROM rentalLocationPenaltyCharge~;('
                                        THEN INSERT INTO arg3[CompRentalCharge*Amount
                                              SELECTFROM 'b'[CompRentalCharge]*'a'[Am

                                                  (TO MAINTAIN  -(rentalLocationPenaltyCha
                                             (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                             NEW x:Amount;
                                               ALL of INSERT INTO rentalLocationPenaltyCharge[Ren
                                                       SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

                                                    (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                                    INSERT INTO arg3[CompRentalCharge*Amount]
                                                     SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

                                                    (TO MAINTAIN  -(rentalLocationPenaltyCharge
                                               (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
                                             (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
                                        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
                                   (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
                              PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\
                              THEN BLOCK
                                   (CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger rental
                         (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
```

```
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDroppedOffDate;rcDroppedOffDate~
      THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                  THEN INSERT INTO contractedStartDate[RentalCa
                                       SELECTFROM 'a'[RentalCase]*'b'[Date]

                                      (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                  PICK a,b FROM contractedStartDate~;('a'[Renta
                                  THEN INSERT INTO earliestDate[DateDifferenceP
                                       SELECTFROM 'b'[DateDifferencePlusOne]*'

                                          (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                NEW x:Date;
                                  ALL of INSERT INTO contractedStartDate[RentalCase*
                                           SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                            (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                            INSERT INTO earliestDate[DateDifferencePlus
                                             SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

                                           (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                             (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
                            ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                  THEN INSERT INTO rcDroppedOffDate[RentalCase*
                                       SELECTFROM 'a'[RentalCase]*'b'[Date]

                                      (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                  PICK a,b FROM rcDroppedOffDate~;('a'[RentalCa
                                  THEN INSERT INTO latestDate[DateDifferencePlu
                                       SELECTFROM 'b'[DateDifferencePlusOne]*'

                                          (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                NEW x:Date;
                                  ALL of INSERT INTO rcDroppedOffDate[RentalCase*Dat
                                           SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                            (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                            INSERT INTO latestDate[DateDifferencePlusOn
                                             SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

                                           (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                    (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                             (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
                        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSta
                   PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;rcDroppe
                   THEN BLOCK
```

```
(CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigger re
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contr
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcAssignedCar;rcAssignedCar~ /\ ren
THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
THEN INSERT INTO rentalPeriod[RentalCase*Inte
SELECTFROM 'a'[RentalCase]*'b'[Integer]

(TO MAINTAIN -(rcAssignedCar;rcAssigned
PICK a,b FROM rentalPeriod~;('a'[RentalCase]*
THEN INSERT INTO ctcNrOfDays[CompTariffedChar
SELECTFROM 'b'[CompTariffedCharge]*'a'[

(TO MAINTAIN -(rcAssignedCar;rcAssigned
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ renta
NEW x:Integer;
ALL of INSERT INTO rentalPeriod[RentalCase*Integer
SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

(TO MAINTAIN -(rcAssignedCar;rcAssignedCar
INSERT INTO ctcNrOfDays[CompTariffedCharge*
SELECTFROM 'b'[CompTariffedCharge]*'a'[Ren

(TO MAINTAIN -(rcAssignedCar;rcAssignedCar
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ ren
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ renta
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
THEN INSERT INTO rcAssignedCar[RentalCase*Car
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -(rcAssignedCar;rcAssigned
PICK a,b FROM rcAssignedCar~;('a'[RentalCase]
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN INSERT INTO carType[C
SELECTFROM 'a'[Car]*

(TO MAINTAIN -(rcAss
PICK a,b FROM carType~;('a
THEN ONE OF ONE NONEMPTY A
THEN IN
S

(T
PICK a,
THEN IN
S

(T
(MAINTAINING -
NEW x:Amount;
```

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                                                                ALL of INSER
                                                                       SELE

                                                                      (TO M
                                                                      INSER
                                                                       SELE

                                                                      (TO M
                                                                (MAINTAINING
                                                              (MAINTAINING -
                                                        (MAINTAINING -(rcAssi
                                                (MAINTAINING -(rcAssignedCar;rcAs
                                                NEW x:CarType;
                                                  ALL of INSERT INTO carType[Car*
                                                          SELECTFROM 'a'[Car]*'b'

                                                        (TO MAINTAIN  -(rcAssign
                                                ONE OF ONE NONEMPTY ALTE
                                                             THEN INSER
                                                                   SELE

                                                                      (TO M
                                                                PICK a,b F
                                                                THEN INSER
                                                                   SELE

                                                                      (TO M
                                                           (MAINTAINING -(rc
                                                           NEW x:Amount;
                                                             ALL of INSERT I
                                                                    SELECTF

                                                                (TO MAIN
                                                                INSERT I
                                                                 SELECTF

                                                                (TO MAIN
                                                             (MAINTAINING -(
                                                           (MAINTAINING -(rc
                                                      (MAINTAINING -(rcAssigne
                                                 (MAINTAINING -(rcAssignedCar;rc
                                              (MAINTAINING -(rcAssignedCar;rcAs
                                         (MAINTAINING -(rcAssignedCar;rcAssignedC
                                (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ renta
                               NEW x:Car;
                                 ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
                                         SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

                                        (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar
                                        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
```

```
THEN INSERT INTO carType[Car*
      SELECTFROM 'a'[Car]*'b'

     (TO MAINTAIN  -(rcAssign
PICK a,b FROM carType~;('x'[C
THEN ONE OF ONE NONEMPTY ALTE
                    THEN INSER
                          SELE

                          (TO M
                    PICK a,b F
                    THEN INSER
                          SELE

                               (TO M
                    (MAINTAINING -(rc
                    NEW x:Amount;
                      ALL of INSERT I
                              SELECTF

                               (TO MAIN
                               INSERT I
                                SELECTF

                               (TO MAIN
                          (MAINTAINING -(
                    (MAINTAINING -(rc
               (MAINTAINING -(rcAssigne
(MAINTAINING -(rcAssignedCar;rcAssig
NEW x:CarType;
  ALL of INSERT INTO carType[Car*Car
          SELECTFROM 'x'[Car]*'a'[Re

          (TO MAINTAIN  -(rcAssignedC
          ONE OF ONE NONEMPTY ALTERNA
                        THEN INSERT I
                              SELECTF

                               (TO MAIN
                          PICK a,b FROM
                          THEN INSERT I
                                SELECTF

                               (TO MAIN
                     (MAINTAINING -(rcAss
                     NEW x:Amount;
                       ALL of INSERT INTO
                              SELECTFROM

                               (TO MAINTAI
```

```
                                                
```

```
                                                                SELECTFROM 'a'[Car]*

                                                             (TO MAINTAIN  -(renta
                                                        PICK a,b FROM carType~;('a
                                                        THEN ONE OF ONE NONEMPTY A
                                                                             THEN IN
                                                                                   S

                                                                                  (T
                                                                             PICK a,
                                                                             THEN IN
                                                                                   S

                                                                                  (T
                                                                        (MAINTAINING -
                                                                        NEW x:Amount;
                                                                          ALL of INSER
                                                                                   SELE

                                                                                  (TO M
                                                                                  INSER
                                                                                   SELE

                                                                                  (TO M
                                                                           (MAINTAINING
                                                                          (MAINTAINING -
                                                                 (MAINTAINING -(rental
                                                          (MAINTAINING -(rentalExcessPeriod
                                                          NEW x:CarType;
                                                            ALL of INSERT INTO carType[Car*
                                                                    SELECTFROM 'a'[Car]*'b'

                                                                 (TO MAINTAIN  -(rentalEx
                                                                ONE OF ONE NONEMPTY ALTE
                                                                             THEN INSER
                                                                                   SELE

                                                                                  (TO M
                                                                             PICK a,b F
                                                                             THEN INSER
                                                                                   SELE

                                                                                  (TO M
                                                                      (MAINTAINING -(re
                                                                      NEW x:Amount;
                                                                        ALL of INSERT I
                                                                                 SELECTF

                                                                                (TO MAIN
                                                                                INSERT I
```

```
                                                                SELECTF

                                                                  (TO MAIN
                                                                (MAINTAINING -(
                                                              (MAINTAINING -(re
                                                           (MAINTAINING -(rentalExc
                                                        (MAINTAINING -(rentalExcessPeri
                                                     (MAINTAINING -(rentalExcessPeriod
                                                  (MAINTAINING -(rentalExcessPeriod;rental
                                            (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod
                                            NEW x:Car;
                                              ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
                                                      SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

                                                    (TO MAINTAIN  -(rentalExcessPeriod;rentalEx
                                                    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                                  THEN INSERT INTO carType[Car*
                                                                        SELECTFROM 'a'[Car]*'b'

                                                                       (TO MAINTAIN  -(rentalEx
                                                                    PICK a,b FROM carType~;('x'[C
                                                                    THEN ONE OF ONE NONEMPTY ALTE
                                                                                          THEN INSER
                                                                                                SELE

                                                                                             (TO M
                                                                                          PICK a,b F
                                                                                          THEN INSER
                                                                                                SELE

                                                                                                (TO M
                                                                                     (MAINTAINING -(re
                                                                                     NEW x:Amount;
                                                                                       ALL of INSERT I
                                                                                               SELECTF

                                                                                             (TO MAIN
                                                                                             INSERT I
                                                                                              SELECTF

                                                                                             (TO MAIN
                                                                                       (MAINTAINING -(
                                                                                     (MAINTAINING -(re
                                                                                  (MAINTAINING -(rentalExc
                                                                        (MAINTAINING -(rentalExcessPeriod;re
                                                                        NEW x:CarType;
                                                                          ALL of INSERT INTO carType[Car*Car
                                                                                  SELECTFROM 'x'[Car]*'a'[Re

                                                                                 (TO MAINTAIN  -(rentalExces
```

```
                                                                ONE OF ONE NONEMPTY ALTERNA
                                                                        THEN INSERT I
                                                                              SELECTF

                                                                             (TO MAIN
                                                                        PICK a,b FROM
                                                                        THEN INSERT I
                                                                              SELECTF

                                                                                 (TO MAIN
                                                                    (MAINTAINING -(renta
                                                                    NEW x:Amount;
                                                                      ALL of INSERT INTO
                                                                               SELECTFROM

                                                                               (TO MAINTAI
                                                                               INSERT INTO
                                                                                SELECTFROM

                                                                               (TO MAINTAI
                                                                      (MAINTAINING -(ren
                                                                    (MAINTAINING -(renta
                                                                (MAINTAINING -(rentalExcess
                                                            (MAINTAINING -(rentalExcessPeriod;
                                                        (MAINTAINING -(rentalExcessPeriod;re
                                                    (MAINTAINING -(rentalExcessPeriod;rentalExc
                                                (MAINTAINING -(rentalExcessPeriod;rentalExcessPeri
                                            (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod
                                    (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[
                                (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalC
                        PICK a,b FROM (ctcNrOfDays;rentalExcessPeriod~ /\ ctcDailyAmount;excess
                        THEN BLOCK
                             (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger exces
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (re
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDroppedOffDate;rcDroppedOffDate~
                        THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                                                THEN INSERT INTO contractedEndDate[RentalCase
                                                                      SELECTFROM 'a'[RentalCase]*'b'[Date]

                                                                          (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                                                PICK a,b FROM contractedEndDate~;('a'[RentalC
                                                                THEN INSERT INTO firstDate[DateDifference*Dat
                                                                      SELECTFROM 'b'[DateDifference]*'a'[Date

                                                                          (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                                            (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                                            NEW x:Date;
                                                              ALL of INSERT INTO contractedEndDate[RentalCase*Da
                                                                     SELECTFROM 'a'[RentalCase]*'b'[DateDiffere
```

```
                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                        INSERT INTO firstDate[DateDifference*Date]
                                         SELECTFROM 'b'[DateDifference]*'a'[RentalC

                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
                                 (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                        THEN INSERT INTO rcDroppedOffDate[RentalCase*
                                              SELECTFROM 'a'[RentalCase]*'b'[Date]

                                             (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                        PICK a,b FROM rcDroppedOffDate~;('a'[RentalCa
                                        THEN INSERT INTO lastDate[DateDifference*Date
                                              SELECTFROM 'b'[DateDifference]*'a'[Date

                                           (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                                  NEW x:Date;
                                    ALL of INSERT INTO rcDroppedOffDate[RentalCase*Dat
                                             SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                        INSERT INTO lastDate[DateDifference*Date]
                                         SELECTFROM 'b'[DateDifference]*'a'[RentalC

                                        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
                                  (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
                                 (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                           (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
                      (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
                PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedOffDat
                THEN BLOCK
                     (CANNOT CHANGE V[DateDifference*RentalCase] FROM Trigger excess pe
         (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contrac
         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedEndDate;contractedEndDate
                THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                        THEN INSERT INTO contractedStartDate[RentalCa
                                              SELECTFROM 'a'[RentalCase]*'b'[Date]

                                             (TO MAINTAIN  -(contractedEndDate;contra
                                        PICK a,b FROM contractedStartDate~;('a'[Renta
                                        THEN INSERT INTO earliestDate[DateDifferenceP
                                              SELECTFROM 'b'[DateDifferencePlusOne]*'

                                           (TO MAINTAIN  -(contractedEndDate;contra
                                  (MAINTAINING -(contractedEndDate;contractedEndDate~
                                  NEW x:Date;
                                    ALL of INSERT INTO contractedStartDate[RentalCase*
```

```
                                        SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                       (TO MAINTAIN  -(contractedEndDate;contracte
                                       INSERT INTO earliestDate[DateDifferencePlus
                                        SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

                                              (TO MAINTAIN  -(contractedEndDate;contracte
                                 (MAINTAINING -(contractedEndDate;contractedEndDate
                               (MAINTAINING -(contractedEndDate;contractedEndDate~
                          (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ cont
                         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                       THEN INSERT INTO contractedEndDate[RentalCase
                                            SELECTFROM 'a'[RentalCase]*'b'[Date]

                                                 (TO MAINTAIN  -(contractedEndDate;contra
                                       PICK a,b FROM contractedEndDate~;('a'[RentalC
                                       THEN INSERT INTO latestDate[DateDifferencePlu
                                            SELECTFROM 'b'[DateDifferencePlusOne]*'

                                                    (TO MAINTAIN  -(contractedEndDate;contra
                                 (MAINTAINING -(contractedEndDate;contractedEndDate~
                                 NEW x:Date;
                                   ALL of INSERT INTO contractedEndDate[RentalCase*Da
                                            SELECTFROM 'a'[RentalCase]*'b'[DateDiffere

                                              (TO MAINTAIN  -(contractedEndDate;contracte
                                              INSERT INTO latestDate[DateDifferencePlusOn
                                               SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

                                              (TO MAINTAIN  -(contractedEndDate;contracte
                                 (MAINTAINING -(contractedEndDate;contractedEndDate
                               (MAINTAINING -(contractedEndDate;contractedEndDate~
                          (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ cont
                     (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedS
            PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;contract
            THEN BLOCK
                 (CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigger pr
     (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;con
     ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedCarType;contractedCarType
            THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                       THEN INSERT INTO projectedRentalPeriod[Rental
                                            SELECTFROM 'a'[RentalCase]*'b'[Integer]

                                                 (TO MAINTAIN  -(contractedCarType;contra
                                       PICK a,b FROM projectedRentalPeriod~;('a'[Ren
                                       THEN INSERT INTO ctcNrOfDays[CompTariffedChar
                                            SELECTFROM 'b'[CompTariffedCharge]*'a'[

                                                    (TO MAINTAIN  -(contractedCarType;contra
                                 (MAINTAINING -(contractedCarType;contractedCarType~
```

```
NEW x:Integer;
  ALL of INSERT INTO projectedRentalPeriod[RentalCas
          SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

         (TO MAINTAIN  -(contractedCarType;contracte
         INSERT INTO ctcNrOfDays[CompTariffedCharge*
          SELECTFROM 'b'[CompTariffedCharge]*'a'[Ren

         (TO MAINTAIN  -(contractedCarType;contracte
   (MAINTAINING -(contractedCarType;contractedCarType
  (MAINTAINING -(contractedCarType;contractedCarType~
(MAINTAINING -(contractedCarType;contractedCarType~ /\ proj
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
       THEN INSERT INTO contractedCarType[RentalCase
            SELECTFROM 'a'[RentalCase]*'b'[CarType]

           (TO MAINTAIN  -(contractedCarType;contra
       PICK a,b FROM contractedCarType~;('a'[RentalC
       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                          THEN INSERT INTO rentalTar
                               SELECTFROM 'a'[CarTy

                               (TO MAINTAIN  -(contr
                          PICK a,b FROM rentalTariff
                          THEN INSERT INTO ctcDailyA
                               SELECTFROM 'b'[CompT

                                    (TO MAINTAIN  -(contr
                     (MAINTAINING -(contractedCarType;
                     NEW x:Amount;
                       ALL of INSERT INTO rentalTariff
                               SELECTFROM 'a'[CarType]

                                 (TO MAINTAIN  -(contract
                                 INSERT INTO ctcDailyAmou
                                  SELECTFROM 'b'[CompTari

                                       (TO MAINTAIN  -(contract
                                (MAINTAINING -(contractedCarTyp
                               (MAINTAINING -(contractedCarType;
                          (MAINTAINING -(contractedCarType;contrac
   (MAINTAINING -(contractedCarType;contractedCarType~
  NEW x:CarType;
    ALL of INSERT INTO contractedCarType[RentalCase*Ca
            SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

           (TO MAINTAIN  -(contractedCarType;contracte
          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                        THEN INSERT INTO rentalTariff
                             SELECTFROM 'a'[CarType]
```

```
                                                                (TO MAINTAIN  -(contract
                                                            PICK a,b FROM rentalTariffPer
                                                            THEN INSERT INTO ctcDailyAmou
                                                                  SELECTFROM 'b'[CompTari

                                                                (TO MAINTAIN  -(contract
                                                        (MAINTAINING -(contractedCarType;con
                                                        NEW x:Amount;
                                                          ALL of INSERT INTO rentalTariffPer
                                                                  SELECTFROM 'x'[CarType]*'a

                                                                 (TO MAINTAIN  -(contractedC
                                                                 INSERT INTO ctcDailyAmount[
                                                                  SELECTFROM 'b'[CompTariffe

                                                                 (TO MAINTAIN  -(contractedC
                                                           (MAINTAINING -(contractedCarType;c
                                                          (MAINTAINING -(contractedCarType;con
                                                  (MAINTAINING -(contractedCarType;contracted
                                              (MAINTAINING -(contractedCarType;contractedCarType
                                            (MAINTAINING -(contractedCarType;contractedCarType~
                                     (MAINTAINING -(contractedCarType;contractedCarType~ /\ proj
                                (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRe
                          PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount;ren
                          THEN BLOCK
                               (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger proje
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;p
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo
                    THEN INSERT INTO rcRenter[RentalCase*Person]
                          SELECTFROM 'a'[RentalCase]*'b'[Person]

                          (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserR
                    PICK a,b FROM rcRenter~;(rcUserRequestedQ;'Yes'[YesNoAnswer];rcU
                    THEN INSERT INTO rcRenter[RentalCase*Person]
                          SELECTFROM 'b'[RentalCase]*'a'[Person]

                          (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserR
                (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
                NEW x:Person;
                  INSERT INTO rcRenter[RentalCase*Person]
                   SELECTFROM (rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\

                  (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~
                (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rent
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC;(I[Rental
                    THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                          SELECTFROM 'a'[SESSION]*'b'[RentalCase]
```

```
                    (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssi
                PICK a,b FROM sessionNewBranchRC~;(sessionNewBranchRC;(I[RentalC
                THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                      SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                    (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssi
        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAss
        NEW x:RentalCase;
          ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                  SELECTFROM (sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCa

                  (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssigne
                  INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                   SELECTFROM 'x'[RentalCase]*(sessionNewBranchRC;(I[RentalCase]

                  (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssigne
          (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcA
        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAss
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCa
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDriver;rcDriver~ /\ rcBran
                THEN INSERT INTO rcRenter[RentalCase*Person]
                      SELECTFROM 'a'[RentalCase]*'b'[Person]

                    (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Y
                PICK a,b FROM rcRenter~;(rcDriver;rcDriver~ /\ rcBranchRequested
                THEN INSERT INTO rcRenter[RentalCase*Person]
                      SELECTFROM 'b'[RentalCase]*'a'[Person]

                    (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Y
        (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnsw
        NEW x:Person;
          INSERT INTO rcRenter[RentalCase*Person]
           SELECTFROM (rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnsw

          (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoA
        (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnsw
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcB
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionDroppedo
        THEN BLOCK
             (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handling)
        PICK a,b FROM V[RentalCase*SESSION];('_SESSION'[SESSION];sessionDropped
        THEN ALL of INSERT INTO Isn{detyp=RentalCase}
                    SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                    (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rc
                    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                THEN INSERT INTO rentalIsPaidQ[RentalCase*Yes
                                      SELECTFROM 'a'[RentalCase]*'b'[YesNoAns

                                    (TO MAINTAIN  -('_SESSION'[SESSION];sess
```

```
                                                    PICK a,b FROM rentalIsPaidQ~;('a'[RentalCase]
                                                    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                                        THEN BLOCK
                                                                             (CANNOT CHANGE 'Yes'[
                                                                        PICK a,b FROM 'Yes'[YesNoA
                                                                        THEN INSERT INTO rentalIsP
                                                                              SELECTFROM 'b'[Renta

                                                                                (TO MAINTAIN  -('_SES
                                                                    (MAINTAINING -('_SESSION'[SESSION
                                                                    NEW x:YesNoAnswer;
                                                                      ALL of BLOCK
                                                                             (CANNOT CHANGE 'Yes'[Yes
                                                                             INSERT INTO rentalIsPaid
                                                                              SELECTFROM 'b'[RentalCa

                                                                             (TO MAINTAIN  -('_SESSIO
                                                                  (MAINTAINING -('_SESSION'[SESSI
                                                                 (MAINTAINING -('_SESSION'[SESSION
                                                          (MAINTAINING -('_SESSION'[SESSION];sessi
                                                 (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                                                 NEW x:YesNoAnswer;
                                                   ALL of INSERT INTO rentalIsPaidQ[RentalCase*YesNoA
                                                           SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                                          (TO MAINTAIN  -('_SESSION'[SESSION];session
                                                          ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                                       THEN BLOCK
                                                                             (CANNOT CHANGE 'Yes'[Yes
                                                                       PICK a,b FROM 'Yes'[YesNoAnsw
                                                                       THEN INSERT INTO rentalIsPaid
                                                                             SELECTFROM 'b'[RentalCa

                                                                             (TO MAINTAIN  -('_SESSIO
                                                                (MAINTAINING -('_SESSION'[SESSION];s
                                                                NEW x:YesNoAnswer;
                                                                  ALL of BLOCK
                                                                         (CANNOT CHANGE 'Yes'[YesNoA
                                                                         INSERT INTO rentalIsPaidQ[R
                                                                          SELECTFROM 'b'[RentalCase]

                                                                         (TO MAINTAIN  -('_SESSION'[
                                                                  (MAINTAINING -('_SESSION'[SESSION]
                                                                 (MAINTAINING -('_SESSION'[SESSION];s
                                                          (MAINTAINING -('_SESSION'[SESSION];sessionD
                                                   (MAINTAINING -('_SESSION'[SESSION];sessionDroppedo
                                                  (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                                          (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcA
                                 (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigned
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rent
```

```
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssignedC
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\ -(r
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDroppedOf
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase]) \/ p
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDropped
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Rental
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExc
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase]
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]
```

<------End Derivation --

```
ON DELETE Delta FROM Isn{detyp=RentalCase} EXECUTE    -- (ECA rule 140)
ALL of DELETE FROM sessionNewUserRC[SESSION*RentalCase]
        SELECTFROM sessionNewUserRC;(-I[RentalCase] /\ sessionNewUserRC~;sessionN

       (TO MAINTAIN  -(sessionNewUserRC~;sessionNewUserRC) \/ I[RentalCase] FROM
       DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM sessionNewBranchRC;(-I[RentalCase] /\ sessionNewBranchRC~;ses

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] I
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM Delta;V[RentalCase*Date]

       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM Delta;V[RentalCase*Date]

       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM Delta;V[RentalCase*CarType]

       DELETE FROM contractedPickupBranch[RentalCase*Branch]
```

```
 SELECTFROM Delta;V[RentalCase*Branch]

DELETE FROM contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM Delta;V[RentalCase*Branch]

DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM Delta;V[RentalCase*Person]

DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM Delta;V[RentalCase*Person]

DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM Delta;V[RentalCase*Car]

DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
 SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];De

DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM Delta;V[RentalCase*YesNoAnswer]

DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM Delta;V[RentalCase*YesNoAnswer]

DELETE FROM rentalHasBeenPickedUp[RentalCase*RentalCase]
 SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];De

DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
 SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];De

DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
 SELECTFROM Delta;V[RentalCase*YesNoAnswer]

DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
 SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];De

DELETE FROM rcDroppedOffCar[RentalCase*Car]
 SELECTFROM Delta;V[RentalCase*Car]

DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM Delta;V[RentalCase*Date]

DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
 SELECTFROM Delta;V[RentalCase*Branch]

DELETE FROM rentalPeriod[RentalCase*Integer]
 SELECTFROM Delta;V[RentalCase*Integer]

DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM Delta;V[RentalCase*Amount]
```

```
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
 SELECTFROM Delta;V[RentalCase*Integer]

DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM Delta;V[RentalCase*Amount]

DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM Delta;V[RentalCase*Amount]

DELETE FROM paymentHasBeenRequested[RentalCase*RentalCase]
 SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];De

DELETE FROM rentalCharge[RentalCase*Amount]
 SELECTFROM Delta;V[RentalCase*Amount]

DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
 SELECTFROM Delta;V[RentalCase*YesNoAnswer]

DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
 SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];De

DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM Delta;V[RentalCase*Integer]

DELETE FROM projectedRentalPeriod[RentalCase*Integer]
 SELECTFROM Delta;V[RentalCase*Integer]

DELETE FROM projectedBasicCharge[RentalCase*Amount]
 SELECTFROM Delta;V[RentalCase*Amount]

ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
        SELECTFROM '_SESSION'[SESSION];(-(V[SESSION*RentalCase];(I[Rental

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigne
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (I[RentalCase] /\ rcCarHasBeenDroppedOff /\ -rentalHas

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigne
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigne
       DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigne
       INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
        SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigne
```

```
      (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rental
(MAINTAINING -(sessionNewUserRC~;sessionNewUserRC) \/ I[RentalCase] FROM UNI ses
(MAINTAINING -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] FROM UNI
```

------ Derivation ----->

```
ALL of DELETE FROM sessionNewUserRC[SESSION*RentalCase]
        SELECTFROM sessionNewUserRC;(-I[RentalCase] /\ sessionNewUserRC~;sessionNewUs

       (TO MAINTAIN  -(sessionNewUserRC~;sessionNewUserRC) \/ I[RentalCase] FROM UNI
       DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM sessionNewBranchRC;(-I[RentalCase] /\ sessionNewBranchRC~;sessionN

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] FROM
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM Delta;V[RentalCase*Date]

       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM Delta;V[RentalCase*Date]

       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM Delta;V[RentalCase*CarType]

       DELETE FROM contractedPickupBranch[RentalCase*Branch]
        SELECTFROM Delta;V[RentalCase*Branch]

       DELETE FROM contractedDropoffBranch[RentalCase*Branch]
        SELECTFROM Delta;V[RentalCase*Branch]

       DELETE FROM rcRenter[RentalCase*Person]
        SELECTFROM Delta;V[RentalCase*Person]

       DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM Delta;V[RentalCase*Person]

       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM Delta;V[RentalCase*Car]

       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];Delta

       DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM Delta;V[RentalCase*YesNoAnswer]

       DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM Delta;V[RentalCase*YesNoAnswer]
```

```
DELETE FROM rentalHasBeenPickedUp[RentalCase*RentalCase]
 SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];Delta

DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
 SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];Delta

DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
 SELECTFROM Delta;V[RentalCase*YesNoAnswer]

DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
 SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];Delta

DELETE FROM rcDroppedOffCar[RentalCase*Car]
 SELECTFROM Delta;V[RentalCase*Car]

DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM Delta;V[RentalCase*Date]

DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
 SELECTFROM Delta;V[RentalCase*Branch]

DELETE FROM rentalPeriod[RentalCase*Integer]
 SELECTFROM Delta;V[RentalCase*Integer]

DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM Delta;V[RentalCase*Amount]

DELETE FROM rentalExcessPeriod[RentalCase*Integer]
 SELECTFROM Delta;V[RentalCase*Integer]

DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM Delta;V[RentalCase*Amount]

DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM Delta;V[RentalCase*Amount]

DELETE FROM paymentHasBeenRequested[RentalCase*RentalCase]
 SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];Delta

DELETE FROM rentalCharge[RentalCase*Amount]
 SELECTFROM Delta;V[RentalCase*Amount]

DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
 SELECTFROM Delta;V[RentalCase*YesNoAnswer]

DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
 SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];Delta

DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM Delta;V[RentalCase*Integer]
```

```
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
 SELECTFROM Delta;V[RentalCase*Integer]

DELETE FROM projectedBasicCharge[RentalCase*Amount]
 SELECTFROM Delta;V[RentalCase*Amount]

ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
        SELECTFROM '_SESSION'[SESSION];(-(V[SESSION*RentalCase];(I[RentalCase]

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (I[RentalCase] /\ rcCarHasBeenDroppedOff /\ -rentalHasBeenE

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION];(-(

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
       DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION];(-(

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
       INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
        SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION];(-(

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
  (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rent
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]
(MAINTAINING -(sessionNewUserRC~;sessionNewUserRC) \/ I[RentalCase] FROM UNI sessionN
(MAINTAINING -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] FROM UNI sess
```

<------End Derivation --

```
ON DELETE Delta FROM Isn{detyp=Date} EXECUTE    -- (ECA rule 142)
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM rentalHasBeenPromised;contractedStartDate;(-I[Date] /\ contra

      (TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised;contractedStar
      DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
       SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rentalH

      (TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised;contractedStar
      DELETE FROM contractedStartDate[RentalCase*Date]
       SELECTFROM rentalHasBeenPromised~;contractedStartDate;(-I[Date] /\ contr

      (TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised;contractedStar
      DELETE FROM contractedEndDate[RentalCase*Date]
```

```
 SELECTFROM rentalHasBeenPromised;contractedEndDate;(-I[Date] /\ contract

(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised;contractedEndDat
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
 SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rentalHasBe

(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised;contractedEndDat
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM rentalHasBeenPromised~;contractedEndDate;(-I[Date] /\ contrac

(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised;contractedEndDat
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rcCarHasBeenDroppedOff;rcDroppedOffDate;(-I[Date] /\ rcDroppe

(TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff;rcDroppedOffDate
DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
 SELECTFROM rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;rcCarHasBeenD

(TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff;rcDroppedOffDate
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rcCarHasBeenDroppedOff~;rcDroppedOffDate;(-I[Date] /\ rcDropp

(TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff;rcDroppedOffDate
DELETE FROM sessionToday[SESSION*Date]
 SELECTFROM sessionToday;(-I[Date] /\ sessionToday~;sessionToday)

(TO MAINTAIN  -(sessionToday~;I[SESSION];sessionToday) \/ I[Date] FROM In
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;(I[Rent

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;(I[Rent

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionToday;(-I[Date

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
 SELECTFROM '_SESSION'[SESSION];sessionToday;(-I[Date] /\ sessionToday~;'

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
DELETE FROM sessionToday[SESSION*Date]
 SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(I[RentalCase] /\ rcBr
```

```
(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));s

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailable
DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;rcAssignedCar

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailable
DELETE FROM Isn{detyp=Car}
 SELECTFROM rcAssignedCar~;rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailable
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcAssignedCar~;rcDroppedOffDate
       THEN INSERT INTO carAvailableAt[Car*Branch]
             SELECTFROM 'a'[Car]*'b'[Branch]

            (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(
       PICK a,b FROM carAvailableAt~;rcAssignedCar~;rcDroppedOffDate;(-I[
       THEN INSERT INTO carAvailableAt[Car*Branch]
             SELECTFROM 'b'[Car]*'a'[Branch]

            (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(
(MAINTAINING -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableA
NEW x:Branch;
  INSERT INTO carAvailableAt[Car*Branch]
   SELECTFROM (rcAssignedCar~;rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDa

  (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailab
(MAINTAINING -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableA
DELETE FROM sessionDroppedoffCar[SESSION*Car]
 SELECTFROM sessionToday;(-I[Date] /\ sessionToday~;sessionDroppedoffCar;

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailable
DELETE FROM sessionToday[SESSION*Date]
 SELECTFROM sessionDroppedoffCar;(I[Car] /\ -(carAvailableAt;carAvailable

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailable
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;contrac

(TO MAINTAIN  -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;contractedE

(TO MAINTAIN  -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;rcDroppedOffDa

(TO MAINTAIN  -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI r
```

```
DELETE FROM earliestDate[DateDifferencePlusOne*Date]
 SELECTFROM earliestDate;(-I[Date] /\ earliestDate~;earliestDate)

(TO MAINTAIN  -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDa
DELETE FROM latestDate[DateDifferencePlusOne*Date]
 SELECTFROM latestDate;(-I[Date] /\ latestDate~;latestDate)

(TO MAINTAIN  -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::Da
DELETE FROM firstDate[DateDifference*Date]
 SELECTFROM firstDate;(-I[Date] /\ firstDate~;firstDate)

(TO MAINTAIN  -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::Datel
DELETE FROM lastDate[DateDifference*Date]
 SELECTFROM lastDate;(-I[Date] /\ lastDate~;lastDate)

(TO MAINTAIN  -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDif
DELETE FROM dateIntervalIsWithinMaxRentalDuration[Date*Date]
 SELECTFROM Delta;V[Date*Date]

DELETE FROM dateIntervalIsWithinMaxRentalDuration[Date*Date]
 SELECTFROM V[Date*Date];Delta

DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM V[RentalCase*Date];Delta

DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM V[RentalCase*Date];Delta

DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM V[RentalCase*Date];Delta

DELETE FROM dateIntervalCompTrigger[Date*Date]
 SELECTFROM Delta;V[Date*Date]

DELETE FROM dateIntervalCompTrigger[Date*Date]
 SELECTFROM V[Date*Date];Delta

DELETE FROM earliestDate[DateDifferencePlusOne*Date]
 SELECTFROM V[DateDifferencePlusOne*Date];Delta

DELETE FROM latestDate[DateDifferencePlusOne*Date]
 SELECTFROM V[DateDifferencePlusOne*Date];Delta

DELETE FROM firstDate[DateDifference*Date]
 SELECTFROM V[DateDifference*Date];Delta

DELETE FROM lastDate[DateDifference*Date]
 SELECTFROM V[DateDifference*Date];Delta

DELETE FROM sessionToday[SESSION*Date]
```

```
        SELECTFROM V[SESSION*Date];Delta

    (MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ F
    (MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ F
    (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
    (MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
    (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM F
    (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM F
    (MAINTAINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize today's da
    (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
    (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessio
    (MAINTAINING -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI cont
    (MAINTAINING -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI contract
    (MAINTAINING -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI rcDropped
    (MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::Date
    (MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT ear
    (MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDiffer
    (MAINTAINING -I[DateDifferencePlusOne] \/ latestDate;latestDate~ FROM TOT latestD
    (MAINTAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifferenc
    (MAINTAINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::DateD
    (MAINTAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*D
    (MAINTAINING -I[DateDifference] \/ lastDate;lastDate~ FROM TOT lastDate::DateDiff
    (MAINTAINING -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionToday::SESS
```

------ Derivation ----->

```
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM rentalHasBeenPromised;contractedStartDate;(-I[Date] /\ contractedS

       (TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised;contractedStartDate
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rentalHasBee

       (TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised;contractedStartDate
       DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM rentalHasBeenPromised~;contractedStartDate;(-I[Date] /\ contracted

       (TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised;contractedStartDate
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM rentalHasBeenPromised;contractedEndDate;(-I[Date] /\ contractedEnd

       (TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised;contractedEndDate) \/
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rentalHasBeenPro

       (TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised;contractedEndDate) \/
       DELETE FROM contractedEndDate[RentalCase*Date]
        SELECTFROM rentalHasBeenPromised~;contractedEndDate;(-I[Date] /\ contractedEn
```

```
(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised;contractedEndDate) \/
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rcCarHasBeenDroppedOff;rcDroppedOffDate;(-I[Date] /\ rcDroppedOffD

(TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff;rcDroppedOffDate) \/
DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
 SELECTFROM rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;rcCarHasBeenDroppe

(TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff;rcDroppedOffDate) \/
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rcCarHasBeenDroppedOff~;rcDroppedOffDate;(-I[Date] /\ rcDroppedOff

(TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff;rcDroppedOffDate) \/
DELETE FROM sessionToday[SESSION*Date]
 SELECTFROM sessionToday;(-I[Date] /\ sessionToday~;sessionToday)

(TO MAINTAIN  -(sessionToday~;I[SESSION];sessionToday) \/ I[Date] FROM Initial
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
DELETE FROM Isn{detyp=RentalCase}
 SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;(I[RentalCas

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;(I[RentalCas

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionToday;(-I[Date] /\

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
 SELECTFROM '_SESSION'[SESSION];sessionToday;(-I[Date] /\ sessionToday~;'_SESS

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
DELETE FROM sessionToday[SESSION*Date]
 SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(I[RentalCase] /\ rcBranchR

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessio

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;ca
DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;rcAssignedCar;(I[C

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;ca
```

```
DELETE FROM Isn{detyp=Car}
 SELECTFROM rcAssignedCar~;rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;rcA

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;ca
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcAssignedCar~;rcDroppedOffDate;(-I[
       THEN INSERT INTO carAvailableAt[Car*Branch]
             SELECTFROM 'a'[Car]*'b'[Branch]

            (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAv
       PICK a,b FROM carAvailableAt~;rcAssignedCar~;rcDroppedOffDate;(-I[Date]
       THEN INSERT INTO carAvailableAt[Car*Branch]
             SELECTFROM 'b'[Car]*'a'[Branch]

            (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAv
(MAINTAINING -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;car
NEW x:Branch;
  INSERT INTO carAvailableAt[Car*Branch]
   SELECTFROM (rcAssignedCar~;rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;

  (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;
(MAINTAINING -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;car
DELETE FROM sessionDroppedoffCar[SESSION*Car]
 SELECTFROM sessionToday;(-I[Date] /\ sessionToday~;sessionDroppedoffCar;(I[Ca

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;ca
DELETE FROM sessionToday[SESSION*Date]
 SELECTFROM sessionDroppedoffCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~))

(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;ca
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;contractedSt

(TO MAINTAIN  -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;contractedEndDat

(TO MAINTAIN  -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI cont
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;rcDroppedOffDate)

(TO MAINTAIN  -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI rcDrop
DELETE FROM earliestDate[DateDifferencePlusOne*Date]
 SELECTFROM earliestDate;(-I[Date] /\ earliestDate~;earliestDate)

(TO MAINTAIN  -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::
DELETE FROM latestDate[DateDifferencePlusOne*Date]
 SELECTFROM latestDate;(-I[Date] /\ latestDate~;latestDate)

(TO MAINTAIN  -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDi
DELETE FROM firstDate[DateDifference*Date]
```

```
 SELECTFROM firstDate;(-I[Date] /\ firstDate~;firstDate)

(TO MAINTAIN  -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDiffe
DELETE FROM lastDate[DateDifference*Date]
 SELECTFROM lastDate;(-I[Date] /\ lastDate~;lastDate)

(TO MAINTAIN  -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifferen
DELETE FROM dateIntervalIsWithinMaxRentalDuration[Date*Date]
 SELECTFROM Delta;V[Date*Date]

DELETE FROM dateIntervalIsWithinMaxRentalDuration[Date*Date]
 SELECTFROM V[Date*Date];Delta

DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM V[RentalCase*Date];Delta

DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM V[RentalCase*Date];Delta

DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM V[RentalCase*Date];Delta

DELETE FROM dateIntervalCompTrigger[Date*Date]
 SELECTFROM Delta;V[Date*Date]

DELETE FROM dateIntervalCompTrigger[Date*Date]
 SELECTFROM V[Date*Date];Delta

DELETE FROM earliestDate[DateDifferencePlusOne*Date]
 SELECTFROM V[DateDifferencePlusOne*Date];Delta

DELETE FROM latestDate[DateDifferencePlusOne*Date]
 SELECTFROM V[DateDifferencePlusOne*Date];Delta

DELETE FROM firstDate[DateDifference*Date]
 SELECTFROM V[DateDifference*Date];Delta

DELETE FROM lastDate[DateDifference*Date]
 SELECTFROM V[DateDifference*Date];Delta

DELETE FROM sessionToday[SESSION*Date]
 SELECTFROM V[SESSION*Date];Delta

(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINTAINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize today's date)
```

```
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINTAINING -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI contract
(MAINTAINING -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI contractedEn
(MAINTAINING -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI rcDroppedOffDa
(MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::DateDiff
(MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT earlies
(MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDifference
(MAINTAINING -I[DateDifferencePlusOne] \/ latestDate;latestDate~ FROM TOT latestDate:
(MAINTAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifference*Da
(MAINTAINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::DateDiffe
(MAINTAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*Date)
(MAINTAINING -I[DateDifference] \/ lastDate;lastDate~ FROM TOT lastDate::DateDifferen
(MAINTAINING -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionToday::SESSION*
```

<------End Derivation --

```
ON DELETE Delta FROM Isn{detyp=Location} EXECUTE    -- (ECA rule 144)
ONE OF DELETE FROM branchLocation[Branch*Location]
        SELECTFROM branchLocation;(-I[Location] /\ branchLocation~;branchLocatio

       (TO MAINTAIN  -(branchLocation~;branchLocation) \/ I[Location] FROM UNI b
       DELETE FROM branchLocation[Branch*Location]
        SELECTFROM V[Branch*Location];Delta

(MAINTAINING -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLoc
(MAINTAINING -I[Branch] \/ branchLocation;branchLocation~ FROM TOT branchLocatio
```

------ Derivation ----->

```
ONE OF DELETE FROM branchLocation[Branch*Location]
        SELECTFROM branchLocation;(-I[Location] /\ branchLocation~;branchLocation)

       (TO MAINTAIN  -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branch
       DELETE FROM branchLocation[Branch*Location]
        SELECTFROM V[Branch*Location];Delta

(MAINTAINING -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLocation
(MAINTAINING -I[Branch] \/ branchLocation;branchLocation~ FROM TOT branchLocation::Br
```

<------End Derivation --

```
ON INSERT Delta IN Isn{detyp=CarType} EXECUTE    -- (ECA rule 145)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CarType] /\ -(brand;brand~))
             THEN INSERT INTO brand[CarType*Brand]
```

```
             SELECTFROM 'a'[CarType]*'b'[Brand]

           (TO MAINTAIN  -I[CarType] \/ brand;I[Brand];brand~ FROM UNI b
      PICK a,b FROM brand~;(I[CarType] /\ -(brand;brand~))
      THEN INSERT INTO brand[CarType*Brand]
             SELECTFROM 'b'[CarType]*'a'[Brand]

           (TO MAINTAIN  -I[CarType] \/ brand;I[Brand];brand~ FROM UNI b
(MAINTAINING -I[CarType] \/ brand;I[Brand];brand~ FROM UNI brand::CarType
NEW x:Brand;
  INSERT INTO brand[CarType*Brand]
   SELECTFROM (I[CarType] /\ -(brand;brand~))*'x'[Brand]

  (TO MAINTAIN  -I[CarType] \/ brand;I[Brand];brand~ FROM UNI brand::CarT
(MAINTAINING -I[CarType] \/ brand;I[Brand];brand~ FROM UNI brand::CarType
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CarType] /\ -(model;model~))
      THEN INSERT INTO model[CarType*Model]
             SELECTFROM 'a'[CarType]*'b'[Model]

           (TO MAINTAIN  -I[CarType] \/ model;I[Model];model~ FROM UNI m
      PICK a,b FROM model~;(I[CarType] /\ -(model;model~))
      THEN INSERT INTO model[CarType*Model]
             SELECTFROM 'b'[CarType]*'a'[Model]

           (TO MAINTAIN  -I[CarType] \/ model;I[Model];model~ FROM UNI m
(MAINTAINING -I[CarType] \/ model;I[Model];model~ FROM UNI model::CarType
NEW x:Model;
  INSERT INTO model[CarType*Model]
   SELECTFROM (I[CarType] /\ -(model;model~))*'x'[Model]

  (TO MAINTAIN  -I[CarType] \/ model;I[Model];model~ FROM UNI model::CarT
(MAINTAINING -I[CarType] \/ model;I[Model];model~ FROM UNI model::CarType
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CarType] /\ -(rentalTariffPe
      THEN INSERT INTO rentalTariffPerDay[CarType*Amount]
             SELECTFROM 'a'[CarType]*'b'[Amount]

           (TO MAINTAIN  -I[CarType] \/ rentalTariffPerDay;I[Amount];ren
      PICK a,b FROM rentalTariffPerDay~;(I[CarType] /\ -(rentalTariffPer
      THEN INSERT INTO rentalTariffPerDay[CarType*Amount]
             SELECTFROM 'b'[CarType]*'a'[Amount]

           (TO MAINTAIN  -I[CarType] \/ rentalTariffPerDay;I[Amount];ren
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerD
NEW x:Amount;
  INSERT INTO rentalTariffPerDay[CarType*Amount]
   SELECTFROM (I[CarType] /\ -(rentalTariffPerDay;rentalTariffPerDay~))*'

  (TO MAINTAIN  -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffP
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerD
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CarType] /\ -(excessTariffPe
```

```
                        THEN INSERT INTO excessTariffPerDay[CarType*Amount]
                              SELECTFROM 'a'[CarType]*'b'[Amount]

                             (TO MAINTAIN  -I[CarType] \/ excessTariffPerDay;I[Amount];exc
                        PICK a,b FROM excessTariffPerDay~;(I[CarType] /\ -(excessTariffPer
                        THEN INSERT INTO excessTariffPerDay[CarType*Amount]
                              SELECTFROM 'b'[CarType]*'a'[Amount]

                             (TO MAINTAIN  -I[CarType] \/ excessTariffPerDay;I[Amount];exc
                   (MAINTAINING -I[CarType] \/ excessTariffPerDay;I[Amount];excessTariffPerDa
          (MAINTAINING -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
          (MAINTAINING -I[CarType] \/ brand;brand~ FROM TOT brand::CarType*Brand)
          (MAINTAINING -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
          (MAINTAINING -I[CarType] \/ model;model~ FROM TOT model::CarType*Model)
          (MAINTAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI rent
          (MAINTAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT renta
          (MAINTAINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI exc
          (MAINTAINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT exces
```

------ Derivation ----->

```
     ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CarType] /\ -(brand;brand~));bran
                    THEN INSERT INTO brand[CarType*Brand]
                          SELECTFROM 'a'[CarType]*'b'[Brand]

                         (TO MAINTAIN  -I[CarType] \/ brand;I[Brand];brand~ FROM UNI brand:
                    PICK a,b FROM brand~;(I[CarType] /\ -(brand;brand~))
                    THEN INSERT INTO brand[CarType*Brand]
                          SELECTFROM 'b'[CarType]*'a'[Brand]

                         (TO MAINTAIN  -I[CarType] \/ brand;I[Brand];brand~ FROM UNI brand:
                  (MAINTAINING -I[CarType] \/ brand;I[Brand];brand~ FROM UNI brand::CarType*Bran
                  NEW x:Brand;
                    INSERT INTO brand[CarType*Brand]
                     SELECTFROM (I[CarType] /\ -(brand;brand~))*'x'[Brand]

                    (TO MAINTAIN  -I[CarType] \/ brand;I[Brand];brand~ FROM UNI brand::CarType*B
                  (MAINTAINING -I[CarType] \/ brand;I[Brand];brand~ FROM UNI brand::CarType*Bran
                  ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CarType] /\ -(model;model~));mode
                    THEN INSERT INTO model[CarType*Model]
                          SELECTFROM 'a'[CarType]*'b'[Model]

                         (TO MAINTAIN  -I[CarType] \/ model;I[Model];model~ FROM UNI model:
                    PICK a,b FROM model~;(I[CarType] /\ -(model;model~))
                    THEN INSERT INTO model[CarType*Model]
                          SELECTFROM 'b'[CarType]*'a'[Model]

                         (TO MAINTAIN  -I[CarType] \/ model;I[Model];model~ FROM UNI model:
```

```
(MAINTAINING -I[CarType] \/ model;I[Model];model~ FROM UNI model::CarType*Mode
NEW x:Model;
  INSERT INTO model[CarType*Model]
   SELECTFROM (I[CarType] /\ -(model;model~))*'x'[Model]

  (TO MAINTAIN  -I[CarType] \/ model;I[Model];model~ FROM UNI model::CarType*M
(MAINTAINING -I[CarType] \/ model;I[Model];model~ FROM UNI model::CarType*Mode
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CarType] /\ -(rentalTariffPerDay;
       THEN INSERT INTO rentalTariffPerDay[CarType*Amount]
             SELECTFROM 'a'[CarType]*'b'[Amount]

            (TO MAINTAIN  -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTa
       PICK a,b FROM rentalTariffPerDay~;(I[CarType] /\ -(rentalTariffPerDay;r
       THEN INSERT INTO rentalTariffPerDay[CarType*Amount]
             SELECTFROM 'b'[CarType]*'a'[Amount]

            (TO MAINTAIN  -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTa
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerDay~ F
NEW x:Amount;
  INSERT INTO rentalTariffPerDay[CarType*Amount]
   SELECTFROM (I[CarType] /\ -(rentalTariffPerDay;rentalTariffPerDay~))*'x'[Am

  (TO MAINTAIN  -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerDay
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerDay~ F
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CarType] /\ -(excessTariffPerDay;
       THEN INSERT INTO excessTariffPerDay[CarType*Amount]
             SELECTFROM 'a'[CarType]*'b'[Amount]

            (TO MAINTAIN  -I[CarType] \/ excessTariffPerDay;I[Amount];excessTa
       PICK a,b FROM excessTariffPerDay~;(I[CarType] /\ -(excessTariffPerDay;e
       THEN INSERT INTO excessTariffPerDay[CarType*Amount]
             SELECTFROM 'b'[CarType]*'a'[Amount]

            (TO MAINTAIN  -I[CarType] \/ excessTariffPerDay;I[Amount];excessTa
     (MAINTAINING -I[CarType] \/ excessTariffPerDay;I[Amount];excessTariffPerDay~ F
(MAINTAINING -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
(MAINTAINING -I[CarType] \/ brand;brand~ FROM TOT brand::CarType*Brand)
(MAINTAINING -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
(MAINTAINING -I[CarType] \/ model;model~ FROM TOT model::CarType*Model)
(MAINTAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI rentalTa
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rentalTar
(MAINTAINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI excessTa
(MAINTAINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT excessTar
```

<------End Derivation --

```
ON DELETE Delta FROM Isn{detyp=CarType} EXECUTE    -- (ECA rule 146)
ONE OF DELETE FROM contractedCarType[RentalCase*CarType]
```

```
 SELECTFROM rcAssignedCar;carType;(-I[CarType] /\ carType~;rcAssignedCar~

(TO MAINTAIN  -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] FR
DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcAssigne

(TO MAINTAIN  -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] FR
DELETE FROM carType[Car*CarType]
 SELECTFROM rcAssignedCar~;contractedCarType;(-I[CarType] /\ contractedCar

(TO MAINTAIN  -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] FR
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM rentalHasBeenPromised;contractedCarType;(-I[CarType] /\ contra

(TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised;contractedCarType
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
 SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rentalHas

(TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised;contractedCarType
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM rentalHasBeenPromised~;contractedCarType;(-I[CarType] /\ conti

(TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised;contractedCarType
DELETE FROM carType[Car*CarType]
 SELECTFROM carType;(-I[CarType] /\ carType~;carType)

(TO MAINTAIN  -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*Car
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;contracte

(TO MAINTAIN  -(contractedCarType~;contractedCarType) \/ I[CarType] FROM
DELETE FROM carType[Car*CarType]
 SELECTFROM V[Car*CarType];Delta

DELETE FROM brand[CarType*Brand]
 SELECTFROM Delta;V[CarType*Brand]

DELETE FROM model[CarType*Model]
 SELECTFROM Delta;V[CarType*Model]

DELETE FROM rentalTariffPerDay[CarType*Amount]
 SELECTFROM Delta;V[CarType*Amount]

DELETE FROM excessTariffPerDay[CarType*Amount]
 SELECTFROM Delta;V[CarType*Amount]

DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM V[RentalCase*CarType];Delta

(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
```

```
(MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
(MAINTAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)
(MAINTAINING -(contractedCarType~;contractedCarType) \/ I[CarType] FROM UNI cont
```

------ Derivation ----->

```
ONE OF DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM rcAssignedCar;carType;(-I[CarType] /\ carType~;rcAssignedCar~;cont

       (TO MAINTAIN  -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] FROM R
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcAssignedCar

       (TO MAINTAIN  -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] FROM R
       DELETE FROM carType[Car*CarType]
        SELECTFROM rcAssignedCar~;contractedCarType;(-I[CarType] /\ contractedCarType

       (TO MAINTAIN  -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] FROM R
       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM rentalHasBeenPromised;contractedCarType;(-I[CarType] /\ contracted

       (TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised;contractedCarType) \/
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rentalHasBeen

       (TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised;contractedCarType) \/
       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM rentalHasBeenPromised~;contractedCarType;(-I[CarType] /\ contracte

       (TO MAINTAIN  -(contractedCarType~;rentalHasBeenPromised;contractedCarType) \/
       DELETE FROM carType[Car*CarType]
        SELECTFROM carType;(-I[CarType] /\ carType~;carType)

       (TO MAINTAIN  -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
       DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;contractedCar

       (TO MAINTAIN  -(contractedCarType~;contractedCarType) \/ I[CarType] FROM UNI c
       DELETE FROM carType[Car*CarType]
        SELECTFROM V[Car*CarType];Delta

       DELETE FROM brand[CarType*Brand]
        SELECTFROM Delta;V[CarType*Brand]

       DELETE FROM model[CarType*Model]
```

```
             SELECTFROM Delta;V[CarType*Model]

            DELETE FROM rentalTariffPerDay[CarType*Amount]
             SELECTFROM Delta;V[CarType*Amount]

            DELETE FROM excessTariffPerDay[CarType*Amount]
             SELECTFROM Delta;V[CarType*Amount]

            DELETE FROM contractedCarType[RentalCase*CarType]
             SELECTFROM V[RentalCase*CarType];Delta

      (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
      (MAINTAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
      (MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
      (MAINTAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
      (MAINTAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
      (MAINTAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)
      (MAINTAINING -(contractedCarType~;contractedCarType) \/ I[CarType] FROM UNI contracte
```

<------End Derivation --

```
           ON DELETE Delta FROM Isn{detyp=Brand} EXECUTE    -- (ECA rule 148)
           ONE OF DELETE FROM brand[CarType*Brand]
                   SELECTFROM brand;(-I[Brand] /\ brand~;brand)

                  (TO MAINTAIN  -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
                  DELETE FROM brand[CarType*Brand]
                   SELECTFROM V[CarType*Brand];Delta

           (MAINTAINING -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
           (MAINTAINING -I[CarType] \/ brand;brand~ FROM TOT brand::CarType*Brand)
```

------ Derivation ----->

```
      ONE OF DELETE FROM brand[CarType*Brand]
              SELECTFROM brand;(-I[Brand] /\ brand~;brand)

             (TO MAINTAIN  -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
             DELETE FROM brand[CarType*Brand]
              SELECTFROM V[CarType*Brand];Delta

      (MAINTAINING -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
      (MAINTAINING -I[CarType] \/ brand;brand~ FROM TOT brand::CarType*Brand)
```

<------End Derivation --

```
        ON DELETE Delta FROM Isn{detyp=Model} EXECUTE    -- (ECA rule 150)
        ONE OF DELETE FROM model[CarType*Model]
                SELECTFROM model;(-I[Model] /\ model~;model)

               (TO MAINTAIN  -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
               DELETE FROM model[CarType*Model]
                SELECTFROM V[CarType*Model];Delta

        (MAINTAINING -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
        (MAINTAINING -I[CarType] \/ model;model~ FROM TOT model::CarType*Model)
```

------ Derivation ----->

```
     ONE OF DELETE FROM model[CarType*Model]
             SELECTFROM model;(-I[Model] /\ model~;model)

            (TO MAINTAIN  -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
            DELETE FROM model[CarType*Model]
             SELECTFROM V[CarType*Model];Delta

     (MAINTAINING -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
     (MAINTAINING -I[CarType] \/ model;model~ FROM TOT model::CarType*Model)
```

<------End Derivation --

```
        ON DELETE Delta FROM Isn{detyp=Amount} EXECUTE    -- (ECA rule 152)
        ONE OF DELETE FROM rentalBasicCharge[RentalCase*Amount]
                SELECTFROM (rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTar

               (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
               DELETE FROM rentalPeriod[RentalCase*Integer]
                SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;(rentalPe

               (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
               DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
                SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~

               (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
               DELETE FROM rcAssignedCar[RentalCase*Car]
                SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;(rentalPe

               (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
               DELETE FROM carType[Car*CarType]
                SELECTFROM rcAssignedCar~;rentalBasicCharge;(-I[Amount] /\ rentalBasicCh

               (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
```

```
DELETE FROM rentalTariffPerDay[CarType*Amount]
 SELECTFROM carType~;rcAssignedCar~;rentalBasicCharge;(-I[Amount] /\ rent

(TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
 SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~

(TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
 SELECTFROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTariffPerD

(TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM (rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;exc

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
 SELECTFROM rentalPenaltyCharge;(-I[Amount] /\ rentalPenaltyCharge~;(rent

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
 SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM rentalPenaltyCharge;(-I[Amount] /\ rentalPenaltyCharge~;(rent

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
DELETE FROM carType[Car*CarType]
 SELECTFROM rcAssignedCar~;rentalPenaltyCharge;(-I[Amount] /\ rentalPenal

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
DELETE FROM excessTariffPerDay[CarType*Amount]
 SELECTFROM carType~;rcAssignedCar~;rentalPenaltyCharge;(-I[Amount] /\ re

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
 SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
 SELECTFROM (ctcNrOfDays;rentalExcessPeriod~ /\ ctcDailyAmount;excessTari

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM (rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;di

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
 SELECTFROM rentalLocationPenaltyCharge;(-I[Amount] /\ rentalLocationPena
```

```
(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
DELETE FROM distbranch[DistanceBetweenLocations*Branch]
 SELECTFROM computedLocationPenaltyCharge;(-I[Amount] /\ computedLocationl

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM rentalLocationPenaltyCharge;(-I[Amount] /\ rentalLocationPenal

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
DELETE FROM distbranch[DistanceBetweenLocations*Branch]
 SELECTFROM computedLocationPenaltyCharge;(-I[Amount] /\ computedLocationl

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
DELETE FROM computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
 SELECTFROM (distbranch;rcDroppedOffBranch~ /\ distbranch;contractedDropo

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
DELETE FROM rentalCharge[RentalCase*Amount]
 SELECTFROM (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCha
DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;(rentalBasicCharge;a

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCha
DELETE FROM arg1[CompRentalCharge*Amount]
 SELECTFROM computedRentalCharge;(-I[Amount] /\ computedRentalCharge~;(arg

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCha
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;(rentalBasicCharge;a

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCha
DELETE FROM arg2[CompRentalCharge*Amount]
 SELECTFROM computedRentalCharge;(-I[Amount] /\ computedRentalCharge~;(arg

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCha
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;(rentalBasicCharge;a

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCha
DELETE FROM arg3[CompRentalCharge*Amount]
 SELECTFROM computedRentalCharge;(-I[Amount] /\ computedRentalCharge~;(arg

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCha
DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
 SELECTFROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\ arg3

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCha
```

```
DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
 SELECTFROM computedRentalCharge;(-I[Amount] /\ computedRentalCharge~;com

(TO MAINTAIN  -(computedRentalCharge~;I[CompRentalCharge];computedRentalC
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
 SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~

(TO MAINTAIN  -(computedTariffedCharge~;I[CompTariffedCharge];computedTar
DELETE FROM projectedBasicCharge[RentalCase*Amount]
 SELECTFROM (projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rent

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
 SELECTFROM projectedBasicCharge;(-I[Amount] /\ projectedBasicCharge~;(pr

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
 SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
DELETE FROM contractedCarType[RentalCase*CarType]
 SELECTFROM projectedBasicCharge;(-I[Amount] /\ projectedBasicCharge~;(pr

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
DELETE FROM rentalTariffPerDay[CarType*Amount]
 SELECTFROM contractedCarType~;projectedBasicCharge;(-I[Amount] /\ projec

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
 SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
 SELECTFROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount;rentalT

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
DELETE FROM rentalTariffPerDay[CarType*Amount]
 SELECTFROM rentalTariffPerDay;(-I[Amount] /\ rentalTariffPerDay~;rentalT

(TO MAINTAIN  -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM
DELETE FROM excessTariffPerDay[CarType*Amount]
 SELECTFROM excessTariffPerDay;(-I[Amount] /\ excessTariffPerDay~;excessT

(TO MAINTAIN  -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM
DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;rentalBas

(TO MAINTAIN  -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM U
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM rentalPenaltyCharge;(-I[Amount] /\ rentalPenaltyCharge~;renta
```

```
(TO MAINTAIN  -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FR
DELETE FROM computedLocationPenaltyCharge[DistanceBetweenLocations*Amount
 SELECTFROM computedLocationPenaltyCharge;(-I[Amount] /\ computedLocation

(TO MAINTAIN  -(computedLocationPenaltyCharge~;computedLocationPenaltyCha
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM rentalLocationPenaltyCharge;(-I[Amount] /\ rentalLocationPena

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge)
DELETE FROM rentalCharge[RentalCase*Amount]
 SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;rentalCharge)

(TO MAINTAIN  -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalC
DELETE FROM arg1[CompRentalCharge*Amount]
 SELECTFROM arg1;(-I[Amount] /\ arg1~;arg1)

(TO MAINTAIN  -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*
DELETE FROM arg2[CompRentalCharge*Amount]
 SELECTFROM arg2;(-I[Amount] /\ arg2~;arg2)

(TO MAINTAIN  -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*
DELETE FROM arg3[CompRentalCharge*Amount]
 SELECTFROM arg3;(-I[Amount] /\ arg3~;arg3)

(TO MAINTAIN  -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
 SELECTFROM ctcDailyAmount;(-I[Amount] /\ ctcDailyAmount~;ctcDailyAmount)

(TO MAINTAIN  -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctc
DELETE FROM projectedBasicCharge[RentalCase*Amount]
 SELECTFROM projectedBasicCharge;(-I[Amount] /\ projectedBasicCharge~;pro

(TO MAINTAIN  -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] I
DELETE FROM rentalTariffPerDay[CarType*Amount]
 SELECTFROM V[CarType*Amount];Delta

DELETE FROM excessTariffPerDay[CarType*Amount]
 SELECTFROM V[CarType*Amount];Delta

DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM V[RentalCase*Amount];Delta

DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM V[RentalCase*Amount];Delta

DELETE FROM computedLocationPenaltyCharge[DistanceBetweenLocations*Amount
 SELECTFROM V[DistanceBetweenLocations*Amount];Delta

DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
```

```
 SELECTFROM V[RentalCase*Amount];Delta

DELETE FROM rentalCharge[RentalCase*Amount]
 SELECTFROM V[RentalCase*Amount];Delta

DELETE FROM arg1[CompRentalCharge*Amount]
 SELECTFROM V[CompRentalCharge*Amount];Delta

DELETE FROM arg2[CompRentalCharge*Amount]
 SELECTFROM V[CompRentalCharge*Amount];Delta

DELETE FROM arg3[CompRentalCharge*Amount]
 SELECTFROM V[CompRentalCharge*Amount];Delta

DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
 SELECTFROM V[CompRentalCharge*Amount];Delta

DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
 SELECTFROM V[CompTariffedCharge*Amount];Delta

DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
 SELECTFROM V[CompTariffedCharge*Amount];Delta

DELETE FROM projectedBasicCharge[RentalCase*Amount]
 SELECTFROM V[RentalCase*Amount];Delta

(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~ I
(MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCh
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINTAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI ren
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rent
(MAINTAINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI exc
(MAINTAINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT exce
(MAINTAINING -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM UNI renta
(MAINTAINING -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FROM UNI r
(MAINTAINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/ I
(MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;compu
(MAINTAINING -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) \/ I[Am
(MAINTAINING -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalCharge::R
(MAINTAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*
(MAINTAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*
(MAINTAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*
(MAINTAINING -(computedRentalCharge~;computedRentalCharge) \/ I[Amount] FROM UNI
```

```
(MAINTAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmo
(MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT c
(MAINTAINING -(computedTariffedCharge~;computedTariffedCharge) \/ I[Amount] FROM
(MAINTAINING -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] FROM UNI
```

------ Derivation ----->

```
ONE OF DELETE FROM rentalBasicCharge[RentalCase*Amount]
        SELECTFROM (rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPe

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
       DELETE FROM rentalPeriod[RentalCase*Integer]
        SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;(rentalPeriod;

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
       DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
        SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(ctc

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;(rentalPeriod;

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
       DELETE FROM carType[Car*CarType]
        SELECTFROM rcAssignedCar~;rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
       DELETE FROM rentalTariffPerDay[CarType*Amount]
        SELECTFROM carType~;rcAssignedCar~;rentalBasicCharge;(-I[Amount] /\ rentalBas

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
       DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
        SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(ctc

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
       DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
        SELECTFROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTariffPerDay~;c

       (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
       DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
        SELECTFROM (rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTa

       (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
       DELETE FROM rentalExcessPeriod[RentalCase*Integer]
        SELECTFROM rentalPenaltyCharge;(-I[Amount] /\ rentalPenaltyCharge~;(rentalExc

       (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
       DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
```

```
 SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(ctc

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
DELETE FROM rcAssignedCar[RentalCase*Car]
 SELECTFROM rentalPenaltyCharge;(-I[Amount] /\ rentalPenaltyCharge~;(rentalExc

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
DELETE FROM carType[Car*CarType]
 SELECTFROM rcAssignedCar~;rentalPenaltyCharge;(-I[Amount] /\ rentalPenaltyCha

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
DELETE FROM excessTariffPerDay[CarType*Amount]
 SELECTFROM carType~;rcAssignedCar~;rentalPenaltyCharge;(-I[Amount] /\ rentalP

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
 SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(ctc

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
 SELECTFROM (ctcNrOfDays;rentalExcessPeriod~ /\ ctcDailyAmount;excessTariffPer

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM (rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbra

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /
DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
 SELECTFROM rentalLocationPenaltyCharge;(-I[Amount] /\ rentalLocationPenaltyCh

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /
DELETE FROM distbranch[DistanceBetweenLocations*Branch]
 SELECTFROM computedLocationPenaltyCharge;(-I[Amount] /\ computedLocationPenal

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
 SELECTFROM rentalLocationPenaltyCharge;(-I[Amount] /\ rentalLocationPenaltyCh

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /
DELETE FROM distbranch[DistanceBetweenLocations*Branch]
 SELECTFROM computedLocationPenaltyCharge;(-I[Amount] /\ computedLocationPenal

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /
DELETE FROM computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
 SELECTFROM (distbranch;rcDroppedOffBranch~ /\ distbranch;contractedDropoffBra

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /
DELETE FROM rentalCharge[RentalCase*Amount]
 SELECTFROM (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLoc
```

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(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;(rentalBasicCharge;arg1~

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
DELETE FROM arg1[CompRentalCharge*Amount]
 SELECTFROM computedRentalCharge;(-I[Amount] /\ computedRentalCharge~;(arg1;re

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;(rentalBasicCharge;arg1~

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
DELETE FROM arg2[CompRentalCharge*Amount]
 SELECTFROM computedRentalCharge;(-I[Amount] /\ computedRentalCharge~;(arg1;re

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;(rentalBasicCharge;arg1~

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
DELETE FROM arg3[CompRentalCharge*Amount]
 SELECTFROM computedRentalCharge;(-I[Amount] /\ computedRentalCharge~;(arg1;re

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
 SELECTFROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\ arg3;rent

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
 SELECTFROM computedRentalCharge;(-I[Amount] /\ computedRentalCharge~;computed

(TO MAINTAIN  -(computedRentalCharge~;I[CompRentalCharge];computedRentalCharge
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
 SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;comp

(TO MAINTAIN  -(computedTariffedCharge~;I[CompTariffedCharge];computedTariffed
DELETE FROM projectedBasicCharge[RentalCase*Amount]
 SELECTFROM (projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTar

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
 SELECTFROM projectedBasicCharge;(-I[Amount] /\ projectedBasicCharge~;(project

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
 SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(ctc

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM contractedCarType[RentalCase*CarType]
```

```
 SELECTFROM projectedBasicCharge;(-I[Amount] /\ projectedBasicCharge~;(project

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM rentalTariffPerDay[CarType*Amount]
 SELECTFROM contractedCarType~;projectedBasicCharge;(-I[Amount] /\ projectedBa

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
 SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(ctc

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
 SELECTFROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount;rentalTariff

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM rentalTariffPerDay[CarType*Amount]
 SELECTFROM rentalTariffPerDay;(-I[Amount] /\ rentalTariffPerDay~;rentalTariff

(TO MAINTAIN  -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI
DELETE FROM excessTariffPerDay[CarType*Amount]
 SELECTFROM excessTariffPerDay;(-I[Amount] /\ excessTariffPerDay~;excessTariff

(TO MAINTAIN  -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI
DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;rentalBasicCha

(TO MAINTAIN  -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM UNI re
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM rentalPenaltyCharge;(-I[Amount] /\ rentalPenaltyCharge~;rentalPena

(TO MAINTAIN  -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FROM UN
DELETE FROM computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
 SELECTFROM computedLocationPenaltyCharge;(-I[Amount] /\ computedLocationPenal

(TO MAINTAIN  -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge)
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM rentalLocationPenaltyCharge;(-I[Amount] /\ rentalLocationPenaltyCh

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) \/ I
DELETE FROM rentalCharge[RentalCase*Amount]
 SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;rentalCharge)

(TO MAINTAIN  -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalCharge
DELETE FROM arg1[CompRentalCharge*Amount]
 SELECTFROM arg1;(-I[Amount] /\ arg1~;arg1)

(TO MAINTAIN  -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amoun
DELETE FROM arg2[CompRentalCharge*Amount]
 SELECTFROM arg2;(-I[Amount] /\ arg2~;arg2)
```

```
(TO MAINTAIN  -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amoun
DELETE FROM arg3[CompRentalCharge*Amount]
 SELECTFROM arg3;(-I[Amount] /\ arg3~;arg3)

(TO MAINTAIN  -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amoun
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
 SELECTFROM ctcDailyAmount;(-I[Amount] /\ ctcDailyAmount~;ctcDailyAmount)

(TO MAINTAIN  -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDaily
DELETE FROM projectedBasicCharge[RentalCase*Amount]
 SELECTFROM projectedBasicCharge;(-I[Amount] /\ projectedBasicCharge~;projecte

(TO MAINTAIN  -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] FROM
DELETE FROM rentalTariffPerDay[CarType*Amount]
 SELECTFROM V[CarType*Amount];Delta

DELETE FROM excessTariffPerDay[CarType*Amount]
 SELECTFROM V[CarType*Amount];Delta

DELETE FROM rentalBasicCharge[RentalCase*Amount]
 SELECTFROM V[RentalCase*Amount];Delta

DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
 SELECTFROM V[RentalCase*Amount];Delta

DELETE FROM computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
 SELECTFROM V[DistanceBetweenLocations*Amount];Delta

DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
 SELECTFROM V[RentalCase*Amount];Delta

DELETE FROM rentalCharge[RentalCase*Amount]
 SELECTFROM V[RentalCase*Amount];Delta

DELETE FROM arg1[CompRentalCharge*Amount]
 SELECTFROM V[CompRentalCharge*Amount];Delta

DELETE FROM arg2[CompRentalCharge*Amount]
 SELECTFROM V[CompRentalCharge*Amount];Delta

DELETE FROM arg3[CompRentalCharge*Amount]
 SELECTFROM V[CompRentalCharge*Amount];Delta

DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
 SELECTFROM V[CompRentalCharge*Amount];Delta

DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
 SELECTFROM V[CompTariffedCharge*Amount];Delta

DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
```

```
          SELECTFROM V[CompTariffedCharge*Amount];Delta

        DELETE FROM projectedBasicCharge[RentalCase*Amount]
          SELECTFROM V[RentalCase*Amount];Delta

(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~ FROM
(MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCharge~
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI rentalTa
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rentalTar
(MAINTAINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI excessTa
(MAINTAINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT excessTar
(MAINTAINING -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM UNI rentalBasi
(MAINTAINING -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FROM UNI rental
(MAINTAINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/ I[Amo
(MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;computedLo
(MAINTAINING -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) \/ I[Amount]
(MAINTAINING -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalCharge::Rental
(MAINTAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*Amoun
(MAINTAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*Amoun
(MAINTAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*Amoun
(MAINTAINING -(computedRentalCharge~;computedRentalCharge) \/ I[Amount] FROM UNI comp
(MAINTAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmount::
(MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT ctcDai
(MAINTAINING -(computedTariffedCharge~;computedTariffedCharge) \/ I[Amount] FROM UNI
(MAINTAINING -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] FROM UNI proj
```

<------End Derivation --

```
    ON DELETE Delta FROM Isn{detyp=Integer} EXECUTE    -- (ECA rule 154)
    ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
            SELECTFROM contractedPickupBranch;branchOf;maxRentalDuration;(-I[Integer]

           (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxR
           DELETE FROM contractedPickupBranch[RentalCase*Branch]
            SELECTFROM rcMaxRentalDuration;(-I[Integer] /\ rcMaxRentalDuration~;cont

           (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxR
           DELETE FROM branchOf[Branch*CarRentalCompany]
            SELECTFROM contractedPickupBranch~;rcMaxRentalDuration;(-I[Integer] /\ r
```

```
(TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxR
DELETE FROM maxRentalDuration[CarRentalCompany*Integer]
 SELECTFROM branchOf~;contractedPickupBranch~;rcMaxRentalDuration;(-I[Int

(TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxR
DELETE FROM rentalPeriod[RentalCase*Integer]
 SELECTFROM (contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestD

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDrop
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM rentalPeriod;(-I[Integer] /\ rentalPeriod~;(contractedStartDat

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDrop
DELETE FROM earliestDate[DateDifferencePlusOne*Date]
 SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(ea

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDrop
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rentalPeriod;(-I[Integer] /\ rentalPeriod~;(contractedStartDat

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDrop
DELETE FROM latestDate[DateDifferencePlusOne*Date]
 SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(ea

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDrop
DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
 SELECTFROM (earliestDate;contractedStartDate~ /\ latestDate;rcDroppedOffD

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDrop
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
 SELECTFROM (rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);(

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contrac
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rentalExcessPeriod;(-I[Integer] /\ rentalExcessPeriod~;(rcDrop

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contrac
DELETE FROM lastDate[DateDifference*Date]
 SELECTFROM computedNrOfExcessDays;(-I[Integer] /\ computedNrOfExcessDays~

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contrac
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM rentalExcessPeriod;(-I[Integer] /\ rentalExcessPeriod~;(rcDrop

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contrac
DELETE FROM firstDate[DateDifference*Date]
 SELECTFROM computedNrOfExcessDays;(-I[Integer] /\ computedNrOfExcessDays~

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contrac
DELETE FROM computedNrOfExcessDays[DateDifference*Integer]
```

```
 SELECTFROM (lastDate;rcDroppedOffDate~ /\ firstDate;contractedEndDate~);

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
 SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;co

(TO MAINTAIN  -(computedRentalPeriod~;I[DateDifferencePlusOne];computedRe
DELETE FROM computedNrOfExcessDays[DateDifference*Integer]
 SELECTFROM computedNrOfExcessDays;(-I[Integer] /\ computedNrOfExcessDays

(TO MAINTAIN  -(computedNrOfExcessDays~;I[DateDifference];computedNrOfExc
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
 SELECTFROM (contractedStartDate;earliestDate~ /\ contractedEndDate;lates

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM projectedRentalPeriod;(-I[Integer] /\ projectedRentalPeriod~;

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
DELETE FROM earliestDate[DateDifferencePlusOne*Date]
 SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(e

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM projectedRentalPeriod;(-I[Integer] /\ projectedRentalPeriod~;

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
DELETE FROM latestDate[DateDifferencePlusOne*Date]
 SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(e

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
 SELECTFROM (earliestDate;contractedStartDate~ /\ latestDate;contractedEn

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
DELETE FROM rentalPeriod[RentalCase*Integer]
 SELECTFROM rentalPeriod;(-I[Integer] /\ rentalPeriod~;rentalPeriod)

(TO MAINTAIN  -(rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rentall
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
 SELECTFROM rentalExcessPeriod;(-I[Integer] /\ rentalExcessPeriod~;rentall

(TO MAINTAIN  -(rentalExcessPeriod~;rentalExcessPeriod) \/ I[Integer] FRO
DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
 SELECTFROM rcMaxRentalDuration;(-I[Integer] /\ rcMaxRentalDuration~;rcMa

(TO MAINTAIN  -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[Integer] F
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
 SELECTFROM ctcNrOfDays;(-I[Integer] /\ ctcNrOfDays~;ctcNrOfDays)
```

```
                (TO MAINTAIN  -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDa
                DELETE FROM projectedRentalPeriod[RentalCase*Integer]
                 SELECTFROM projectedRentalPeriod;(-I[Integer] /\ projectedRentalPeriod~;

                (TO MAINTAIN  -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Intege
                DELETE FROM maxRentalDuration[CarRentalCompany*Integer]
                 SELECTFROM V[CarRentalCompany*Integer];Delta

                DELETE FROM rentalPeriod[RentalCase*Integer]
                 SELECTFROM V[RentalCase*Integer];Delta

                DELETE FROM rentalExcessPeriod[RentalCase*Integer]
                 SELECTFROM V[RentalCase*Integer];Delta

                DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
                 SELECTFROM V[RentalCase*Integer];Delta

                DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
                 SELECTFROM V[DateDifferencePlusOne*Integer];Delta

                DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
                 SELECTFROM V[CompTariffedCharge*Integer];Delta

                DELETE FROM computedNrOfExcessDays[DateDifference*Integer]
                 SELECTFROM V[DateDifference*Integer];Delta

                DELETE FROM projectedRentalPeriod[RentalCase*Integer]
                 SELECTFROM V[RentalCase*Integer];Delta

        (MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentall
        (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
        (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compu
        (MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPer
        (MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDays
        (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
        (MAINTAINING -(rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rentalPeriod::
        (MAINTAINING -(rentalExcessPeriod~;rentalExcessPeriod) \/ I[Integer] FROM UNI re
        (MAINTAINING -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[Integer] FROM UNI
        (MAINTAINING -(computedRentalPeriod~;computedRentalPeriod) \/ I[Integer] FROM UN
        (MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::Com
        (MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOf
        (MAINTAINING -(computedNrOfExcessDays~;computedNrOfExcessDays) \/ I[Integer] FRO
        (MAINTAINING -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Integer] FROM
```

------ Derivation ----->

```
    ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
            SELECTFROM contractedPickupBranch;branchOf;maxRentalDuration;(-I[Integer] /\
```

```
(TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRental
DELETE FROM contractedPickupBranch[RentalCase*Branch]
 SELECTFROM rcMaxRentalDuration;(-I[Integer] /\ rcMaxRentalDuration~;contracte

(TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRental
DELETE FROM branchOf[Branch*CarRentalCompany]
 SELECTFROM contractedPickupBranch~;rcMaxRentalDuration;(-I[Integer] /\ rcMaxR

(TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRental
DELETE FROM maxRentalDuration[CarRentalCompany*Integer]
 SELECTFROM branchOf~;contractedPickupBranch~;rcMaxRentalDuration;(-I[Integer]

(TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRental
DELETE FROM rentalPeriod[RentalCase*Integer]
 SELECTFROM (contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM rentalPeriod;(-I[Integer] /\ rentalPeriod~;(contractedStartDate;ea

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
DELETE FROM earliestDate[DateDifferencePlusOne*Date]
 SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(earlie

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rentalPeriod;(-I[Integer] /\ rentalPeriod~;(contractedStartDate;ea

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
DELETE FROM latestDate[DateDifferencePlusOne*Date]
 SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(earlie

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
 SELECTFROM (earliestDate;contractedStartDate~ /\ latestDate;rcDroppedOffDate~

(TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
 SELECTFROM (rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compu

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
DELETE FROM rcDroppedOffDate[RentalCase*Date]
 SELECTFROM rentalExcessPeriod;(-I[Integer] /\ rentalExcessPeriod~;(rcDroppedO

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
DELETE FROM lastDate[DateDifference*Date]
 SELECTFROM computedNrOfExcessDays;(-I[Integer] /\ computedNrOfExcessDays~;(la

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
```

```
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM rentalExcessPeriod;(-I[Integer] /\ rentalExcessPeriod~;(rcDroppedO

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
DELETE FROM firstDate[DateDifference*Date]
 SELECTFROM computedNrOfExcessDays;(-I[Integer] /\ computedNrOfExcessDays~;(la

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
DELETE FROM computedNrOfExcessDays[DateDifference*Integer]
 SELECTFROM (lastDate;rcDroppedOffDate~ /\ firstDate;contractedEndDate~);renta

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
 SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;compute

(TO MAINTAIN  -(computedRentalPeriod~;I[DateDifferencePlusOne];computedRentalP
DELETE FROM computedNrOfExcessDays[DateDifference*Integer]
 SELECTFROM computedNrOfExcessDays;(-I[Integer] /\ computedNrOfExcessDays~;com

(TO MAINTAIN  -(computedNrOfExcessDays~;I[DateDifference];computedNrOfExcessDa
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
 SELECTFROM (contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
DELETE FROM contractedStartDate[RentalCase*Date]
 SELECTFROM projectedRentalPeriod;(-I[Integer] /\ projectedRentalPeriod~;(cont

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
DELETE FROM earliestDate[DateDifferencePlusOne*Date]
 SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(earlie

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
DELETE FROM contractedEndDate[RentalCase*Date]
 SELECTFROM projectedRentalPeriod;(-I[Integer] /\ projectedRentalPeriod~;(cont

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
DELETE FROM latestDate[DateDifferencePlusOne*Date]
 SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(earlie

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
 SELECTFROM (earliestDate;contractedStartDate~ /\ latestDate;contractedEndDate

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
DELETE FROM rentalPeriod[RentalCase*Integer]
 SELECTFROM rentalPeriod;(-I[Integer] /\ rentalPeriod~;rentalPeriod)

(TO MAINTAIN  -(rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rentalPerio
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
 SELECTFROM rentalExcessPeriod;(-I[Integer] /\ rentalExcessPeriod~;rentalExces
```

```
        (TO MAINTAIN  -(rentalExcessPeriod~;rentalExcessPeriod) \/ I[Integer] FROM UNI
        DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
         SELECTFROM rcMaxRentalDuration;(-I[Integer] /\ rcMaxRentalDuration~;rcMaxRent

        (TO MAINTAIN  -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[Integer] FROM U
        DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
         SELECTFROM ctcNrOfDays;(-I[Integer] /\ ctcNrOfDays~;ctcNrOfDays)

        (TO MAINTAIN  -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::
        DELETE FROM projectedRentalPeriod[RentalCase*Integer]
         SELECTFROM projectedRentalPeriod;(-I[Integer] /\ projectedRentalPeriod~;proje

        (TO MAINTAIN  -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Integer] FR
        DELETE FROM maxRentalDuration[CarRentalCompany*Integer]
         SELECTFROM V[CarRentalCompany*Integer];Delta

        DELETE FROM rentalPeriod[RentalCase*Integer]
         SELECTFROM V[RentalCase*Integer];Delta

        DELETE FROM rentalExcessPeriod[RentalCase*Integer]
         SELECTFROM V[RentalCase*Integer];Delta

        DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
         SELECTFROM V[RentalCase*Integer];Delta

        DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
         SELECTFROM V[DateDifferencePlusOne*Integer];Delta

        DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
         SELECTFROM V[CompTariffedCharge*Integer];Delta

        DELETE FROM computedNrOfExcessDays[DateDifference*Integer]
         SELECTFROM V[DateDifference*Integer];Delta

        DELETE FROM projectedRentalPeriod[RentalCase*Integer]
         SELECTFROM V[RentalCase*Integer];Delta

(MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDurat
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod~
(MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDays~ FRO
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINTAINING -(rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rentalPeriod::Renta
(MAINTAINING -(rentalExcessPeriod~;rentalExcessPeriod) \/ I[Integer] FROM UNI rentalE
(MAINTAINING -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[Integer] FROM UNI rcMax
(MAINTAINING -(computedRentalPeriod~;computedRentalPeriod) \/ I[Integer] FROM UNI com
(MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::CompTari
(MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOfDays:
```

```
(MAINTAINING -(computedNrOfExcessDays~;computedNrOfExcessDays) \/ I[Integer] FROM UNI
(MAINTAINING -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Integer] FROM UNI p
```

<------End Derivation --

```
ON DELETE Delta FROM Isn{detyp=Person} EXECUTE    -- (ECA rule 156)
ONE OF DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM -(rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice

       (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;vali
       DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM rcDriver;((-I[Person] /\ rcDriver~;rcDriver) \/ (-(validDrivi

       (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense;
       DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM rentalHasBeenPromised;rcDriver;(-I[Person] /\ rcDriver~;renta

       (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised;rcDriver) \/ I[Person] FR
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rentalHasBeenPromised;rcDri

       (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised;rcDriver) \/ I[Person] FR
       DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM rentalHasBeenPromised~;rcDriver;(-I[Person] /\ rcDriver~;rent

       (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised;rcDriver) \/ I[Person] FR
       DELETE FROM rcRenter[RentalCase*Person]
        SELECTFROM rentalHasBeenPromised;rcRenter;(-I[Person] /\ rcRenter~;renta

       (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised;rcRenter) \/ I[Person] FR
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rentalHasBeenPromised;rcRen

       (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised;rcRenter) \/ I[Person] FR
       DELETE FROM rcRenter[RentalCase*Person]
        SELECTFROM rentalHasBeenPromised~;rcRenter;(-I[Person] /\ rcRenter~;rent

       (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised;rcRenter) \/ I[Person] FR
       DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~;rcDri

       (TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
       DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
        SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes'[Yes

       (TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
       DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
        SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes'[Yes
```

```
(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~;rcDri

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~;rcRen

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~;rcRen

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~;rcRente

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReque
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesN

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReque
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesN

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReque
```

```
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~;rcRente

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReque
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesN

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReque
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesN

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReque
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcDriver;rcDriver~;rcRenter;(-I[Person] /\ rcRenter~;rcDriver

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcDriver;rcDriver~;rcRenter;(-I[Person] /\ rcRenter~;rcDriver

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcR

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcR

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter
```

```
(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcRenter)

(TO MAINTAIN  -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::Renta
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcDriver)

(TO MAINTAIN  -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::Renta
DELETE FROM sessionUser[SESSION*Person]
 SELECTFROM sessionUser;(-I[Person] /\ sessionUser~;sessionUser)

(TO MAINTAIN  -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUs
DELETE FROM sessionPickupPerson[SESSION*Person]
 SELECTFROM sessionPickupPerson;(-I[Person] /\ sessionPickupPerson~;sessi

(TO MAINTAIN  -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FR
DELETE FROM sessionDroppedoffPerson[SESSION*Person]
 SELECTFROM sessionDroppedoffPerson;(-I[Person] /\ sessionDroppedoffPerso

(TO MAINTAIN  -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Pe
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM V[RentalCase*Person];Delta

DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM V[RentalCase*Person];Delta

DELETE FROM validDrivingLicense[Person*DrivingLicense]
 SELECTFROM Delta;V[Person*DrivingLicense]

DELETE FROM sessionUser[SESSION*Person]
 SELECTFROM V[SESSION*Person];Delta

DELETE FROM sessionPickupPerson[SESSION*Person]
 SELECTFROM V[SESSION*Person];Delta

DELETE FROM sessionDroppedoffPerson[SESSION*Person]
 SELECTFROM V[SESSION*Person];Delta

(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDriving
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDriving
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
```

```
(MAINTAINING -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::RentalCase*Pe
(MAINTAINING -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase*Pe
(MAINTAINING -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUser::SESS
(MAINTAINING -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FROM UNI s
(MAINTAINING -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person] FR
```

------ Derivation ----->

```
ONE OF DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM -(rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLicense~)

       (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDri
       DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM rcDriver;((-I[Person] /\ rcDriver~;rcDriver) \/ (-(validDrivingLic

       (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense;valid
       DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM rentalHasBeenPromised;rcDriver;(-I[Person] /\ rcDriver~;rentalHasB

       (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised;rcDriver) \/ I[Person] FROM Pr
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rentalHasBeenPromised;rcDriver);

       (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised;rcDriver) \/ I[Person] FROM Pr
       DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM rentalHasBeenPromised~;rcDriver;(-I[Person] /\ rcDriver~;rentalHas

       (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised;rcDriver) \/ I[Person] FROM Pr
       DELETE FROM rcRenter[RentalCase*Person]
        SELECTFROM rentalHasBeenPromised;rcRenter;(-I[Person] /\ rcRenter~;rentalHasB

       (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised;rcRenter) \/ I[Person] FROM Pr
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rentalHasBeenPromised;rcRenter);

       (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised;rcRenter) \/ I[Person] FROM Pr
       DELETE FROM rcRenter[RentalCase*Person]
        SELECTFROM rentalHasBeenPromised~;rcRenter;(-I[Person] /\ rcRenter~;rentalHas

       (TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised;rcRenter) \/ I[Person] FROM Pr
       DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~;rcDriver;(

       (TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
       DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
        SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAns

       (TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
```

```
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
 SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAns

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~;rcDriver;(

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAns

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAns

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~;rcRenter;(

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAns

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAns

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~;rcRenter;(

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAns

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAns

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~;rcRenter;(-I

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnsw

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnsw
```

```
(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~;rcRenter;(-I

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnsw

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnsw

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcDriver;rcDriver~;rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDr

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter /\ r

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter /\ r

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcDriver;rcDriver~;rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDr

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcRenter

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter /\ r

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter /\ r

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcRenter

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter /\ r

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
```

```
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter /\ r

(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcRenter)

(TO MAINTAIN  -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::RentalCase
DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcDriver)

(TO MAINTAIN  -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase
DELETE FROM sessionUser[SESSION*Person]
 SELECTFROM sessionUser;(-I[Person] /\ sessionUser~;sessionUser)

(TO MAINTAIN  -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUser::S
DELETE FROM sessionPickupPerson[SESSION*Person]
 SELECTFROM sessionPickupPerson;(-I[Person] /\ sessionPickupPerson~;sessionPic

(TO MAINTAIN  -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FROM UN
DELETE FROM sessionDroppedoffPerson[SESSION*Person]
 SELECTFROM sessionDroppedoffPerson;(-I[Person] /\ sessionDroppedoffPerson~;se

(TO MAINTAIN  -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person]
DELETE FROM rcRenter[RentalCase*Person]
 SELECTFROM V[RentalCase*Person];Delta

DELETE FROM rcDriver[RentalCase*Person]
 SELECTFROM V[RentalCase*Person];Delta

DELETE FROM validDrivingLicense[Person*DrivingLicense]
 SELECTFROM Delta;V[Person*DrivingLicense]

DELETE FROM sessionUser[SESSION*Person]
 SELECTFROM V[SESSION*Person];Delta

DELETE FROM sessionPickupPerson[SESSION*Person]
 SELECTFROM V[SESSION*Person];Delta

DELETE FROM sessionDroppedoffPerson[SESSION*Person]
 SELECTFROM V[SESSION*Person];Delta

(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
```

```
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase]
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
(MAINTAINING -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::RentalCase*Person)
(MAINTAINING -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase*Person)
(MAINTAINING -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUser::SESSION*P
(MAINTAINING -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FROM UNI sessio
(MAINTAINING -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person] FROM UN
```

<------End Derivation --

```
ON DELETE Delta FROM Isn{detyp=DrivingLicense} EXECUTE    -- (ECA rule 158)
DELETE FROM validDrivingLicense[Person*DrivingLicense]
 SELECTFROM V[Person*DrivingLicense];Delta
```

------ Derivation ----->

```
DELETE FROM validDrivingLicense[Person*DrivingLicense]
 SELECTFROM V[Person*DrivingLicense];Delta
```

<------End Derivation --

```
ON INSERT Delta IN Isn{detyp=YesNoAnswer} EXECUTE    -- (ECA rule 159)
ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarTyp

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
       INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rc

       (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /
       INSERT INTO Isn{detyp=Person}
        SELECTFROM (rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedO

       (TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
       (TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
       (TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReque
       (TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
       INSERT INTO paymentHasBeenRequested[RentalCase*RentalCase]
        SELECTFROM rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCa

       (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[Rent
       INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
```

```
 SELECTFROM rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBe

(TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarH
INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAs

(TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\
INSERT INTO contractedPickupBranch[RentalCase*Branch]
 SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
INSERT INTO Isn{detyp=Branch}
 SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;

(TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequest
INSERT INTO contractedStartDate[RentalCase*Date]
 SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
INSERT INTO Isn{detyp=Date}
 SELECTFROM contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Ye

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedPickupBranch~
              THEN INSERT INTO carAvailableAt[Car*Branch]
                    SELECTFROM 'b'[Car]*'a'[Branch]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase]
              PICK a,b FROM carAvailableAt;(contractedPickupBranch~;(I[Re
              THEN INSERT INTO carType[Car*CarType]
                    SELECTFROM 'a'[Car]*'b'[CarType]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase]
       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
       NEW x:Car;
         ALL of INSERT INTO carAvailableAt[Car*Branch]
                  SELECTFROM 'x'[Car]*(contractedCarType~;(I[RentalCase] /

                (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\
                INSERT INTO carType[Car*CarType]
                 SELECTFROM 'x'[Car]*(contractedPickupBranch~;(I[RentalCa

                (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\
         (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalH
       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPro
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'
              THEN INSERT INTO rcDriver[RentalCase*Person]
                    SELECTFROM 'a'[RentalCase]*'b'[Person]
```

```
                    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
                PICK a,b FROM rcDriver~;(rcKeysHandedOverQ;'Yes'[YesNoAnswe
                THEN INSERT INTO rcDriver[RentalCase*Person]
                      SELECTFROM 'b'[RentalCase]*'a'[Person]

                    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
       NEW x:Person;
         INSERT INTO rcDriver[RentalCase*Person]
          SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv

         (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHande
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'
                THEN INSERT INTO rcRenter[RentalCase*Person]
                      SELECTFROM 'a'[RentalCase]*'b'[Person]

                    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
                PICK a,b FROM rcRenter~;(rcKeysHandedOverQ;'Yes'[YesNoAnswe
                THEN INSERT INTO rcRenter[RentalCase*Person]
                      SELECTFROM 'b'[RentalCase]*'a'[Person]

                    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
       NEW x:Person;
         INSERT INTO rcRenter[RentalCase*Person]
          SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv

         (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHande
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[
                THEN INSERT INTO rcRenter[RentalCase*Person]
                      SELECTFROM 'a'[RentalCase]*'b'[Person]

                    (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rc
                PICK a,b FROM rcRenter~;(rcUserRequestedQ;'Yes'[YesNoAnswer
                THEN INSERT INTO rcRenter[RentalCase*Person]
                      SELECTFROM 'b'[RentalCase]*'a'[Person]

                    (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rc
       (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequested
       NEW x:Person;
         INSERT INTO rcRenter[RentalCase*Person]
          SELECTFROM (rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequested

         (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReques
       (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequested
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I
```

```
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC;(I[R
              THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                    SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                   (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ r
              PICK a,b FROM sessionNewBranchRC~;(sessionNewBranchRC;(I[Re
              THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                    SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                   (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ r
       (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
       NEW x:RentalCase;
         ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                 SELECTFROM (sessionNewBranchRC;(I[RentalCase] /\ rcAssig

                (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAs
                INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                 SELECTFROM 'x'[RentalCase]*(sessionNewBranchRC;(I[Rental

                (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAs
         (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCa
       (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssig
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDriver;rcDriver~ /\ r
              THEN INSERT INTO rcRenter[RentalCase*Person]
                    SELECTFROM 'a'[RentalCase]*'b'[Person]

                   (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequeste
              PICK a,b FROM rcRenter~;(rcDriver;rcDriver~ /\ rcBranchRequ
              THEN INSERT INTO rcRenter[RentalCase*Person]
                    SELECTFROM 'b'[RentalCase]*'a'[Person]

                   (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequeste
       (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN
       NEW x:Person;
         INSERT INTO rcRenter[RentalCase*Person]
          SELECTFROM (rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN

         (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[Y
       (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssig
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Renta
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase])
```

```
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDr
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
```

------ Derivation ----->

```
ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con

       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
       INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssig

       (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcA
       INSERT INTO Isn{detyp=Person}
        SELECTFROM (rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~

       (TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
       (TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOve
       (TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ
       (TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
       INSERT INTO paymentHasBeenRequested[RentalCase*RentalCase]
        SELECTFROM rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase] /

       (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCas
       INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
        SELECTFROM rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDro

       (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBee
       INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAssigne

       (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAss
       INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe

       (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBran
       INSERT INTO Isn{detyp=Branch}
        SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'
```

```
(TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'
INSERT INTO contractedStartDate[RentalCase*Date]
 SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBran
INSERT INTO Isn{detyp=Date}
 SELECTFROM contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[Ye

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedPickupBranch~;(I[R
              THEN INSERT INTO carAvailableAt[Car*Branch]
                    SELECTFROM 'b'[Car]*'a'[Branch]

                   (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ r
              PICK a,b FROM carAvailableAt;(contractedPickupBranch~;(I[RentalC
              THEN INSERT INTO carType[Car*CarType]
                    SELECTFROM 'a'[Car]*'b'[CarType]

                  (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ r
       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
       NEW x:Car;
         ALL of INSERT INTO carAvailableAt[Car*Branch]
                 SELECTFROM 'x'[Car]*(contractedCarType~;(I[RentalCase] /\ ren

                (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rent
                INSERT INTO carType[Car*CarType]
                 SELECTFROM 'x'[Car]*(contractedPickupBranch~;(I[RentalCase] /

                (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rent
         (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBee
       (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesN
              THEN INSERT INTO rcDriver[RentalCase*Person]
                    SELECTFROM 'a'[RentalCase]*'b'[Person]

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
              PICK a,b FROM rcDriver~;(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rc
              THEN INSERT INTO rcDriver[RentalCase*Person]
                    SELECTFROM 'b'[RentalCase]*'a'[Person]

                  (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
       NEW x:Person;
         INSERT INTO rcDriver[RentalCase*Person]
          SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~

         (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOver
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
```

```
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Re
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesN
              THEN INSERT INTO rcRenter[RentalCase*Person]
                    SELECTFROM 'a'[RentalCase]*'b'[Person]

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
              PICK a,b FROM rcRenter~;(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rc
              THEN INSERT INTO rcRenter[RentalCase*Person]
                    SELECTFROM 'b'[RentalCase]*'a'[Person]

                   (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
       NEW x:Person;
         INSERT INTO rcRenter[RentalCase*Person]
          SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~

        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOver
       (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Re
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo
              THEN INSERT INTO rcRenter[RentalCase*Person]
                    SELECTFROM 'a'[RentalCase]*'b'[Person]

                   (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserR
              PICK a,b FROM rcRenter~;(rcUserRequestedQ;'Yes'[YesNoAnswer];rcU
              THEN INSERT INTO rcRenter[RentalCase*Person]
                    SELECTFROM 'b'[RentalCase]*'a'[Person]

                   (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserR
       (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
       NEW x:Person;
         INSERT INTO rcRenter[RentalCase*Person]
          SELECTFROM (rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~
       (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rent
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC;(I[Rental
              THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                    SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                   (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssi
              PICK a,b FROM sessionNewBranchRC~;(sessionNewBranchRC;(I[RentalC
              THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                    SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                   (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssi
       (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAss
       NEW x:RentalCase;
         ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
```

```
                                SELECTFROM (sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCa

                               (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssigne
                               INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                                SELECTFROM 'x'[RentalCase]*(sessionNewBranchRC;(I[RentalCase]

                               (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssigne
                         (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcA
                        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAss
                  (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCa
                 ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDriver;rcDriver~ /\ rcBran
                             THEN INSERT INTO rcRenter[RentalCase*Person]
                                   SELECTFROM 'a'[RentalCase]*'b'[Person]

                                  (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Y
                               PICK a,b FROM rcRenter~;(rcDriver;rcDriver~ /\ rcBranchRequested
                               THEN INSERT INTO rcRenter[RentalCase*Person]
                                   SELECTFROM 'b'[RentalCase]*'a'[Person]

                                  (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Y
                         (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnsw
                         NEW x:Person;
                           INSERT INTO rcRenter[RentalCase*Person]
                            SELECTFROM (rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnsw

                           (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoA
                         (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnsw
                  (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcB
               (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
               (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
               (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssignedC
               (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\ -(r
               (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
               (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
               (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
               (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
               (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase]) \/ p
               (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDropped
               (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase]
               (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase]
               (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
               (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
               (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
               (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
               (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
               (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
               (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
               (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
```

<------End Derivation --

```
ON DELETE Delta FROM Isn{detyp=YesNoAnswer} EXECUTE    -- (ECA rule 160)
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -(rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~) /

       (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAns
       DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~) /\

       (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswe
       DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
        SELECTFROM -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~) /\ rentalH

       (TO MAINTAIN  -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];ren
       DELETE FROM sessionNewUserRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];(-(sessionNewUserRC;rcUserRequestedQ;'Yes

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC
       ONE OF DELETE FROM sessionNewUserRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];sessionNewUserRC;(-(V[RentalCase*Y

              (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUs
              DELETE FROM sessionNewUserRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];sessionNewUserRC;(-(rcUserRequeste

              (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUs
       (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \/
       DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC;rcBranchRequestedQ;

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBran
       ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(V[RentalCase

              (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
              DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcBranchRequ

              (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
       (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
       ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
               SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC;rcKeysHanded

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
              DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
               SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-(sessionNewB

              (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
              DELETE FROM rcAssignedCar[RentalCase*Car]
               SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-(sessionNewB
```

```
       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];rcKeysH

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromi
ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenP

       (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewH
       DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcKeysHanded

       (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewH
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc

       (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewH
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc

       (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewH
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];rcKeysH

       (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewH
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
        SELECTFROM '_SESSION'[SESSION];(-(V[SESSION*RentalCase];(I[Rental

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigned
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (I[RentalCase] /\ rcCarHasBeenDroppedOff /\ -rentalHasB

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigned
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION]

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigned
       DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION]

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigned
       INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
        SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION]

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigned
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
```

```
                 SELECTFROM V[RentalCase*YesNoAnswer];Delta

                DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
                 SELECTFROM V[RentalCase*YesNoAnswer];Delta

                DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                 SELECTFROM V[RentalCase*YesNoAnswer];Delta

                DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
                 SELECTFROM V[RentalCase*YesNoAnswer];Delta

          (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBr
          (MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeys
          (MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPai
          (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserRe
          (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserRe
          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBr
          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBr
          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ r
          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ r
          (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rental
```

------ Derivation ----->

```
     ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
             SELECTFROM -(rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~) /\ -(

            (TO MAINTAIN  -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];
            DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
             SELECTFROM -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~) /\ rent

            (TO MAINTAIN  -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rc
            DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
             SELECTFROM -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~) /\ rentalHasBee

            (TO MAINTAIN  -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIs
            DELETE FROM sessionNewUserRC[SESSION*RentalCase]
             SELECTFROM '_SESSION'[SESSION];(-(sessionNewUserRC;rcUserRequestedQ;'Yes'[Yes

            (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUs
            ONE OF DELETE FROM sessionNewUserRC[SESSION*RentalCase]
                    SELECTFROM '_SESSION'[SESSION];sessionNewUserRC;(-(V[RentalCase*YesNoA

                   (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
                   DELETE FROM sessionNewUserRC[SESSION*RentalCase]
                    SELECTFROM '_SESSION'[SESSION];sessionNewUserRC;(-(rcUserRequestedQ;'Y

                   (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
```

```
(MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \/ rcUs
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
 SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC;rcBranchRequestedQ;'Yes'

(TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;
ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(V[RentalCase*YesN

       (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
       DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcBranchRequested

       (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC) \/
ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC;rcKeysHandedOverQ

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-(sessionNewBranch

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-(sessionNewBranch

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];rcKeysHande

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromis

       (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
       DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcKeysHandedOverQ

       (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
       DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;

       (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;

       (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (-(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];rcKeysHande
```

```
       (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(ren
ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
        SELECTFROM '_SESSION'[SESSION];(-(V[SESSION*RentalCase];(I[RentalCase]

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
       DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM (I[RentalCase] /\ rcCarHasBeenDroppedOff /\ -rentalHasBeenE

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
       DELETE FROM Isn{detyp=RentalCase}
        SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION];(-(

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
       DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION];(-(

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
       INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
        SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION];(-(

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rent
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM V[RentalCase*YesNoAnswer];Delta

DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
 SELECTFROM V[RentalCase*YesNoAnswer];Delta

DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
 SELECTFROM V[RentalCase*YesNoAnswer];Delta

DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
 SELECTFROM V[RentalCase*YesNoAnswer];Delta

(MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranch
(MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
(MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ F
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserReques
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserReques
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]
```

<------End Derivation --

```
ON INSERT Delta IN Isn{detyp=DateDifferencePlusOne} EXECUTE    -- (ECA rule 161)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifferencePlusOne] /\ -(
              THEN INSERT INTO computedRentalPeriod[DateDifferencePlusOne*Intege
                    SELECTFROM 'a'[DateDifferencePlusOne]*'b'[Integer]

                   (TO MAINTAIN  -I[DateDifferencePlusOne] \/ computedRentalPeri
              PICK a,b FROM computedRentalPeriod~;(I[DateDifferencePlusOne] /\ -
              THEN INSERT INTO computedRentalPeriod[DateDifferencePlusOne*Intege
                    SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Integer]

                   (TO MAINTAIN  -I[DateDifferencePlusOne] \/ computedRentalPeri
       (MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRe
       NEW x:Integer;
         INSERT INTO computedRentalPeriod[DateDifferencePlusOne*Integer]
          SELECTFROM (I[DateDifferencePlusOne] /\ -(computedRentalPeriod;compute

         (TO MAINTAIN  -I[DateDifferencePlusOne] \/ computedRentalPeriod;compute
       (MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRe
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifferencePlusOne] /\ -(
              THEN INSERT INTO earliestDate[DateDifferencePlusOne*Date]
                    SELECTFROM 'a'[DateDifferencePlusOne]*'b'[Date]

                   (TO MAINTAIN  -I[DateDifferencePlusOne] \/ earliestDate;I[Dat
              PICK a,b FROM earliestDate~;(I[DateDifferencePlusOne] /\ -(earlies
              THEN INSERT INTO earliestDate[DateDifferencePlusOne*Date]
                    SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

                   (TO MAINTAIN  -I[DateDifferencePlusOne] \/ earliestDate;I[Dat
       (MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDa
       NEW x:Date;
         INSERT INTO earliestDate[DateDifferencePlusOne*Date]
          SELECTFROM (I[DateDifferencePlusOne] /\ -(earliestDate;earliestDate~))

         (TO MAINTAIN  -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earlies
       (MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDa
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifferencePlusOne] /\ -(
              THEN INSERT INTO latestDate[DateDifferencePlusOne*Date]
                    SELECTFROM 'a'[DateDifferencePlusOne]*'b'[Date]

                   (TO MAINTAIN  -I[DateDifferencePlusOne] \/ latestDate;I[Date]
              PICK a,b FROM latestDate~;(I[DateDifferencePlusOne] /\ -(latestDat
              THEN INSERT INTO latestDate[DateDifferencePlusOne*Date]
                    SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

                   (TO MAINTAIN  -I[DateDifferencePlusOne] \/ latestDate;I[Date]
       (MAINTAINING -I[DateDifferencePlusOne] \/ latestDate;I[Date];latestDate~
(MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPer
(MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::Dat
(MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT ea
(MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDiffe
```

```
        (MAINTAINING -I[DateDifferencePlusOne] \/ latestDate;latestDate~ FROM TOT latestD
```

------ Derivation ----->

```
    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifferencePlusOne] /\ -(compu
                THEN INSERT INTO computedRentalPeriod[DateDifferencePlusOne*Integer]
                      SELECTFROM 'a'[DateDifferencePlusOne]*'b'[Integer]

                     (TO MAINTAIN  -I[DateDifferencePlusOne] \/ computedRentalPeriod;co
                PICK a,b FROM computedRentalPeriod~;(I[DateDifferencePlusOne] /\ -(comp
                THEN INSERT INTO computedRentalPeriod[DateDifferencePlusOne*Integer]
                      SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Integer]

                    (TO MAINTAIN  -I[DateDifferencePlusOne] \/ computedRentalPeriod;co
              (MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalP
              NEW x:Integer;
                INSERT INTO computedRentalPeriod[DateDifferencePlusOne*Integer]
                 SELECTFROM (I[DateDifferencePlusOne] /\ -(computedRentalPeriod;computedRent

                (TO MAINTAIN  -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRent
              (MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalP
              ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifferencePlusOne] /\ -(earli
                THEN INSERT INTO earliestDate[DateDifferencePlusOne*Date]
                      SELECTFROM 'a'[DateDifferencePlusOne]*'b'[Date]

                     (TO MAINTAIN  -I[DateDifferencePlusOne] \/ earliestDate;I[Date];ea
                PICK a,b FROM earliestDate~;(I[DateDifferencePlusOne] /\ -(earliestDate
                THEN INSERT INTO earliestDate[DateDifferencePlusOne*Date]
                      SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

                    (TO MAINTAIN  -I[DateDifferencePlusOne] \/ earliestDate;I[Date];ea
              (MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate~ F
              NEW x:Date;
                INSERT INTO earliestDate[DateDifferencePlusOne*Date]
                 SELECTFROM (I[DateDifferencePlusOne] /\ -(earliestDate;earliestDate~))*'x'[

                (TO MAINTAIN  -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate
              (MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate~ F
              ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifferencePlusOne] /\ -(lates
                THEN INSERT INTO latestDate[DateDifferencePlusOne*Date]
                      SELECTFROM 'a'[DateDifferencePlusOne]*'b'[Date]

                     (TO MAINTAIN  -I[DateDifferencePlusOne] \/ latestDate;I[Date];late
                PICK a,b FROM latestDate~;(I[DateDifferencePlusOne] /\ -(latestDate;lat
                THEN INSERT INTO latestDate[DateDifferencePlusOne*Date]
                      SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

                     (TO MAINTAIN  -I[DateDifferencePlusOne] \/ latestDate;I[Date];late
```

```
       (MAINTAINING -I[DateDifferencePlusOne] \/ latestDate;I[Date];latestDate~ FROM
(MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod~
(MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::DateDiff
(MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT earlies
(MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDifference
(MAINTAINING -I[DateDifferencePlusOne] \/ latestDate;latestDate~ FROM TOT latestDate:
```

<------End Derivation --

```
     ON DELETE Delta FROM Isn{detyp=DateDifferencePlusOne} EXECUTE    -- (ECA rule 16
     ALL of ONE OF DELETE FROM earliestDate[DateDifferencePlusOne*Date]
                    SELECTFROM (-I[DateDifferencePlusOne] /\ earliestDate;earliestDat

                   (TO MAINTAIN  -(earliestDate;earliestDate~ /\ latestDate;latestDat
                   DELETE FROM latestDate[DateDifferencePlusOne*Date]
                    SELECTFROM (-I[DateDifferencePlusOne] /\ earliestDate;earliestDat

                   (TO MAINTAIN  -(earliestDate;earliestDate~ /\ latestDate;latestDat
            (MAINTAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I
            DELETE FROM earliestDate[DateDifferencePlusOne*Date]
             SELECTFROM Delta;V[DateDifferencePlusOne*Date]

            DELETE FROM latestDate[DateDifferencePlusOne*Date]
             SELECTFROM Delta;V[DateDifferencePlusOne*Date]

            DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
             SELECTFROM Delta;V[DateDifferencePlusOne*Integer]

     (MAINTAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[DateDi
```

------ Derivation ----->

```
ALL of ONE OF DELETE FROM earliestDate[DateDifferencePlusOne*Date]
               SELECTFROM (-I[DateDifferencePlusOne] /\ earliestDate;earliestDate~ /\

              (TO MAINTAIN  -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \
              DELETE FROM latestDate[DateDifferencePlusOne*Date]
               SELECTFROM (-I[DateDifferencePlusOne] /\ earliestDate;earliestDate~ /\

              (TO MAINTAIN  -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \
        (MAINTAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[Date
        DELETE FROM earliestDate[DateDifferencePlusOne*Date]
         SELECTFROM Delta;V[DateDifferencePlusOne*Date]

        DELETE FROM latestDate[DateDifferencePlusOne*Date]
         SELECTFROM Delta;V[DateDifferencePlusOne*Date]
```

```
          DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
           SELECTFROM Delta;V[DateDifferencePlusOne*Integer]

    (MAINTAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[DateDiffere
```

<------End Derivation --

```
        ON INSERT Delta IN Isn{detyp=CompTariffedCharge} EXECUTE    -- (ECA rule 163)
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(com
                    THEN INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
                          SELECTFROM 'a'[CompTariffedCharge]*'b'[Amount]

                               (TO MAINTAIN  -I[CompTariffedCharge] \/ computedTariffedCharg
                         PICK a,b FROM computedTariffedCharge~;(I[CompTariffedCharge] /\ -(
                         THEN INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
                          SELECTFROM 'b'[CompTariffedCharge]*'a'[Amount]

                              (TO MAINTAIN  -I[CompTariffedCharge] \/ computedTariffedCharg
                       (MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTar
                       NEW x:Amount;
                         INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
                          SELECTFROM (I[CompTariffedCharge] /\ -(computedTariffedCharge;computed

                         (TO MAINTAIN  -I[CompTariffedCharge] \/ computedTariffedCharge;computed
                       (MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTar
                       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(ctc
                              THEN INSERT INTO ctcNrOfDays[CompTariffedCharge*Integer]
                                    SELECTFROM 'a'[CompTariffedCharge]*'b'[Integer]

                                         (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer
                                   PICK a,b FROM ctcNrOfDays~;(I[CompTariffedCharge] /\ -(ctcNrOfDays
                                   THEN INSERT INTO ctcNrOfDays[CompTariffedCharge*Integer]
                                         SELECTFROM 'b'[CompTariffedCharge]*'a'[Integer]

                                        (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer
                                 (MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays
                                 NEW x:Integer;
                                   INSERT INTO ctcNrOfDays[CompTariffedCharge*Integer]
                                    SELECTFROM (I[CompTariffedCharge] /\ -(ctcNrOfDays;ctcNrOfDays~))*'x'[

                                   (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfD
                                 (MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays
                                 ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(ctc
                                        THEN INSERT INTO ctcDailyAmount[CompTariffedCharge*Amount]
                                              SELECTFROM 'a'[CompTariffedCharge]*'b'[Amount]

                                              (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amou
                                        PICK a,b FROM ctcDailyAmount~;(I[CompTariffedCharge] /\ -(ctcDaily
```

```
                    THEN INSERT INTO ctcDailyAmount[CompTariffedCharge*Amount]
                         SELECTFROM 'b'[CompTariffedCharge]*'a'[Amount]

                        (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amou
          (MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amount];ctcDailyA
(MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCh
(MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::Com
(MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOf
(MAINTAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmo
(MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT c
```

------ Derivation ----->

```
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(computed
              THEN INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
                   SELECTFROM 'a'[CompTariffedCharge]*'b'[Amount]

                   (TO MAINTAIN  -I[CompTariffedCharge] \/ computedTariffedCharge;com
              PICK a,b FROM computedTariffedCharge~;(I[CompTariffedCharge] /\ -(compu
              THEN INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
                   SELECTFROM 'b'[CompTariffedCharge]*'a'[Amount]

                   (TO MAINTAIN  -I[CompTariffedCharge] \/ computedTariffedCharge;com
         (MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffed
         NEW x:Amount;
           INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
            SELECTFROM (I[CompTariffedCharge] /\ -(computedTariffedCharge;computedTarif

           (TO MAINTAIN  -I[CompTariffedCharge] \/ computedTariffedCharge;computedTarif
         (MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffed
         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(ctcNrOfD
              THEN INSERT INTO ctcNrOfDays[CompTariffedCharge*Integer]
                   SELECTFROM 'a'[CompTariffedCharge]*'b'[Integer]

                   (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctc
              PICK a,b FROM ctcNrOfDays~;(I[CompTariffedCharge] /\ -(ctcNrOfDays;ctcN
              THEN INSERT INTO ctcNrOfDays[CompTariffedCharge*Integer]
                   SELECTFROM 'b'[CompTariffedCharge]*'a'[Integer]

                   (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctc
         (MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays~ FRO
         NEW x:Integer;
           INSERT INTO ctcNrOfDays[CompTariffedCharge*Integer]
            SELECTFROM (I[CompTariffedCharge] /\ -(ctcNrOfDays;ctcNrOfDays~))*'x'[Integ

           (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays~
         (MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays~ FRO
         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(ctcDaily
```

```
                    THEN INSERT INTO ctcDailyAmount[CompTariffedCharge*Amount]
                          SELECTFROM 'a'[CompTariffedCharge]*'b'[Amount]

                         (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amount];c
                    PICK a,b FROM ctcDailyAmount~;(I[CompTariffedCharge] /\ -(ctcDailyAmoun
                    THEN INSERT INTO ctcDailyAmount[CompTariffedCharge*Amount]
                          SELECTFROM 'b'[CompTariffedCharge]*'a'[Amount]

                         (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amount];c
          (MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amount];ctcDailyAmount
(MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCharge~
(MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::CompTari
(MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOfDays:
(MAINTAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmount::
(MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT ctcDai
```

<------End Derivation --

```
     ON DELETE Delta FROM Isn{detyp=CompTariffedCharge} EXECUTE    -- (ECA rule 164)
     ALL of ONE OF DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
                    SELECTFROM (-I[CompTariffedCharge] /\ ctcDailyAmount;ctcDailyAmou

                   (TO MAINTAIN  -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcN
                   DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
                    SELECTFROM (-I[CompTariffedCharge] /\ ctcDailyAmount;ctcDailyAmou

                   (TO MAINTAIN  -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcN
            (MAINTAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~
            DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
             SELECTFROM Delta;V[CompTariffedCharge*Integer]

            DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
             SELECTFROM Delta;V[CompTariffedCharge*Amount]

            DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
             SELECTFROM Delta;V[CompTariffedCharge*Amount]

     (MAINTAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) \/ I[
```

------ Derivation ----->

```
ALL of ONE OF DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
               SELECTFROM (-I[CompTariffedCharge] /\ ctcDailyAmount;ctcDailyAmount~ /

              (TO MAINTAIN  -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDa
              DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
               SELECTFROM (-I[CompTariffedCharge] /\ ctcDailyAmount;ctcDailyAmount~ /
```

```
       (TO MAINTAIN  -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDa
(MAINTAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) \/
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
 SELECTFROM Delta;V[CompTariffedCharge*Integer]

DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
 SELECTFROM Delta;V[CompTariffedCharge*Amount]

DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
 SELECTFROM Delta;V[CompTariffedCharge*Amount]

(MAINTAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) \/ I[CompT
```

<------End Derivation --

```
ON INSERT Delta IN Isn{detyp=DateDifference} EXECUTE    -- (ECA rule 165)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifference] /\ -(computed
             THEN INSERT INTO computedNrOfExcessDays[DateDifference*Integer]
                   SELECTFROM 'a'[DateDifference]*'b'[Integer]

                  (TO MAINTAIN  -I[DateDifference] \/ computedNrOfExcessDays;com
             PICK a,b FROM computedNrOfExcessDays~;(I[DateDifference] /\ -(compu
             THEN INSERT INTO computedNrOfExcessDays[DateDifference*Integer]
                   SELECTFROM 'b'[DateDifference]*'a'[Integer]

                  (TO MAINTAIN  -I[DateDifference] \/ computedNrOfExcessDays;com
       (MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExce
       NEW x:Integer;
         INSERT INTO computedNrOfExcessDays[DateDifference*Integer]
          SELECTFROM (I[DateDifference] /\ -(computedNrOfExcessDays;computedNrOfI

         (TO MAINTAIN  -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfI
       (MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExce
       ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifference] /\ -(firstDat
             THEN INSERT INTO firstDate[DateDifference*Date]
                   SELECTFROM 'a'[DateDifference]*'b'[Date]

                  (TO MAINTAIN  -I[DateDifference] \/ firstDate;I[Date];firstDat
             PICK a,b FROM firstDate~;(I[DateDifference] /\ -(firstDate;firstDat
             THEN INSERT INTO firstDate[DateDifference*Date]
                   SELECTFROM 'b'[DateDifference]*'a'[Date]

                  (TO MAINTAIN  -I[DateDifference] \/ firstDate;I[Date];firstDat
       (MAINTAINING -I[DateDifference] \/ firstDate;I[Date];firstDate~ FROM UNI
       NEW x:Date;
         INSERT INTO firstDate[DateDifference*Date]
          SELECTFROM (I[DateDifference] /\ -(firstDate;firstDate~))*'x'[Date]
```

```
  (TO MAINTAIN  -I[DateDifference] \/ firstDate;I[Date];firstDate~ FROM U
(MAINTAINING -I[DateDifference] \/ firstDate;I[Date];firstDate~ FROM UNI
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifference] /\ -(lastDat
      THEN INSERT INTO lastDate[DateDifference*Date]
            SELECTFROM 'a'[DateDifference]*'b'[Date]

           (TO MAINTAIN  -I[DateDifference] \/ lastDate;I[Date];lastDate
      PICK a,b FROM lastDate~;(I[DateDifference] /\ -(lastDate;lastDate~
      THEN INSERT INTO lastDate[DateDifference*Date]
            SELECTFROM 'b'[DateDifference]*'a'[Date]

           (TO MAINTAIN  -I[DateDifference] \/ lastDate;I[Date];lastDate
(MAINTAINING -I[DateDifference] \/ lastDate;I[Date];lastDate~ FROM UNI la
(MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDays
(MAINTAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifferen
(MAINTAINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::Date
(MAINTAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*
(MAINTAINING -I[DateDifference] \/ lastDate;lastDate~ FROM TOT lastDate::DateDif
```

------ Derivation ----->

```
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifference] /\ -(computedNrOf
      THEN INSERT INTO computedNrOfExcessDays[DateDifference*Integer]
            SELECTFROM 'a'[DateDifference]*'b'[Integer]

           (TO MAINTAIN  -I[DateDifference] \/ computedNrOfExcessDays;compute
      PICK a,b FROM computedNrOfExcessDays~;(I[DateDifference] /\ -(computedN
      THEN INSERT INTO computedNrOfExcessDays[DateDifference*Integer]
            SELECTFROM 'b'[DateDifference]*'a'[Integer]

           (TO MAINTAIN  -I[DateDifference] \/ computedNrOfExcessDays;compute
(MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDa
NEW x:Integer;
  INSERT INTO computedNrOfExcessDays[DateDifference*Integer]
   SELECTFROM (I[DateDifference] /\ -(computedNrOfExcessDays;computedNrOfExces

  (TO MAINTAIN  -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExces
(MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDa
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifference] /\ -(firstDate;fi
      THEN INSERT INTO firstDate[DateDifference*Date]
            SELECTFROM 'a'[DateDifference]*'b'[Date]

           (TO MAINTAIN  -I[DateDifference] \/ firstDate;I[Date];firstDate~ F
      PICK a,b FROM firstDate~;(I[DateDifference] /\ -(firstDate;firstDate~))
      THEN INSERT INTO firstDate[DateDifference*Date]
            SELECTFROM 'b'[DateDifference]*'a'[Date]
```

```
                (TO MAINTAIN  -I[DateDifference] \/ firstDate;I[Date];firstDate~ F
           (MAINTAINING -I[DateDifference] \/ firstDate;I[Date];firstDate~ FROM UNI first
           NEW x:Date;
             INSERT INTO firstDate[DateDifference*Date]
              SELECTFROM (I[DateDifference] /\ -(firstDate;firstDate~))*'x'[Date]

             (TO MAINTAIN  -I[DateDifference] \/ firstDate;I[Date];firstDate~ FROM UNI fi
           (MAINTAINING -I[DateDifference] \/ firstDate;I[Date];firstDate~ FROM UNI first
           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifference] /\ -(lastDate;las
                 THEN INSERT INTO lastDate[DateDifference*Date]
                       SELECTFROM 'a'[DateDifference]*'b'[Date]

                       (TO MAINTAIN  -I[DateDifference] \/ lastDate;I[Date];lastDate~ FRO
                 PICK a,b FROM lastDate~;(I[DateDifference] /\ -(lastDate;lastDate~))
                 THEN INSERT INTO lastDate[DateDifference*Date]
                       SELECTFROM 'b'[DateDifference]*'a'[Date]

                       (TO MAINTAIN  -I[DateDifference] \/ lastDate;I[Date];lastDate~ FRO
           (MAINTAINING -I[DateDifference] \/ lastDate;I[Date];lastDate~ FROM UNI lastDat
      (MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDays~ FRO
      (MAINTAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifference*Da
      (MAINTAINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::DateDiffe
      (MAINTAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*Date)
      (MAINTAINING -I[DateDifference] \/ lastDate;lastDate~ FROM TOT lastDate::DateDifferen
```

<------End Derivation --

```
           ON DELETE Delta FROM Isn{detyp=DateDifference} EXECUTE    -- (ECA rule 166)
           ALL of ONE OF DELETE FROM lastDate[DateDifference*Date]
                         SELECTFROM (-I[DateDifference] /\ lastDate;lastDate~ /\ firstDate

                        (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[D
                        DELETE FROM firstDate[DateDifference*Date]
                         SELECTFROM (-I[DateDifference] /\ lastDate;lastDate~ /\ firstDate

                        (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[D
                  (MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDiffe
                  DELETE FROM firstDate[DateDifference*Date]
                   SELECTFROM Delta;V[DateDifference*Date]

                  DELETE FROM lastDate[DateDifference*Date]
                   SELECTFROM Delta;V[DateDifference*Date]

                  DELETE FROM computedNrOfExcessDays[DateDifference*Integer]
                   SELECTFROM Delta;V[DateDifference*Integer]

           (MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference]
```

------ Derivation ----->

```
ALL of ONE OF DELETE FROM lastDate[DateDifference*Date]
               SELECTFROM (-I[DateDifference] /\ lastDate;lastDate~ /\ firstDate;firs

              (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDi
              DELETE FROM firstDate[DateDifference*Date]
               SELECTFROM (-I[DateDifference] /\ lastDate;lastDate~ /\ firstDate;firs

              (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDi
       (MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference
       DELETE FROM firstDate[DateDifference*Date]
        SELECTFROM Delta;V[DateDifference*Date]

       DELETE FROM lastDate[DateDifference*Date]
        SELECTFROM Delta;V[DateDifference*Date]

       DELETE FROM computedNrOfExcessDays[DateDifference*Integer]
        SELECTFROM Delta;V[DateDifference*Integer]

(MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference] FROM
```

<------End Derivation --

```
     ON INSERT Delta IN Isn{detyp=DistanceBetweenLocations} EXECUTE    -- (ECA rule 1
     ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DistanceBetweenLocations] /\
                 THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLoca
                       SELECTFROM 'a'[DistanceBetweenLocations]*'b'[Amount]

                      (TO MAINTAIN  -I[DistanceBetweenLocations] \/ computedLocatio
                 PICK a,b FROM computedLocationPenaltyCharge~;(I[DistanceBetweenLoc
                 THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLoca
                       SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

                      (TO MAINTAIN  -I[DistanceBetweenLocations] \/ computedLocatio
           (MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharg
           NEW x:Amount;
             INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Amou
              SELECTFROM (I[DistanceBetweenLocations] /\ -(computedLocationPenaltyCh

             (TO MAINTAIN  -I[DistanceBetweenLocations] \/ computedLocationPenaltyCh
           (MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharg
           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DistanceBetweenLocations] /\
                 THEN INSERT INTO distbranch[DistanceBetweenLocations*Branch]
                       SELECTFROM 'a'[DistanceBetweenLocations]*'b'[Branch]

                      (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distbranch;distb
                 PICK a,b FROM distbranch~;(I[DistanceBetweenLocations] /\ -(distbra
                 THEN INSERT INTO distbranch[DistanceBetweenLocations*Branch]
```

```
                              SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Branch]

                           (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distbranch;distb
                  (MAINTAINING -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FROM
                  NEW x:Branch;
                    INSERT INTO distbranch[DistanceBetweenLocations*Branch]
                     SELECTFROM (I[DistanceBetweenLocations] /\ -(distbranch;distbranch~))*

                    (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FR
                  (MAINTAINING -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FROM
                  ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DistanceBetweenLocations] /\
                        THEN INSERT INTO distance[DistanceBetweenLocations*Distance]
                              SELECTFROM 'a'[DistanceBetweenLocations]*'b'[Distance]

                              (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distance;I[Dist
                        PICK a,b FROM distance~;(I[DistanceBetweenLocations] /\ -(distance
                        THEN INSERT INTO distance[DistanceBetweenLocations*Distance]
                              SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Distance]

                           (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distance;I[Dist
                  (MAINTAINING -I[DistanceBetweenLocations] \/ distance;I[Distance];distanc
                  NEW x:Distance;
                    INSERT INTO distance[DistanceBetweenLocations*Distance]
                     SELECTFROM (I[DistanceBetweenLocations] /\ -(distance;distance~))*'x'[

                    (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distance;I[Distance];dist
                  (MAINTAINING -I[DistanceBetweenLocations] \/ distance;I[Distance];distanc
            (MAINTAINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/
            (MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;compu
            (MAINTAINING -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FROM TOT dis
            (MAINTAINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBet
            (MAINTAINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distanc
```

------ Derivation ----->

```
      ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DistanceBetweenLocations] /\ -(co
                    THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations
                          SELECTFROM 'a'[DistanceBetweenLocations]*'b'[Amount]

                          (TO MAINTAIN  -I[DistanceBetweenLocations] \/ computedLocationPena
                    PICK a,b FROM computedLocationPenaltyCharge~;(I[DistanceBetweenLocation
                    THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations
                          SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

                          (TO MAINTAIN  -I[DistanceBetweenLocations] \/ computedLocationPena
               (MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;I[A
               NEW x:Amount;
                 INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
```

```
   SELECTFROM (I[DistanceBetweenLocations] /\ -(computedLocationPenaltyCharge;

  (TO MAINTAIN  -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;
(MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;I[A
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DistanceBetweenLocations] /\ -(di
       THEN INSERT INTO distbranch[DistanceBetweenLocations*Branch]
             SELECTFROM 'a'[DistanceBetweenLocations]*'b'[Branch]

            (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distbranch;distbranc
       PICK a,b FROM distbranch~;(I[DistanceBetweenLocations] /\ -(distbranch;
       THEN INSERT INTO distbranch[DistanceBetweenLocations*Branch]
             SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Branch]

           (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distbranch;distbranc
(MAINTAINING -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FROM TOT d
NEW x:Branch;
  INSERT INTO distbranch[DistanceBetweenLocations*Branch]
   SELECTFROM (I[DistanceBetweenLocations] /\ -(distbranch;distbranch~))*'x'[B

  (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FROM TO
(MAINTAINING -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FROM TOT d
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DistanceBetweenLocations] /\ -(di
       THEN INSERT INTO distance[DistanceBetweenLocations*Distance]
             SELECTFROM 'a'[DistanceBetweenLocations]*'b'[Distance]

            (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distance;I[Distance]
       PICK a,b FROM distance~;(I[DistanceBetweenLocations] /\ -(distance;dist
       THEN INSERT INTO distance[DistanceBetweenLocations*Distance]
             SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Distance]

           (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distance;I[Distance]
(MAINTAINING -I[DistanceBetweenLocations] \/ distance;I[Distance];distance~ FR
NEW x:Distance;
  INSERT INTO distance[DistanceBetweenLocations*Distance]
   SELECTFROM (I[DistanceBetweenLocations] /\ -(distance;distance~))*'x'[Dista

  (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distance;I[Distance];distance~
(MAINTAINING -I[DistanceBetweenLocations] \/ distance;I[Distance];distance~ FR
(MAINTAINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/ I[Amo
(MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;computedLo
(MAINTAINING -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FROM TOT distbran
(MAINTAINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBetweenL
(MAINTAINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distance::Di
```

<------End Derivation --

```
ON DELETE Delta FROM Isn{detyp=DistanceBetweenLocations} EXECUTE    -- (ECA rule
ALL of DELETE FROM computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
```

```
 SELECTFROM Delta;V[DistanceBetweenLocations*Amount]

DELETE FROM distbranch[DistanceBetweenLocations*Branch]
 SELECTFROM Delta;V[DistanceBetweenLocations*Branch]

DELETE FROM distance[DistanceBetweenLocations*Distance]
 SELECTFROM Delta;V[DistanceBetweenLocations*Distance]
```

------ Derivation ----->

```
ALL of DELETE FROM computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
        SELECTFROM Delta;V[DistanceBetweenLocations*Amount]

       DELETE FROM distbranch[DistanceBetweenLocations*Branch]
        SELECTFROM Delta;V[DistanceBetweenLocations*Branch]

       DELETE FROM distance[DistanceBetweenLocations*Distance]
        SELECTFROM Delta;V[DistanceBetweenLocations*Distance]
```

<------End Derivation --

```
     ON INSERT Delta IN Isn{detyp=CompRentalCharge} EXECUTE    -- (ECA rule 169)
     ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(compu
                THEN INSERT INTO computedRentalCharge[CompRentalCharge*Amount]
                      SELECTFROM 'a'[CompRentalCharge]*'b'[Amount]

                     (TO MAINTAIN  -I[CompRentalCharge] \/ computedRentalCharge;co
                PICK a,b FROM computedRentalCharge~;(I[CompRentalCharge] /\ -(compu
                THEN INSERT INTO computedRentalCharge[CompRentalCharge*Amount]
                      SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

                     (TO MAINTAIN  -I[CompRentalCharge] \/ computedRentalCharge;co
           (MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalC
           NEW x:Amount;
             INSERT INTO computedRentalCharge[CompRentalCharge*Amount]
              SELECTFROM (I[CompRentalCharge] /\ -(computedRentalCharge;computedRenta

             (TO MAINTAIN  -I[CompRentalCharge] \/ computedRentalCharge;computedRenta
           (MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalC
           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(arg1;a
                THEN INSERT INTO arg1[CompRentalCharge*Amount]
                      SELECTFROM 'a'[CompRentalCharge]*'b'[Amount]

                     (TO MAINTAIN  -I[CompRentalCharge] \/ arg1;I[Amount];arg1~ FRO
                PICK a,b FROM arg1~;(I[CompRentalCharge] /\ -(arg1;arg1~))
```

```
                THEN INSERT INTO arg1[CompRentalCharge*Amount]
                      SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

                     (TO MAINTAIN  -I[CompRentalCharge] \/ arg1;I[Amount];arg1~ FR
           (MAINTAINING -I[CompRentalCharge] \/ arg1;I[Amount];arg1~ FROM UNI arg1::
           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(arg2;
                THEN INSERT INTO arg2[CompRentalCharge*Amount]
                      SELECTFROM 'a'[CompRentalCharge]*'b'[Amount]

                     (TO MAINTAIN  -I[CompRentalCharge] \/ arg2;I[Amount];arg2~ FR
                PICK a,b FROM arg2~;(I[CompRentalCharge] /\ -(arg2;arg2~))
                THEN INSERT INTO arg2[CompRentalCharge*Amount]
                      SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

                     (TO MAINTAIN  -I[CompRentalCharge] \/ arg2;I[Amount];arg2~ FR
           (MAINTAINING -I[CompRentalCharge] \/ arg2;I[Amount];arg2~ FROM UNI arg2::
           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(arg3;
                THEN INSERT INTO arg3[CompRentalCharge*Amount]
                      SELECTFROM 'a'[CompRentalCharge]*'b'[Amount]

                     (TO MAINTAIN  -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FR
                PICK a,b FROM arg3~;(I[CompRentalCharge] /\ -(arg3;arg3~))
                THEN INSERT INTO arg3[CompRentalCharge*Amount]
                      SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

                     (TO MAINTAIN  -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FR
           (MAINTAINING -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FROM UNI arg3::
      (MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~
      (MAINTAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
      (MAINTAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*
      (MAINTAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
      (MAINTAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*
      (MAINTAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
      (MAINTAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*
```

------ Derivation ----->

```
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(computedRe
          THEN INSERT INTO computedRentalCharge[CompRentalCharge*Amount]
                SELECTFROM 'a'[CompRentalCharge]*'b'[Amount]

               (TO MAINTAIN  -I[CompRentalCharge] \/ computedRentalCharge;compute
          PICK a,b FROM computedRentalCharge~;(I[CompRentalCharge] /\ -(computedR
          THEN INSERT INTO computedRentalCharge[CompRentalCharge*Amount]
                SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

               (TO MAINTAIN  -I[CompRentalCharge] \/ computedRentalCharge;compute
     (MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge
```

```
NEW x:Amount;
  INSERT INTO computedRentalCharge[CompRentalCharge*Amount]
   SELECTFROM (I[CompRentalCharge] /\ -(computedRentalCharge;computedRentalCha

  (TO MAINTAIN  -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCha
(MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(arg1;arg1~
       THEN INSERT INTO arg1[CompRentalCharge*Amount]
             SELECTFROM 'a'[CompRentalCharge]*'b'[Amount]

            (TO MAINTAIN  -I[CompRentalCharge] \/ arg1;I[Amount];arg1~ FROM UN
       PICK a,b FROM arg1~;(I[CompRentalCharge] /\ -(arg1;arg1~))
       THEN INSERT INTO arg1[CompRentalCharge*Amount]
             SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

            (TO MAINTAIN  -I[CompRentalCharge] \/ arg1;I[Amount];arg1~ FROM UN
(MAINTAINING -I[CompRentalCharge] \/ arg1;I[Amount];arg1~ FROM UNI arg1::CompR
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(arg2;arg2~
       THEN INSERT INTO arg2[CompRentalCharge*Amount]
             SELECTFROM 'a'[CompRentalCharge]*'b'[Amount]

            (TO MAINTAIN  -I[CompRentalCharge] \/ arg2;I[Amount];arg2~ FROM UN
       PICK a,b FROM arg2~;(I[CompRentalCharge] /\ -(arg2;arg2~))
       THEN INSERT INTO arg2[CompRentalCharge*Amount]
             SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

            (TO MAINTAIN  -I[CompRentalCharge] \/ arg2;I[Amount];arg2~ FROM UN
(MAINTAINING -I[CompRentalCharge] \/ arg2;I[Amount];arg2~ FROM UNI arg2::CompR
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(arg3;arg3~
       THEN INSERT INTO arg3[CompRentalCharge*Amount]
             SELECTFROM 'a'[CompRentalCharge]*'b'[Amount]

            (TO MAINTAIN  -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FROM UN
       PICK a,b FROM arg3~;(I[CompRentalCharge] /\ -(arg3;arg3~))
       THEN INSERT INTO arg3[CompRentalCharge*Amount]
             SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

            (TO MAINTAIN  -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FROM UN
      (MAINTAINING -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FROM UNI arg3::CompR
(MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~ FROM
(MAINTAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*Amoun
(MAINTAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*Amoun
(MAINTAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*Amoun
```

<------End Derivation --

```
ON DELETE Delta FROM Isn{detyp=CompRentalCharge} EXECUTE    -- (ECA rule 170)
ALL of ONE OF DELETE FROM arg3[CompRentalCharge*Amount]
               SELECTFROM (-I[CompRentalCharge] /\ arg3;arg3~ /\ arg2;arg2~ /\ a

              (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompR
              DELETE FROM arg2[CompRentalCharge*Amount]
               SELECTFROM (-I[CompRentalCharge] /\ arg3;arg3~ /\ arg2;arg2~ /\ a

              (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompR
              DELETE FROM arg1[CompRentalCharge*Amount]
               SELECTFROM (-I[CompRentalCharge] /\ arg3;arg3~ /\ arg2;arg2~ /\ a

              (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompR
       (MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCha
       DELETE FROM arg1[CompRentalCharge*Amount]
        SELECTFROM Delta;V[CompRentalCharge*Amount]

       DELETE FROM arg2[CompRentalCharge*Amount]
        SELECTFROM Delta;V[CompRentalCharge*Amount]

       DELETE FROM arg3[CompRentalCharge*Amount]
        SELECTFROM Delta;V[CompRentalCharge*Amount]

       DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
        SELECTFROM Delta;V[CompRentalCharge*Amount]

(MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FR
```

------ Derivation ----->

```
ALL of ONE OF DELETE FROM arg3[CompRentalCharge*Amount]
               SELECTFROM (-I[CompRentalCharge] /\ arg3;arg3~ /\ arg2;arg2~ /\ arg1;a

              (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRental
              DELETE FROM arg2[CompRentalCharge*Amount]
               SELECTFROM (-I[CompRentalCharge] /\ arg3;arg3~ /\ arg2;arg2~ /\ arg1;a

              (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRental
              DELETE FROM arg1[CompRentalCharge*Amount]
               SELECTFROM (-I[CompRentalCharge] /\ arg3;arg3~ /\ arg2;arg2~ /\ arg1;a

              (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRental
       (MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge]
       DELETE FROM arg1[CompRentalCharge*Amount]
        SELECTFROM Delta;V[CompRentalCharge*Amount]

       DELETE FROM arg2[CompRentalCharge*Amount]
        SELECTFROM Delta;V[CompRentalCharge*Amount]
```

```
          DELETE FROM arg3[CompRentalCharge*Amount]
           SELECTFROM Delta;V[CompRentalCharge*Amount]

          DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
           SELECTFROM Delta;V[CompRentalCharge*Amount]

    (MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FROM Un
```

<------End Derivation --

```
        ON DELETE Delta FROM Isn{detyp=Distance} EXECUTE    -- (ECA rule 172)
        ONE OF DELETE FROM distance[DistanceBetweenLocations*Distance]
                SELECTFROM distance;(-I[Distance] /\ distance~;distance)

               (TO MAINTAIN  -(distance~;distance) \/ I[Distance] FROM UNI distance::Dis
               DELETE FROM distance[DistanceBetweenLocations*Distance]
                SELECTFROM V[DistanceBetweenLocations*Distance];Delta

        (MAINTAINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBet
        (MAINTAINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distanc
```

------ Derivation ----->

```
    ONE OF DELETE FROM distance[DistanceBetweenLocations*Distance]
            SELECTFROM distance;(-I[Distance] /\ distance~;distance)

           (TO MAINTAIN  -(distance~;distance) \/ I[Distance] FROM UNI distance::Distance
           DELETE FROM distance[DistanceBetweenLocations*Distance]
            SELECTFROM V[DistanceBetweenLocations*Distance];Delta

    (MAINTAINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBetweenL
    (MAINTAINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distance::Di
```

<------End Derivation --

```
        ON INSERT Delta IN Isn{detyp=SESSION} EXECUTE    -- (ECA rule 173)
        ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[SESSION] /\ -(session
                              THEN INSERT INTO sessionToday[SESSION*Date]
                                    SELECTFROM 'a'[SESSION]*'b'[Date]

                                   (TO MAINTAIN  -I[SESSION] \/ sessionToday;sessionToday
                              PICK a,b FROM sessionToday~;(I[SESSION] /\ -(sessionToday;s
                              THEN INSERT INTO sessionToday[SESSION*Date]
                                    SELECTFROM 'b'[SESSION]*'a'[Date]
```

```
                (TO MAINTAIN  -I[SESSION] \/ sessionToday;sessionToday
        (MAINTAINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initia
        NEW x:Date;
          INSERT INTO sessionToday[SESSION*Date]
           SELECTFROM (I[SESSION] /\ -(sessionToday;sessionToday~))*'x'[Da

          (TO MAINTAIN  -I[SESSION] \/ sessionToday;sessionToday~ FROM Ini
        (MAINTAINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initia
(MAINTAINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize to
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];ses
              THEN INSERT INTO sessionNewUserRC[SESSION*RentalCase]
                   SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                   (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC)
              PICK a,b FROM sessionNewUserRC~;('_SESSION'[SESSION];sessio
              THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                THEN INSERT INTO rcUserRequestedQ[Rental
                                     SELECTFROM 'a'[RentalCase]*'b'[Yes

                                (TO MAINTAIN  -('_SESSION'[SESSION]
                                PICK a,b FROM rcUserRequestedQ~;('a'[Ren
                                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                THEN BLOCK
                                                     (CANNOT CHANGE '
                                                PICK a,b FROM 'Yes'[Y
                                                THEN BLOCK
                                                     (CANNOT CHANGE V
                                            (MAINTAINING -('_SESSION'[SE
                                            NEW x:YesNoAnswer;
                                              ALL of BLOCK
                                                     (CANNOT CHANGE 'Yes
                                                     BLOCK
                                                     (CANNOT CHANGE V[Ye
                                              (MAINTAINING -('_SESSION'[
                                            (MAINTAINING -('_SESSION'[SE
                                       (MAINTAINING -('_SESSION'[SESSION];
                                (MAINTAINING -('_SESSION'[SESSION];sessionNewUs
                                NEW x:YesNoAnswer;
                                  ALL of INSERT INTO rcUserRequestedQ[RentalCas
                                          SELECTFROM 'a'[RentalCase]*'b'[Rental

                                         (TO MAINTAIN  -('_SESSION'[SESSION];se
                                         ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                      THEN BLOCK
                                                           (CANNOT CHANGE 'Yes
                                                      PICK a,b FROM 'Yes'[YesN
                                                      THEN BLOCK
                                                           (CANNOT CHANGE V[Ye
                                                 (MAINTAINING -('_SESSION'[SESSI
```

```
                                        NEW x:YesNoAnswer;
                                          ALL of BLOCK
                                                 (CANNOT CHANGE 'Yes'[Y
                                                 BLOCK
                                                 (CANNOT CHANGE V[YesNo
                                          (MAINTAINING -('_SESSION'[SES
                                        (MAINTAINING -('_SESSION'[SESSI
                                   (MAINTAINING -('_SESSION'[SESSION];ses
                              (MAINTAINING -('_SESSION'[SESSION];sessionNew
                         (MAINTAINING -('_SESSION'[SESSION];sessionNewUs
                    (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNew
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewUserRC[SESSION*RentalCase]
          SELECTFROM ('_SESSION'[SESSION];sessionNewUserRC /\ -(se

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \/
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Ren
                      THEN INSERT INTO rcUserRequestedQ[RentalCas
                           SELECTFROM 'a'[RentalCase]*'b'[YesNoA

                           (TO MAINTAIN  -('_SESSION'[SESSION];se
                      PICK a,b FROM rcUserRequestedQ~;('x'[Rental
                      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                     THEN BLOCK
                                          (CANNOT CHANGE 'Yes
                                     PICK a,b FROM 'Yes'[YesN
                                     THEN BLOCK
                                          (CANNOT CHANGE V[Ye
                                (MAINTAINING -('_SESSION'[SESSI
                                NEW x:YesNoAnswer;
                                  ALL of BLOCK
                                         (CANNOT CHANGE 'Yes'[Y
                                         BLOCK
                                         (CANNOT CHANGE V[YesNo
                                  (MAINTAINING -('_SESSION'[SES
                                (MAINTAINING -('_SESSION'[SESSI
                           (MAINTAINING -('_SESSION'[SESSION];ses
                    (MAINTAINING -('_SESSION'[SESSION];sessionNewUserR
                    NEW x:YesNoAnswer;
                      ALL of INSERT INTO rcUserRequestedQ[RentalCase*Y
                              SELECTFROM 'x'[RentalCase]*('_SESSION'[S

                             (TO MAINTAIN  -('_SESSION'[SESSION];sessi
                             ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
                                    THEN BLOCK
                                         (CANNOT CHANGE 'Yes'[YesNoAns
                                    PICK a,b FROM 'Yes'[YesNoAnswer];(
                                    THEN BLOCK
                                         (CANNOT CHANGE V[YesNoAnswer*
```

```
                                        (MAINTAINING -('_SESSION'[SESSION];sessio
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewUse
                                (MAINTAINING -('_SESSION'[SESSION];sessionNewUserR
                            (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ s
                      (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionN
                 (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNew
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewUserRC~;'_SES
            THEN INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
                 SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];
            PICK a,b FROM rcUserRequestedQ~;(sessionNewUserRC~;'_SESSIO
            THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                THEN BLOCK
                                     (CANNOT CHANGE 'Yes'[YesNoAnswer] F
                                PICK a,b FROM 'Yes'[YesNoAnswer];('a'[Ye
                                THEN BLOCK
                                     (CANNOT CHANGE V[YesNoAnswer*Rental
                           (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SES
                           NEW x:YesNoAnswer;
                             ALL of BLOCK
                                    (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM
                                    BLOCK
                                    (CANNOT CHANGE V[YesNoAnswer*RentalCas
                             (MAINTAINING -(sessionNewUserRC~;'_SESSION'[S
                           (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SES
                      (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];s
                (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUse
                NEW x:YesNoAnswer;
                  ALL of INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
                         SELECTFROM (sessionNewUserRC~;'_SESSION'[SESSION];sessio

                           (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];ses
                           ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswe
                                  THEN BLOCK
                                       (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Submit
                                  PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]
                                  THEN BLOCK
                                       (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM
                           (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sess
                     (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewU
                (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUse
(MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \/
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];ses
            THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                 SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC
            PICK a,b FROM sessionNewBranchRC~;('_SESSION'[SESSION];sess
```

```
                                                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                                                    THEN INSERT INTO rcBranchRequestedQ[Rental
                                                                          SELECTFROM 'a'[RentalCase]*'b'[Yes

                                                                               (TO MAINTAIN  -('_SESSION'[SESSION]
                                                                    PICK a,b FROM rcBranchRequestedQ~;('a'[R
                                                                    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                                                         THEN BLOCK
                                                                                              (CANNOT CHANGE '
                                                                                         PICK a,b FROM 'Yes'[Y
                                                                                         THEN BLOCK
                                                                                              (CANNOT CHANGE V
                                                                                    (MAINTAINING -('_SESSION'[SES
                                                                                    NEW x:YesNoAnswer;
                                                                                      ALL of BLOCK
                                                                                             (CANNOT CHANGE 'Yes
                                                                                             BLOCK
                                                                                             (CANNOT CHANGE V[Yes
                                                                                       (MAINTAINING -('_SESSION'[
                                                                                    (MAINTAINING -('_SESSION'[SES
                                                                               (MAINTAINING -('_SESSION'[SESSION];
                                                                          (MAINTAINING -('_SESSION'[SESSION];sessionNewBra
                                                                          NEW x:YesNoAnswer;
                                                                            ALL of INSERT INTO rcBranchRequestedQ[RentalCa
                                                                                    SELECTFROM 'a'[RentalCase]*'b'[Rental

                                                                                   (TO MAINTAIN  -('_SESSION'[SESSION];ses
                                                                                   ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                                                                THEN BLOCK
                                                                                                     (CANNOT CHANGE 'Yes
                                                                                                PICK a,b FROM 'Yes'[YesN
                                                                                                THEN BLOCK
                                                                                                     (CANNOT CHANGE V[Yes
                                                                                              (MAINTAINING -('_SESSION'[SESSI
                                                                                              NEW x:YesNoAnswer;
                                                                                                ALL of BLOCK
                                                                                                       (CANNOT CHANGE 'Yes'[Y
                                                                                                       BLOCK
                                                                                                       (CANNOT CHANGE V[YesNo
                                                                                                 (MAINTAINING -('_SESSION'[SES
                                                                                                (MAINTAINING -('_SESSION'[SESSI
                                                                                           (MAINTAINING -('_SESSION'[SESSION];ses
                                                                                     (MAINTAINING -('_SESSION'[SESSION];sessionNew
                                                                                (MAINTAINING -('_SESSION'[SESSION];sessionNewBra
                                                                           (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC)
                                                                (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionN
                                                                NEW x:RentalCase;
                                                                  ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                                                                          SELECTFROM ('_SESSION'[SESSION];sessionNewBranchRC /\ -(
```

```
(TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Ren
              THEN INSERT INTO rcBranchRequestedQ[RentalC
                   SELECTFROM 'a'[RentalCase]*'b'[YesNoA

                        (TO MAINTAIN  -('_SESSION'[SESSION];se
                   PICK a,b FROM rcBranchRequestedQ~;('x'[Renta
                   THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                     THEN BLOCK
                                          (CANNOT CHANGE 'Yes
                                     PICK a,b FROM 'Yes'[YesN
                                     THEN BLOCK
                                          (CANNOT CHANGE V[Ye
                                (MAINTAINING -('_SESSION'[SESSI
                                NEW x:YesNoAnswer;
                                  ALL of BLOCK
                                         (CANNOT CHANGE 'Yes'[Y
                                         BLOCK
                                         (CANNOT CHANGE V[YesNo
                                  (MAINTAINING -('_SESSION'[SES
                                (MAINTAINING -('_SESSION'[SESSI
                           (MAINTAINING -('_SESSION'[SESSION];ses
                     (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                     NEW x:YesNoAnswer;
                       ALL of INSERT INTO rcBranchRequestedQ[RentalCase
                              SELECTFROM 'x'[RentalCase]*('_SESSION'[S

                              (TO MAINTAIN  -('_SESSION'[SESSION];sessi
                              ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
                                     THEN BLOCK
                                          (CANNOT CHANGE 'Yes'[YesNoAns
                                     PICK a,b FROM 'Yes'[YesNoAnswer];(
                                     THEN BLOCK
                                          (CANNOT CHANGE V[YesNoAnswer*
                              (MAINTAINING -('_SESSION'[SESSION];sessio
                       (MAINTAINING -('_SESSION'[SESSION];sessionNewBra
                     (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
               (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessio
     (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionN
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranc
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC~;'_S
              THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                   SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                        (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION]
                   PICK a,b FROM rcBranchRequestedQ~;(sessionNewBranchRC~;'_SE
                   THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                     THEN BLOCK
                                          (CANNOT CHANGE 'Yes'[YesNoAnswer] F
```

```
                                        PICK a,b FROM 'Yes'[YesNoAnswer];('a'[Ye
                                        THEN BLOCK
                                             (CANNOT CHANGE V[YesNoAnswer*Rental
                                   (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[S
                                   NEW x:YesNoAnswer;
                                     ALL of BLOCK
                                            (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM
                                            BLOCK
                                            (CANNOT CHANGE V[YesNoAnswer*RentalCas
                                     (MAINTAINING -(sessionNewBranchRC~;'_SESSION'
                                   (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[S
                             (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
                    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewB
                    NEW x:YesNoAnswer;
                      ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                              SELECTFROM (sessionNewBranchRC~;'_SESSION'[SESSION];sess

                             (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];s
                             ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswe
                                    THEN BLOCK
                                         (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Comple
                                    PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]
                                    THEN BLOCK
                                         (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM
                             (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];se
                      (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNe
                    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewB
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];ses
            THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                  SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                 (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC
                PICK a,b FROM sessionNewBranchRC~;('_SESSION'[SESSION];sess
                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                   THEN INSERT INTO rcKeysHandedOverQ[Renta
                                         SELECTFROM 'a'[RentalCase]*'b'[Yes

                                        (TO MAINTAIN  -('_SESSION'[SESSION]
                                   PICK a,b FROM rcKeysHandedOverQ~;('a'[Re
                                   THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                   THEN BLOCK
                                                        (CANNOT CHANGE '
                                                   PICK a,b FROM 'Yes'[Y
                                                   THEN BLOCK
                                                        (CANNOT CHANGE V
                                              (MAINTAINING -('_SESSION'[SE
                                              NEW x:YesNoAnswer;
                                                ALL of BLOCK
                                                       (CANNOT CHANGE 'Yes
```

```
                                                BLOCK
                                                (CANNOT CHANGE V[Yes
                                           (MAINTAINING -('_SESSION'[
                                      (MAINTAINING -('_SESSION'[SES
                                 (MAINTAINING -('_SESSION'[SESSION];
                            (MAINTAINING -('_SESSION'[SESSION];sessionNewBra
                            NEW x:YesNoAnswer;
                              ALL of INSERT INTO rcKeysHandedOverQ[RentalCas
                                      SELECTFROM 'a'[RentalCase]*'b'[Rental

                                     (TO MAINTAIN  -('_SESSION'[SESSION];ses
                                     ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                THEN BLOCK
                                                     (CANNOT CHANGE 'Yes
                                                PICK a,b FROM 'Yes'[YesNo
                                                THEN BLOCK
                                                     (CANNOT CHANGE V[Yes
                                           (MAINTAINING -('_SESSION'[SESSIO
                                           NEW x:YesNoAnswer;
                                             ALL of BLOCK
                                                    (CANNOT CHANGE 'Yes'[Yo
                                                    BLOCK
                                                    (CANNOT CHANGE V[YesNo
                                             (MAINTAINING -('_SESSION'[SESS
                                           (MAINTAINING -('_SESSION'[SESSIO
                                     (MAINTAINING -('_SESSION'[SESSION];sess
                              (MAINTAINING -('_SESSION'[SESSION];sessionNewB
                            (MAINTAINING -('_SESSION'[SESSION];sessionNewBra
                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBe
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
          SELECTFROM ('_SESSION'[SESSION];sessionNewBranchRC;(renta

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(r
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Rent
                      THEN INSERT INTO rcKeysHandedOverQ[RentalCas
                           SELECTFROM 'a'[RentalCase]*'b'[YesNoA

                           (TO MAINTAIN  -('_SESSION'[SESSION];ses
                      PICK a,b FROM rcKeysHandedOverQ~;('x'[Rental
                      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                THEN BLOCK
                                                     (CANNOT CHANGE 'Yes
                                                PICK a,b FROM 'Yes'[YesNo
                                                THEN BLOCK
                                                     (CANNOT CHANGE V[Yes
                                           (MAINTAINING -('_SESSION'[SESSIO
                                           NEW x:YesNoAnswer;
                                             ALL of BLOCK
```

```
                                                    (CANNOT CHANGE 'Yes'[Y
                                                    BLOCK
                                                    (CANNOT CHANGE V[YesNo
                                                (MAINTAINING -('_SESSION'[SES
                                              (MAINTAINING -('_SESSION'[SESSI
                                          (MAINTAINING -('_SESSION'[SESSION];ses
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                                    NEW x:YesNoAnswer;
                                      ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*
                                              SELECTFROM 'x'[RentalCase]*('_SESSION'[S

                                             (TO MAINTAIN  -('_SESSION'[SESSION];sessi
                                             ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
                                                    THEN BLOCK
                                                         (CANNOT CHANGE 'Yes'[YesNoAns
                                                    PICK a,b FROM 'Yes'[YesNoAnswer];(
                                                    THEN BLOCK
                                                         (CANNOT CHANGE V[YesNoAnswer*
                                             (MAINTAINING -('_SESSION'[SESSION];sessio
                                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBra
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(re
                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHas
              (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBe
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromi
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC~;'_S
                    THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                          SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                               (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION]
                    PICK a,b FROM rcKeysHandedOverQ~;(sessionNewBranchRC~;'_SES
                    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                    THEN BLOCK
                                         (CANNOT CHANGE 'Yes'[YesNoAnswer] F
                                    PICK a,b FROM 'Yes'[YesNoAnswer];('a'[Ye
                                    THEN BLOCK
                                         (CANNOT CHANGE V[YesNoAnswer*Rental
                                  (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[S
                                  NEW x:YesNoAnswer;
                                    ALL of BLOCK
                                           (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM
                                           BLOCK
                                           (CANNOT CHANGE V[YesNoAnswer*RentalCas
                                    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'
                                  (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[S
                             (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
                    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewB
                    NEW x:YesNoAnswer;
                      ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                             SELECTFROM (sessionNewBranchRC~;'_SESSION'[SESSION];sess
```

```
                (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];s
                ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswe
                       THEN BLOCK
                            (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand t
                       PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]
                       THEN BLOCK
                            (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM
              (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];se
        (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNe
      (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewB
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
INSERT INTO contractedPickupBranch[RentalCase*Branch]
 SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
INSERT INTO Isn{detyp=Branch}
 SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;

(TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequest
INSERT INTO contractedStartDate[RentalCase*Date]
 SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
INSERT INTO Isn{detyp=Date}
 SELECTFROM contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Ye

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];ses
             THEN INSERT INTO sessionDroppedoffCar[SESSION*Car]
                  SELECTFROM 'a'[SESSION]*'b'[Car]

                (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffC
             PICK a,b FROM sessionDroppedoffCar~;('_SESSION'[SESSION];se
             THEN ALL of INSERT INTO Isn{detyp=Car}
                         SELECTFROM 'a'[Car]*'b'[Car]

                       (TO MAINTAIN  -('_SESSION'[SESSION];sessionDrop
                       ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FRO
                                    THEN INSERT INTO rcAssignedCar[Re
                                         SELECTFROM 'b'[RentalCase]*

                                    (TO MAINTAIN  -('_SESSION'[S
                                 PICK a,b FROM rcAssignedCar;('a'[
                                 THEN ONE OF ONE NONEMPTY ALTERNAT
                                                 THEN ALL of IN
                                                              S

                                                             (T
                                                             DE
```

```
                                                                    SI

                                                                  (TO
                                                              (MAINTAIN
                                                          PICK a,b FROM
                                                          THEN INSERT IN
                                                                SELECTFR

                                                              (TO MAINT
                                                  (MAINTAINING -('_SESS
                                                  NEW x:RentalCase;
                                                    ALL of ALL of INSER
                                                                    SELE

                                                                (TO M
                                                                DELET
                                                                SELE

                                                                (TO M
                                                            (MAINTAINING
                                                            INSERT INTO
                                                             SELECTFROM

                                                          (TO MAINTAIN
                                                    (MAINTAINING -('_SE
                                                  (MAINTAINING -('_SESS
                                        (MAINTAINING -('_SESSION'[SE
                        (MAINTAINING -('_SESSION'[SESSION];sessi
                        NEW x:RentalCase;
                          ALL of INSERT INTO rcAssignedCar[Renta
                                  SELECTFROM 'x'[RentalCase]*'b'

                                (TO MAINTAIN  -('_SESSION'[SESS
                                ONE OF ONE NONEMPTY ALTERNATIVE
                                        THEN ALL of INSER
                                                                    SELE

                                                                (TO M
                                                                DELET
                                                                SELE

                                                                (TO M
                                                            (MAINTAINING
                                                          PICK a,b FROM (re
                                                          THEN INSERT INTO
                                                                SELECTFROM

                                                          (TO MAINTAIN
                                                (MAINTAINING -('_SESSION
                                                NEW x:RentalCase;
```

```
                                                                ALL of ALL of INSERT I
                                                                        SELECTF

                                                                      (TO MAIN
                                                                      DELETE F
                                                                       SELECTF

                                                                      (TO MAIN
                                                                (MAINTAINING -(
                                                                INSERT INTO rcA
                                                                 SELECTFROM 'x'

                                                                (TO MAINTAIN  -
                                                          (MAINTAINING -('_SESSI
                                                     (MAINTAINING -('_SESSION
                                                (MAINTAINING -('_SESSION'[SESSI
                                           (MAINTAINING -('_SESSION'[SESSION];ses
                                      (MAINTAINING -('_SESSION'[SESSION];sessi
                                 (MAINTAINING -('_SESSION'[SESSION];sessionDropp
                            (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCa
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessio
NEW x:Car;
  ALL of INSERT INTO sessionDroppedoffCar[SESSION*Car]
          SELECTFROM ('_SESSION'[SESSION];sessionDroppedoffCar /\

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar)
         INSERT INTO Isn{detyp=Car}
          SELECTFROM 'x'[Car]*('_SESSION'[SESSION];sessionDroppedo

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar)
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Car
                      THEN INSERT INTO rcAssignedCar[RentalCase*C
                            SELECTFROM 'b'[RentalCase]*'a'[Car]

                           (TO MAINTAIN  -('_SESSION'[SESSION];se
                      PICK a,b FROM rcAssignedCar;('x'[Car]*('_SE
                      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                THEN ALL of INSERT INTO
                                                        SELECTFROM

                                                      (TO MAINTAIN
                                                      DELETE FROM
                                                       SELECTFROM

                                                      (TO MAINTAIN
                                                 (MAINTAINING -('_SE
                                                PICK a,b FROM (rentalHas
                                                THEN INSERT INTO rcAssig
                                                      SELECTFROM 'a'[Ren
```

```
                                    (TO MAINTAIN  -('_SI
                                (MAINTAINING -('_SESSION'[SESSIO
                                NEW x:RentalCase;
                                  ALL of ALL of INSERT INTO rent
                                                 SELECTFROM 'a'

                                                (TO MAINTAIN  -
                                                DELETE FROM rent
                                                 SELECTFROM 'a'

                                                        (TO MAINTAIN  -
                                                (MAINTAINING -('_SESSIO
                                                INSERT INTO rcAssigned
                                                 SELECTFROM 'x'[Rental

                                                        (TO MAINTAIN  -('_SESS
                                          (MAINTAINING -('_SESSION'[SES
                                        (MAINTAINING -('_SESSION'[SESSIO
                                  (MAINTAINING -('_SESSION'[SESSION];ses
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedo
NEW x:RentalCase;
  ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
          SELECTFROM 'x'[RentalCase]*(sessionDropp

        (TO MAINTAIN  -('_SESSION'[SESSION];sessi
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a
                      THEN ALL of INSERT INTO rent
                                 SELECTFROM 'a'

                                (TO MAINTAIN  -
                                DELETE FROM rent
                                 SELECTFROM 'a'

                                        (TO MAINTAIN  -
                                    (MAINTAINING -('_SESSIO
                                PICK a,b FROM (rentalHasBeen
                                THEN INSERT INTO rcAssigned
                                       SELECTFROM 'a'[Rental

                                    (TO MAINTAIN  -('_SESS
                              (MAINTAINING -('_SESSION'[SESSION]
                              NEW x:RentalCase;
                                ALL of INSERT INTO rentalHasBeenS
                                        SELECTFROM 'x'[RentalCas

                                  (TO MAINTAIN  -('_SESSION
                                 DELETE FROM rentalHasBeenL
                                  SELECTFROM 'x'[RentalCas

                                 (TO MAINTAIN  -('_SESSION
```

```
                                                                INSERT INTO rcAssignedCar
                                                                 SELECTFROM 'x'[RentalCas

                                                                (TO MAINTAIN  -('_SESSION
                                                           (MAINTAINING -('_SESSION'[SESSIO
                                                         (MAINTAINING -('_SESSION'[SESSION]
                                                    (MAINTAINING -('_SESSION'[SESSION];sessio
                                               (MAINTAINING -('_SESSION'[SESSION];sessionDroppe
                                          (MAINTAINING -('_SESSION'[SESSION];sessionDroppedo
                                     (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar)
                                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sess
                           (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessio
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppe
INSERT INTO Isn{detyp=Car}
 SELECTFROM (sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffC

(TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedo
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionDroppedoffCar~;
              THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                    SELECTFROM 'b'[RentalCase]*'a'[Car]

                   (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSI
                 PICK a,b FROM rcAssignedCar;((sessionDroppedoffCar~;'_SESSI
                 THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                                   THEN ALL of INSERT INTO rentalHasBeenSta
                                                SELECTFROM 'a'[RentalCase]*

                                               (TO MAINTAIN  -(sessionDropp
                                               DELETE FROM rentalHasBeenEnd
                                                SELECTFROM 'a'[RentalCase]*

                                               (TO MAINTAIN  -(sessionDropp
                                          (MAINTAINING -(sessionDroppedoffCar
                                        PICK a,b FROM (rentalHasBeenStarted~ /\
                                        THEN INSERT INTO rcAssignedCar[RentalCas
                                              SELECTFROM 'a'[RentalCase]*'b'[Car

                                             (TO MAINTAIN  -(sessionDroppedoffCa
                                  (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'
                                  NEW x:RentalCase;
                                    ALL of ALL of INSERT INTO rentalHasBeenStarte
                                                  SELECTFROM 'a'[RentalCase]*'b'

                                                (TO MAINTAIN  -(sessionDroppedo
                                                DELETE FROM rentalHasBeenEnded[
                                                 SELECTFROM 'a'[RentalCase]*'b'

                                                (TO MAINTAIN  -(sessionDroppedo
                                           (MAINTAINING -(sessionDroppedoffCar~;'
                                           INSERT INTO rcAssignedCar[RentalCase*C
```

```
                                        SELECTFROM 'x'[RentalCase]*'a'[Rental

                                              (TO MAINTAIN  -(sessionDroppedoffCar~;
                                         (MAINTAINING -(sessionDroppedoffCar~;'_SESSIO
                                       (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'
                                  (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSIO
                            (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDr
                            NEW x:RentalCase;
                              ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
                                      SELECTFROM 'x'[RentalCase]*((sessionDroppedoffCar~;'_SES

                                    (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION]
                                    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Ren
                                                  THEN ALL of INSERT INTO rentalHasBeenStarte
                                                        SELECTFROM 'a'[RentalCase]*'b'

                                                       (TO MAINTAIN  -(sessionDroppedo
                                                       DELETE FROM rentalHasBeenEnded[
                                                        SELECTFROM 'a'[RentalCase]*'b'

                                                       (TO MAINTAIN  -(sessionDroppedo
                                                  (MAINTAINING -(sessionDroppedoffCar~;'
                                               PICK a,b FROM (rentalHasBeenStarted~ /\ -re
                                               THEN INSERT INTO rcAssignedCar[RentalCase*C
                                                     SELECTFROM 'a'[RentalCase]*'b'[Car]

                                                  (TO MAINTAIN  -(sessionDroppedoffCar~;
                                             (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SE
                                             NEW x:RentalCase;
                                               ALL of INSERT INTO rentalHasBeenStarted[RentalCa
                                                       SELECTFROM 'x'[RentalCase]*((sessionDrop

                                                     (TO MAINTAIN  -(sessionDroppedoffCar~;'_S
                                                     DELETE FROM rentalHasBeenEnded[RentalCase
                                                      SELECTFROM 'x'[RentalCase]*((sessionDrop

                                                     (TO MAINTAIN  -(sessionDroppedoffCar~;'_S
                                                     INSERT INTO rcAssignedCar[RentalCase*Car]
                                                      SELECTFROM 'x'[RentalCase]*'x'[RentalCas

                                                     (TO MAINTAIN  -(sessionDroppedoffCar~;'_S
                                               (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[
                                             (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SE
                                       (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];
                                 (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];session
                              (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDr
                        (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedof
                        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionDro
                              THEN BLOCK
                                   (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handli
```

```
PICK a,b FROM V[RentalCase*SESSION];('_SESSION'[SESSION];sessionDr
THEN ALL of INSERT INTO Isn{detyp=RentalCase}
             SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

           (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffC
           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
                       THEN INSERT INTO rentalIsPaidQ[RentalCas
                             SELECTFROM 'a'[RentalCase]*'b'[Yes

                                  (TO MAINTAIN  -('_SESSION'[SESSION]
                             PICK a,b FROM rentalIsPaidQ~;('a'[Rental
                             THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
                                                 THEN BLOCK
                                                      (CANNOT CHANGE '
                                                 PICK a,b FROM 'Yes'[Y
                                                 THEN INSERT INTO rent
                                                       SELECTFROM 'b'[

                                                       (TO MAINTAIN  -(
                                          (MAINTAINING -('_SESSION'[SE
                                          NEW x:YesNoAnswer;
                                            ALL of BLOCK
                                                   (CANNOT CHANGE 'Yes
                                                   INSERT INTO rentalI
                                                    SELECTFROM 'b'[Ren

                                                   (TO MAINTAIN  -('_S
                                            (MAINTAINING -('_SESSION'[
                                          (MAINTAINING -('_SESSION'[SE
                                     (MAINTAINING -('_SESSION'[SESSION];
                                (MAINTAINING -('_SESSION'[SESSION];sessionDropp
                                NEW x:YesNoAnswer;
                                  ALL of INSERT INTO rentalIsPaidQ[RentalCase*Y
                                          SELECTFROM 'a'[RentalCase]*'b'[Rental

                                         (TO MAINTAIN  -('_SESSION'[SESSION];se
                                         ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
                                                     THEN BLOCK
                                                          (CANNOT CHANGE 'Yes
                                                     PICK a,b FROM 'Yes'[YesN
                                                     THEN INSERT INTO rentalI
                                                           SELECTFROM 'b'[Ren

                                                           (TO MAINTAIN  -('_S
                                                (MAINTAINING -('_SESSION'[SESSI
                                                NEW x:YesNoAnswer;
                                                  ALL of BLOCK
                                                         (CANNOT CHANGE 'Yes'[Y
                                                         INSERT INTO rentalIsPa
                                                          SELECTFROM 'b'[Rental
```

```
                                                                    (TO MAINTAIN  -(’_SESS
                                                                (MAINTAINING -(’_SESSION’[SES
                                                            (MAINTAINING -(’_SESSION’[SESSI
                                                        (MAINTAINING -(’_SESSION’[SESSION];ses
                                                    (MAINTAINING -(’_SESSION’[SESSION];sessionDro
                                                (MAINTAINING -(’_SESSION’[SESSION];sessionDropp
                                            (MAINTAINING -(’_SESSION’[SESSION];sessionDroppedoffCa
                                    (MAINTAINING -(’_SESSION’[SESSION];sessionDroppedoffCar;rcAss
                            (MAINTAINING -(’_SESSION’[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I
                (MAINTAINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize today’s d
                (MAINTAINING -(’_SESSION’[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserR
                (MAINTAINING -(’_SESSION’[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserR
                (MAINTAINING -(’_SESSION’[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcB
                (MAINTAINING -(’_SESSION’[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcB
                (MAINTAINING -(’_SESSION’[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\
                (MAINTAINING -(’_SESSION’[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\
                (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;’Yes’[YesNoAnswer];rcBranchR
                (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;’Yes’[YesNoAnswer];rcBranchR
                (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;’Yes’[YesNoAnswer];rcBranchR
                (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;’Yes’[YesNoAnswer];rcBranchR
                (MAINTAINING -(’_SESSION’[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
                (MAINTAINING -(’_SESSION’[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
                (MAINTAINING -(’_SESSION’[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rental
```

------ Derivation ----->

```
ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[SESSION] /\ -(sessionToday
                        THEN INSERT INTO sessionToday[SESSION*Date]
                              SELECTFROM ’a’[SESSION]*’b’[Date]

                             (TO MAINTAIN  -I[SESSION] \/ sessionToday;sessionToday~ FRO
                        PICK a,b FROM sessionToday~;(I[SESSION] /\ -(sessionToday;sessio
                        THEN INSERT INTO sessionToday[SESSION*Date]
                              SELECTFROM ’b’[SESSION]*’a’[Date]

                             (TO MAINTAIN  -I[SESSION] \/ sessionToday;sessionToday~ FRO
                  (MAINTAINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize
                  NEW x:Date;
                    INSERT INTO sessionToday[SESSION*Date]
                     SELECTFROM (I[SESSION] /\ -(sessionToday;sessionToday~))*’x’[Date]

                    (TO MAINTAIN  -I[SESSION] \/ sessionToday;sessionToday~ FROM Initiali
                  (MAINTAINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize
            (MAINTAINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize today’s
            ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (’_SESSION’[SESSION];sessionN
                        THEN INSERT INTO sessionNewUserRC[SESSION*RentalCase]
                              SELECTFROM ’a’[SESSION]*’b’[RentalCase]
```

```
     (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \/ se
PICK a,b FROM sessionNewUserRC~;('_SESSION'[SESSION];sessionNewU
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                    THEN INSERT INTO rcUserRequestedQ[RentalCase*
                          SELECTFROM 'a'[RentalCase]*'b'[YesNoAns

                         (TO MAINTAIN  -('_SESSION'[SESSION];sess
                    PICK a,b FROM rcUserRequestedQ~;('a'[RentalCa
                    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                    THEN BLOCK
                                         (CANNOT CHANGE 'Yes'[
                                    PICK a,b FROM 'Yes'[YesNoA
                                    THEN BLOCK
                                         (CANNOT CHANGE V[YesN
                               (MAINTAINING -('_SESSION'[SESSION
                               NEW x:YesNoAnswer;
                                 ALL of BLOCK
                                        (CANNOT CHANGE 'Yes'[Yes
                                        BLOCK
                                        (CANNOT CHANGE V[YesNoAn
                                  (MAINTAINING -('_SESSION'[SESSI
                                (MAINTAINING -('_SESSION'[SESSION
                           (MAINTAINING -('_SESSION'[SESSION];sessi
                     (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC)
                     NEW x:YesNoAnswer;
                       ALL of INSERT INTO rcUserRequestedQ[RentalCase*Yes
                              SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                              (TO MAINTAIN  -('_SESSION'[SESSION];session
                              ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                          THEN BLOCK
                                               (CANNOT CHANGE 'Yes'[Yes
                                          PICK a,b FROM 'Yes'[YesNoAnsw
                                          THEN BLOCK
                                               (CANNOT CHANGE V[YesNoAn
                                    (MAINTAINING -('_SESSION'[SESSION];s
                                    NEW x:YesNoAnswer;
                                      ALL of BLOCK
                                             (CANNOT CHANGE 'Yes'[YesNoA
                                             BLOCK
                                             (CANNOT CHANGE V[YesNoAnswe
                                       (MAINTAINING -('_SESSION'[SESSION]
                                      (MAINTAINING -('_SESSION'[SESSION];s
                                (MAINTAINING -('_SESSION'[SESSION];sessionN
                          (MAINTAINING -('_SESSION'[SESSION];sessionNewUserR
                     (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC)
               (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ ses
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserR
NEW x:RentalCase;
```

```
ALL of INSERT INTO sessionNewUserRC[SESSION*RentalCase]
        SELECTFROM ('_SESSION'[SESSION];sessionNewUserRC /\ -(session

       (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \/ sessi
       ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCa
                    THEN INSERT INTO rcUserRequestedQ[RentalCase*Yes
                          SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer

                               (TO MAINTAIN  -('_SESSION'[SESSION];session
                          PICK a,b FROM rcUserRequestedQ~;('x'[RentalCase]
                          THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                          THEN BLOCK
                                               (CANNOT CHANGE 'Yes'[Yes
                                          PICK a,b FROM 'Yes'[YesNoAnsw
                                          THEN BLOCK
                                               (CANNOT CHANGE V[YesNoAn
                                     (MAINTAINING -('_SESSION'[SESSION];s
                                     NEW x:YesNoAnswer;
                                       ALL of BLOCK
                                              (CANNOT CHANGE 'Yes'[YesNoA
                                              BLOCK
                                              (CANNOT CHANGE V[YesNoAnswe
                                        (MAINTAINING -('_SESSION'[SESSION]
                                     (MAINTAINING -('_SESSION'[SESSION];s
                                (MAINTAINING -('_SESSION'[SESSION];sessionN
                           (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/
                           NEW x:YesNoAnswer;
                             ALL of INSERT INTO rcUserRequestedQ[RentalCase*YesNoA
                                     SELECTFROM 'x'[RentalCase]*('_SESSION'[SESSIO

                                     (TO MAINTAIN  -('_SESSION'[SESSION];sessionNew
                                     ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'
                                            THEN BLOCK
                                                 (CANNOT CHANGE 'Yes'[YesNoAnswer]
                                            PICK a,b FROM 'Yes'[YesNoAnswer];('x'[Y
                                            THEN BLOCK
                                                 (CANNOT CHANGE V[YesNoAnswer*Renta
                                   (MAINTAINING -('_SESSION'[SESSION];sessionNewU
                             (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC)
                           (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/
                  (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessio
         (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUse
       (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserR
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUse
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewUserRC~;'_SESSION'
              THEN INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
                    SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                         (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessi
                   PICK a,b FROM rcUserRequestedQ~;(sessionNewUserRC~;'_SESSION'[SE
```

```
                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNo
                                THEN BLOCK
                                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM S
                                PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAn
                                THEN BLOCK
                                     (CANNOT CHANGE V[YesNoAnswer*RentalCase]
                            (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION]
                            NEW x:YesNoAnswer;
                              ALL of BLOCK
                                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Subm
                                     BLOCK
                                     (CANNOT CHANGE V[YesNoAnswer*RentalCase] FR
                              (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSIO
                            (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION]
                        (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessio
                (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
                NEW x:YesNoAnswer;
                  ALL of INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
                          SELECTFROM (sessionNewUserRC~;'_SESSION'[SESSION];sessionNewU

                            (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionN
                            ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*(s
                                   THEN BLOCK
                                        (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Submit rent
                                   PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*(ses
                                   THEN BLOCK
                                        (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Subm
                            (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNe
                  (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC
                (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
        (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \/ rcUs
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionN
                THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
                      SELECTFROM 'a'[SESSION]*'b'[RentalCase]

                          (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \/
                        PICK a,b FROM sessionNewBranchRC~;('_SESSION'[SESSION];sessionNe
                        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                THEN INSERT INTO rcBranchRequestedQ[RentalCas
                                      SELECTFROM 'a'[RentalCase]*'b'[YesNoAns

                                     (TO MAINTAIN  -('_SESSION'[SESSION];sess
                                PICK a,b FROM rcBranchRequestedQ~;('a'[Rental
                                THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                THEN BLOCK
                                                     (CANNOT CHANGE 'Yes'[
                                                PICK a,b FROM 'Yes'[YesNoA
                                                THEN BLOCK
                                                     (CANNOT CHANGE V[YesN
                                            (MAINTAINING -('_SESSION'[SESSION
```

```
                                                NEW x:YesNoAnswer;
                                                  ALL of BLOCK
                                                         (CANNOT CHANGE 'Yes'[Yes
                                                         BLOCK
                                                         (CANNOT CHANGE V[YesNoAn
                                                   (MAINTAINING -('_SESSION'[SESSI
                                                  (MAINTAINING -('_SESSION'[SESSION
                                             (MAINTAINING -('_SESSION'[SESSION];sessi
                                        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchR
                                        NEW x:YesNoAnswer;
                                          ALL of INSERT INTO rcBranchRequestedQ[RentalCase*Y
                                                  SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                                 (TO MAINTAIN  -('_SESSION'[SESSION];session
                                                 ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                              THEN BLOCK
                                                                   (CANNOT CHANGE 'Yes'[Yes
                                                              PICK a,b FROM 'Yes'[YesNoAnsw
                                                              THEN BLOCK
                                                                   (CANNOT CHANGE V[YesNoAn
                                                         (MAINTAINING -('_SESSION'[SESSION];s
                                                         NEW x:YesNoAnswer;
                                                           ALL of BLOCK
                                                                  (CANNOT CHANGE 'Yes'[YesNoA
                                                                  BLOCK
                                                                  (CANNOT CHANGE V[YesNoAnswe
                                                           (MAINTAINING -('_SESSION'[SESSION]
                                                         (MAINTAINING -('_SESSION'[SESSION];s
                                                 (MAINTAINING -('_SESSION'[SESSION];sessionN
                                           (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchR
                                 (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ s
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBra
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
          SELECTFROM ('_SESSION'[SESSION];sessionNewBranchRC /\ -(sessi

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \/ ses
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCa
                       THEN INSERT INTO rcBranchRequestedQ[RentalCase*Y
                             SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer

                            (TO MAINTAIN  -('_SESSION'[SESSION];session
                          PICK a,b FROM rcBranchRequestedQ~;('x'[RentalCas
                          THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                       THEN BLOCK
                                            (CANNOT CHANGE 'Yes'[Yes
                                       PICK a,b FROM 'Yes'[YesNoAnsw
                                       THEN BLOCK
                                            (CANNOT CHANGE V[YesNoAn
```

```
                                                (MAINTAINING -('_SESSION'[SESSION];s
                                                NEW x:YesNoAnswer;
                                                  ALL of BLOCK
                                                         (CANNOT CHANGE 'Yes'[YesNoA
                                                         BLOCK
                                                         (CANNOT CHANGE V[YesNoAnswe
                                                   (MAINTAINING -('_SESSION'[SESSION]
                                                (MAINTAINING -('_SESSION'[SESSION];s
                                          (MAINTAINING -('_SESSION'[SESSION];sessionN
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC)
                                    NEW x:YesNoAnswer;
                                      ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesN
                                              SELECTFROM 'x'[RentalCase]*('_SESSION'[SESSIO

                                             (TO MAINTAIN  -('_SESSION'[SESSION];sessionNew
                                             ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'
                                                    THEN BLOCK
                                                         (CANNOT CHANGE 'Yes'[YesNoAnswer]
                                                    PICK a,b FROM 'Yes'[YesNoAnswer];('x'[Y
                                                    THEN BLOCK
                                                         (CANNOT CHANGE V[YesNoAnswer*Renta
                                                (MAINTAINING -('_SESSION'[SESSION];sessionNewB
                                          (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC
                                    (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC)
                              (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sess
                        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewB
                  (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBra
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;r
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC~;'_SESSIO
              THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                    SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                   (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];ses
                   PICK a,b FROM rcBranchRequestedQ~;(sessionNewBranchRC~;'_SESSION
                   THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNo
                                THEN BLOCK
                                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM C
                                PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAn
                                THEN BLOCK
                                     (CANNOT CHANGE V[YesNoAnswer*RentalCase]
                             (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSIO
                             NEW x:YesNoAnswer;
                               ALL of BLOCK
                                       (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Comp
                                       BLOCK
                                       (CANNOT CHANGE V[YesNoAnswer*RentalCase] FR
                                 (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESS
                             (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSIO
                       (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sess
                 (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
```

```
NEW x:YesNoAnswer;
  ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
          SELECTFROM (sessionNewBranchRC~;'_SESSION'[SESSION];sessionNe

         (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessio
         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*(s
                THEN BLOCK
                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Complete br
                PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*(ses
                THEN BLOCK
                     (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Comp
         (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];session
  (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBran
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC) \/
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionN
        THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
             SELECTFROM 'a'[SESSION]*'b'[RentalCase]

            (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(ren
          PICK a,b FROM sessionNewBranchRC~;('_SESSION'[SESSION];sessionNe
          THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                          THEN INSERT INTO rcKeysHandedOverQ[RentalCase
                               SELECTFROM 'a'[RentalCase]*'b'[YesNoAns

                           (TO MAINTAIN  -('_SESSION'[SESSION];sess
                          PICK a,b FROM rcKeysHandedOverQ~;('a'[RentalC
                          THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                          THEN BLOCK
                                               (CANNOT CHANGE 'Yes'[
                                          PICK a,b FROM 'Yes'[YesNoA
                                          THEN BLOCK
                                               (CANNOT CHANGE V[YesN
                                  (MAINTAINING -('_SESSION'[SESSION
                                  NEW x:YesNoAnswer;
                                    ALL of BLOCK
                                            (CANNOT CHANGE 'Yes'[Yes
                                            BLOCK
                                            (CANNOT CHANGE V[YesNoAn
                                     (MAINTAINING -('_SESSION'[SESSI
                                    (MAINTAINING -('_SESSION'[SESSION
                                (MAINTAINING -('_SESSION'[SESSION];sessi
                           (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchR
                          NEW x:YesNoAnswer;
                            ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*Ye
                                    SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                   (TO MAINTAIN  -('_SESSION'[SESSION];session
                                   ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                THEN BLOCK
```

```
                                                    (CANNOT CHANGE 'Yes'[Yes
                                                  PICK a,b FROM 'Yes'[YesNoAnsw
                                                  THEN BLOCK
                                                       (CANNOT CHANGE V[YesNoAn
                                              (MAINTAINING -('_SESSION'[SESSION];s
                                              NEW x:YesNoAnswer;
                                                ALL of BLOCK
                                                       (CANNOT CHANGE 'Yes'[YesNoA
                                                       BLOCK
                                                       (CANNOT CHANGE V[YesNoAnswe
                                                (MAINTAINING -('_SESSION'[SESSION]
                                              (MAINTAINING -('_SESSION'[SESSION];s
                                        (MAINTAINING -('_SESSION'[SESSION];sessionN
                                  (MAINTAINING -('_SESSION'[SESSION];sessionNewBranc
                            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchR
                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rent
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPro
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
          SELECTFROM ('_SESSION'[SESSION];sessionNewBranchRC;(rentalHas

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rental
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCa
                       THEN INSERT INTO rcKeysHandedOverQ[RentalCase*Ye
                            SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer

                            (TO MAINTAIN  -('_SESSION'[SESSION];session
                       PICK a,b FROM rcKeysHandedOverQ~;('x'[RentalCase
                       THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                       THEN BLOCK
                                            (CANNOT CHANGE 'Yes'[Yes
                                       PICK a,b FROM 'Yes'[YesNoAnsw
                                       THEN BLOCK
                                            (CANNOT CHANGE V[YesNoAn
                                  (MAINTAINING -('_SESSION'[SESSION];s
                                  NEW x:YesNoAnswer;
                                    ALL of BLOCK
                                           (CANNOT CHANGE 'Yes'[YesNoA
                                           BLOCK
                                           (CANNOT CHANGE V[YesNoAnswe
                                    (MAINTAINING -('_SESSION'[SESSION]
                                  (MAINTAINING -('_SESSION'[SESSION];s
                            (MAINTAINING -('_SESSION'[SESSION];sessionN
                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(
                      NEW x:YesNoAnswer;
                        ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNo
                                SELECTFROM 'x'[RentalCase]*('_SESSION'[SESSIO

                                (TO MAINTAIN  -('_SESSION'[SESSION];sessionNew
                                ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'
```

```
                                                THEN BLOCK
                                                     (CANNOT CHANGE 'Yes'[YesNoAnswer]
                                                PICK a,b FROM 'Yes'[YesNoAnswer];('x'[Y
                                                THEN BLOCK
                                                     (CANNOT CHANGE V[YesNoAnswer*Renta
                                           (MAINTAINING -('_SESSION'[SESSION];sessionNewB
                                      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC
                                 (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(
                            (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalH
                     (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenP
               (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPro
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC~;'_SESSIO
              THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                   SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

                        (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];ses
                   PICK a,b FROM rcKeysHandedOverQ~;(sessionNewBranchRC~;'_SESSION'
                   THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNo
                                    THEN BLOCK
                                         (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM H
                                    PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAn
                                    THEN BLOCK
                                         (CANNOT CHANGE V[YesNoAnswer*RentalCase]
                                (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSIO
                                NEW x:YesNoAnswer;
                                  ALL of BLOCK
                                         (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand
                                         BLOCK
                                         (CANNOT CHANGE V[YesNoAnswer*RentalCase] FR
                                   (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESS
                                (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSIO
                         (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sess
               (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
               NEW x:YesNoAnswer;
                 ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                         SELECTFROM (sessionNewBranchRC~;'_SESSION'[SESSION];sessionNe

                         (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessio
                         ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*(s
                                THEN BLOCK
                                     (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand the ca
                                PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*(ses
                                THEN BLOCK
                                     (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Hand
                         (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];session
                 (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBran
               (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(ren
INSERT INTO contractedPickupBranch[RentalCase*Branch]
```

```
 SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBran
INSERT INTO Isn{detyp=Branch}
 SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'

(TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'
INSERT INTO contractedStartDate[RentalCase*Date]
 SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBran
INSERT INTO Isn{detyp=Date}
 SELECTFROM contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[Ye

(TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionD
              THEN INSERT INTO sessionDroppedoffCar[SESSION*Car]
                    SELECTFROM 'a'[SESSION]*'b'[Car]

                   (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \
              PICK a,b FROM sessionDroppedoffCar~;('_SESSION'[SESSION];session
              THEN ALL of INSERT INTO Isn{detyp=Car}
                           SELECTFROM 'a'[Car]*'b'[Car]

                                 (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedof
                                 ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a
                                              THEN INSERT INTO rcAssignedCar[RentalC
                                                    SELECTFROM 'b'[RentalCase]*'a'[C

                                                   (TO MAINTAIN  -('_SESSION'[SESSIO
                                              PICK a,b FROM rcAssignedCar;('a'[Car]*
                                              THEN ONE OF ONE NONEMPTY ALTERNATIVE O
                                                                  THEN ALL of INSERT
                                                                               SELECT

                                                                              (TO MAI
                                                                              DELETE
                                                                               SELECT

                                                                                    (TO MAI
                                                                         (MAINTAINING -
                                                                       PICK a,b FROM (rent
                                                                       THEN INSERT INTO rc
                                                                             SELECTFROM 'a

                                                                                  (TO MAINTAIN
                                                                 (MAINTAINING -('_SESSION'[
                                                                 NEW x:RentalCase;
                                                                   ALL of ALL of INSERT INT
                                                                                 SELECTFRO
```

```
                                                                (TO MAINTA
                                                                DELETE FRO
                                                                 SELECTFRO

                                                                (TO MAINTA
                                                             (MAINTAINING -('_
                                                             INSERT INTO rcAss
                                                              SELECTFROM 'x'[R

                                                                   (TO MAINTAIN  -('
                                                          (MAINTAINING -('_SESSION
                                                       (MAINTAINING -('_SESSION'[
                                                  (MAINTAINING -('_SESSION'[SESSION
(MAINTAINING -('_SESSION'[SESSION];sessionDro
NEW x:RentalCase;
  ALL of INSERT INTO rcAssignedCar[RentalCase
          SELECTFROM 'x'[RentalCase]*'b'[Car]

                 (TO MAINTAIN  -('_SESSION'[SESSION];
                 ONE OF ONE NONEMPTY ALTERNATIVE OF P
                                THEN ALL of INSERT INT
                                 SELECTFRO

                                                                (TO MAINTA
                                                                DELETE FRO
                                                                 SELECTFRO

                                                                (TO MAINTA
                                                             (MAINTAINING -('_
                                                          PICK a,b FROM (rentalH
                                                          THEN INSERT INTO rcAss
                                                                SELECTFROM 'a'[R

                                                             (TO MAINTAIN  -('
                                                    (MAINTAINING -('_SESSION'[SES
                                                    NEW x:RentalCase;
                                                      ALL of ALL of INSERT INTO r
                                                                   SELECTFROM '

                                                                (TO MAINTAIN
                                                                DELETE FROM r
                                                                 SELECTFROM '

                                                                (TO MAINTAIN
                                                           (MAINTAINING -('_SES
                                                           INSERT INTO rcAssign
                                                            SELECTFROM 'x'[Rent

                                                          (TO MAINTAIN  -('_SE
```

```
                                                        (MAINTAINING -('_SESSION'[S
                                                      (MAINTAINING -('_SESSION'[SES
                                                  (MAINTAINING -('_SESSION'[SESSION];s
                                               (MAINTAINING -('_SESSION'[SESSION];sessionD
                                            (MAINTAINING -('_SESSION'[SESSION];sessionDro
                                      (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDrop
NEW x:Car;
  ALL of INSERT INTO sessionDroppedoffCar[SESSION*Car]
          SELECTFROM ('_SESSION'[SESSION];sessionDroppedoffCar /\ -(ses

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ s
         INSERT INTO Isn{detyp=Car}
          SELECTFROM 'x'[Car]*('_SESSION'[SESSION];sessionDroppedoffCar

         (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \/ s
         ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Car]*('_
                      THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                            SELECTFROM 'b'[RentalCase]*'a'[Car]

                           (TO MAINTAIN  -('_SESSION'[SESSION];session
                      PICK a,b FROM rcAssignedCar;('x'[Car]*('_SESSION
                      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                          THEN ALL of INSERT INTO renta
                                                       SELECTFROM 'a'[R

                                                      (TO MAINTAIN  -('
                                                      DELETE FROM renta
                                                       SELECTFROM 'a'[R

                                                      (TO MAINTAIN  -('
                                                (MAINTAINING -('_SESSION
                                              PICK a,b FROM (rentalHasBeenS
                                              THEN INSERT INTO rcAssignedCa
                                                    SELECTFROM 'a'[RentalCa

                                                      (TO MAINTAIN  -('_SESSIO
                                           (MAINTAINING -('_SESSION'[SESSION];s
                                           NEW x:RentalCase;
                                             ALL of ALL of INSERT INTO rentalHa
                                                           SELECTFROM 'a'[Rent

                                                       (TO MAINTAIN  -('_SE
                                                       DELETE FROM rentalHa
                                                        SELECTFROM 'a'[Rent

                                                       (TO MAINTAIN  -('_SE
                                                 (MAINTAINING -('_SESSION'[S
                                                 INSERT INTO rcAssignedCar[R
```

```
                                                                SELECTFROM 'x'[RentalCase]

                                                                    (TO MAINTAIN  -('_SESSION'[
                                                                (MAINTAINING -('_SESSION'[SESSION]
                                                            (MAINTAINING -('_SESSION'[SESSION];s
                                                        (MAINTAINING -('_SESSION'[SESSION];sessionD
                                                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar
                                                NEW x:RentalCase;
                                                  ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
                                                          SELECTFROM 'x'[RentalCase]*(sessionDroppedoff

                                                        (TO MAINTAIN  -('_SESSION'[SESSION];sessionDro
                                                        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FR
                                                                    THEN ALL of INSERT INTO rentalHa
                                                                          SELECTFROM 'a'[Rent

                                                                          (TO MAINTAIN  -('_SE
                                                                          DELETE FROM rentalHa
                                                                          SELECTFROM 'a'[Rent

                                                                          (TO MAINTAIN  -('_SE
                                                                    (MAINTAINING -('_SESSION'[S
                                                                PICK a,b FROM (rentalHasBeenStar
                                                                THEN INSERT INTO rcAssignedCar[R
                                                                      SELECTFROM 'a'[RentalCase]

                                                                    (TO MAINTAIN  -('_SESSION'[
                                                            (MAINTAINING -('_SESSION'[SESSION];sess
                                                            NEW x:RentalCase;
                                                              ALL of INSERT INTO rentalHasBeenStart
                                                                      SELECTFROM 'x'[RentalCase]*'x

                                                                    (TO MAINTAIN  -('_SESSION'[SES
                                                                    DELETE FROM rentalHasBeenEnded
                                                                     SELECTFROM 'x'[RentalCase]*'x

                                                                    (TO MAINTAIN  -('_SESSION'[SES
                                                                    INSERT INTO rcAssignedCar[Rent
                                                                     SELECTFROM 'x'[RentalCase]*'x

                                                                    (TO MAINTAIN  -('_SESSION'[SES
                                                                (MAINTAINING -('_SESSION'[SESSION];se
                                                            (MAINTAINING -('_SESSION'[SESSION];sess
                                                        (MAINTAINING -('_SESSION'[SESSION];sessionDrop
                                                    (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffC
                                                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar
                                        (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ se
                                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDr
                            (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDrop
                    (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffC
```

```
INSERT INTO Isn{detyp=Car}
 SELECTFROM (sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar /\

(TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionDroppedoffCar~;'_SES
              THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                    SELECTFROM 'b'[RentalCase]*'a'[Car]

                   (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];s
              PICK a,b FROM rcAssignedCar;((sessionDroppedoffCar~;'_SESSION'[S
              THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                   THEN ALL of INSERT INTO rentalHasBeenStarted[
                                                SELECTFROM 'a'[RentalCase]*'b'[R

                                               (TO MAINTAIN  -(sessionDroppedoff
                                              DELETE FROM rentalHasBeenEnded[Re
                                               SELECTFROM 'a'[RentalCase]*'b'[R

                                                       (TO MAINTAIN  -(sessionDroppedoff
                                                 (MAINTAINING -(sessionDroppedoffCar~;'_S
                                             PICK a,b FROM (rentalHasBeenStarted~ /\ -rent
                                             THEN INSERT INTO rcAssignedCar[RentalCase*Car
                                                   SELECTFROM 'a'[RentalCase]*'b'[Car]

                                                       (TO MAINTAIN  -(sessionDroppedoffCar~;'_
                                           (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESS
                                           NEW x:RentalCase;
                                             ALL of ALL of INSERT INTO rentalHasBeenStarted[Ren
                                                            SELECTFROM 'a'[RentalCase]*'b'[Car]

                                                           (TO MAINTAIN  -(sessionDroppedoffCar
                                                          DELETE FROM rentalHasBeenEnded[Renta
                                                           SELECTFROM 'a'[RentalCase]*'b'[Car]

                                                                   (TO MAINTAIN  -(sessionDroppedoffCar
                                                             (MAINTAINING -(sessionDroppedoffCar~;'_SESS
                                                             INSERT INTO rcAssignedCar[RentalCase*Car]
                                                              SELECTFROM 'x'[RentalCase]*'a'[RentalCase]

                                                                   (TO MAINTAIN  -(sessionDroppedoffCar~;'_SES
                                                           (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SE
                                                         (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESS
                                                (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];se
                                      (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDropped
                                      NEW x:RentalCase;
                                        ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
                                                SELECTFROM 'x'[RentalCase]*((sessionDroppedoffCar~;'_SESSION'

                                                  (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sess
                                                 ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCa
```

```
                                                THEN ALL of INSERT INTO rentalHasBeenStarted[Ren
                                                             SELECTFROM 'a'[RentalCase]*'b'[Rent

                                                          (TO MAINTAIN  -(sessionDroppedoffCar
                                                          DELETE FROM rentalHasBeenEnded[Renta
                                                           SELECTFROM 'a'[RentalCase]*'b'[Rent

                                                                (TO MAINTAIN  -(sessionDroppedoffCar
                                                     (MAINTAINING -(sessionDroppedoffCar~;'_SESS
                                                PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalH
                                                THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                                                      SELECTFROM 'a'[RentalCase]*'b'[Car]

                                                           (TO MAINTAIN  -(sessionDroppedoffCar~;'_SES
                                                (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION
                                                NEW x:RentalCase;
                                                  ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Re
                                                          SELECTFROM 'x'[RentalCase]*((sessionDroppedof

                                                         (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSIO
                                                         DELETE FROM rentalHasBeenEnded[RentalCase*Rent
                                                          SELECTFROM 'x'[RentalCase]*((sessionDroppedof

                                                         (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSIO
                                                         INSERT INTO rcAssignedCar[RentalCase*Car]
                                                          SELECTFROM 'x'[RentalCase]*'x'[RentalCase]*((

                                                         (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSIO
                                                   (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSI
                                                  (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION
                                          (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessi
                                    (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDropp
                                 (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDropped
                          (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar)
                          ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionDroppedo
                                 THEN BLOCK
                                      (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handling)
                                 PICK a,b FROM V[RentalCase*SESSION];('_SESSION'[SESSION];sessionDropped
                                 THEN ALL of INSERT INTO Isn{detyp=RentalCase}
                                              SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                            (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rc
                                           ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                                                        THEN INSERT INTO rentalIsPaidQ[RentalCase*Yes
                                                              SELECTFROM 'a'[RentalCase]*'b'[YesNoAns

                                                           (TO MAINTAIN  -('_SESSION'[SESSION];sess
                                                         PICK a,b FROM rentalIsPaidQ~;('a'[RentalCase]
                                                         THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                                                      THEN BLOCK
```

```
                                                                (CANNOT CHANGE 'Yes'[
                                                              PICK a,b FROM 'Yes'[YesNoA
                                                              THEN INSERT INTO rentalIsP
                                                                    SELECTFROM 'b'[Renta

                                                                        (TO MAINTAIN  -('_SES
                                                             (MAINTAINING -('_SESSION'[SESSION
                                                             NEW x:YesNoAnswer;
                                                               ALL of BLOCK
                                                                       (CANNOT CHANGE 'Yes'[Yes
                                                                       INSERT INTO rentalIsPaid
                                                                        SELECTFROM 'b'[RentalCa

                                                                       (TO MAINTAIN  -('_SESSIO
                                                               (MAINTAINING -('_SESSION'[SESSI
                                                             (MAINTAINING -('_SESSION'[SESSION
                                                          (MAINTAINING -('_SESSION'[SESSION];sessi
                                                 (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                                                 NEW x:YesNoAnswer;
                                                   ALL of INSERT INTO rentalIsPaidQ[RentalCase*YesNoA
                                                           SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

                                                                  (TO MAINTAIN  -('_SESSION'[SESSION];session
                                                                  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
                                                                               THEN BLOCK
                                                                                    (CANNOT CHANGE 'Yes'[Yes
                                                                               PICK a,b FROM 'Yes'[YesNoAnsw
                                                                               THEN INSERT INTO rentalIsPaid
                                                                                     SELECTFROM 'b'[RentalCa

                                                                                   (TO MAINTAIN  -('_SESSIO
                                                                        (MAINTAINING -('_SESSION'[SESSION];s
                                                                        NEW x:YesNoAnswer;
                                                                          ALL of BLOCK
                                                                                  (CANNOT CHANGE 'Yes'[YesNoA
                                                                                  INSERT INTO rentalIsPaidQ[R
                                                                                   SELECTFROM 'b'[RentalCase]

                                                                                  (TO MAINTAIN  -('_SESSION'[
                                                                    (MAINTAINING -('_SESSION'[SESSION]
                                                                  (MAINTAINING -('_SESSION'[SESSION];s
                                                               (MAINTAINING -('_SESSION'[SESSION];sessionD
                                                            (MAINTAINING -('_SESSION'[SESSION];sessionDroppedo
                                                         (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoff
                                                (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcA
                                       (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigned
                             (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rent
(MAINTAINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize today's date)
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserReques
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserReques
```

```
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]
```

<------End Derivation --

```
ON DELETE Delta FROM Isn{detyp=SESSION} EXECUTE    -- (ECA rule 174)
ALL of DELETE FROM sessionNewUserRC[SESSION*RentalCase]
        SELECTFROM (-I[SESSION] /\ sessionNewUserRC;sessionNewUserRC~);sessionNe

       (TO MAINTAIN  -(sessionNewUserRC;sessionNewUserRC~) \/ I[SESSION] FROM IN
       DELETE FROM sessionUser[SESSION*Person]
        SELECTFROM Delta;V[SESSION*Person]

       DELETE FROM sessionToday[SESSION*Date]
        SELECTFROM Delta;V[SESSION*Date]

       DELETE FROM sessionBranch[SESSION*Branch]
        SELECTFROM Delta;V[SESSION*Branch]

       DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM Delta;V[SESSION*RentalCase]

       DELETE FROM sessionPickupPerson[SESSION*Person]
        SELECTFROM Delta;V[SESSION*Person]

       DELETE FROM sessionDroppedoffCar[SESSION*Car]
        SELECTFROM Delta;V[SESSION*Car]

       DELETE FROM sessionDroppedoffPerson[SESSION*Person]
        SELECTFROM Delta;V[SESSION*Person]

(MAINTAINING -(sessionNewUserRC;sessionNewUserRC~) \/ I[SESSION] FROM INJ sessio
```

------ Derivation ----->

```
ALL of DELETE FROM sessionNewUserRC[SESSION*RentalCase]
        SELECTFROM (-I[SESSION] /\ sessionNewUserRC;sessionNewUserRC~);sessionNewUser
```

```
(TO MAINTAIN  -(sessionNewUserRC;sessionNewUserRC~) \/ I[SESSION] FROM INJ ses
DELETE FROM sessionUser[SESSION*Person]
 SELECTFROM Delta;V[SESSION*Person]

DELETE FROM sessionToday[SESSION*Date]
 SELECTFROM Delta;V[SESSION*Date]

DELETE FROM sessionBranch[SESSION*Branch]
 SELECTFROM Delta;V[SESSION*Branch]

DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
 SELECTFROM Delta;V[SESSION*RentalCase]

DELETE FROM sessionPickupPerson[SESSION*Person]
 SELECTFROM Delta;V[SESSION*Person]

DELETE FROM sessionDroppedoffCar[SESSION*Car]
 SELECTFROM Delta;V[SESSION*Car]

DELETE FROM sessionDroppedoffPerson[SESSION*Person]
 SELECTFROM Delta;V[SESSION*Person]

(MAINTAINING -(sessionNewUserRC;sessionNewUserRC~) \/ I[SESSION] FROM INJ sessionNewU
```

<------End Derivation --

# Glossary

**Amount** a sum of money, expressed in 'Euro'.. 4

**Branch** an office of a car rental company at a specific location.. 3

**Brand** the brand of a car.. 4

**CarRentalCompany** a company whose business is renting cars.. 3

**CarType** the brand and model of a car.. 4

**DrivingLicense** the identification number of a (valid) driving license.. 9

**Location** a city (at which a branch office is located).. 4

**Model** the model of a car.. 4

**RentalCase** an information object that contains all information about a rental, including contractual items, rental items, billing items etc.. 4

**YesNoAnswer** the answer to a question that must be 'Yes' or 'No'.. 11