

# Functional Specification of EURent

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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<sup>1</sup> 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<sup>2</sup>. 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.

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<sup>1</sup>This document was generated at 7-6-2014 on 15:55:32, using Ampersand v3.0.2.1357, build time: 06-Jun-14 14:50:03 UTC.

<sup>2</sup>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 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 not 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 *P2:2* what cars will be dropped off at what branch.

**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 *P3.1* payment thereof, must be administered.

**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, *P3.2* allowing amongst others that his driving license is checked.

**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 *P3.3* number of such a license will be registered. Registration must imply that the license is valid.

**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 Rental Billing

This process models the work for the car rental company, starting when the car has been dropped off, and leading up to the result that the bill is made. This (fully automated) process consists of the following parts: *Result: Bill presented*

1. Computing the basic charge;
2. Computing the penalty charge for the use of the car beyond the contractual end date;
3. Computing the penalty charge in case the car is dropped off at a location other than contractually agreed;
4. Computing the total of these charged.

In order to compute the basic rental charge, the period of the actual rental must be known. *P4:3*

### **Agreement 54:**

The first component of the rental charge is the rental basic charge. *P4.3*

**Agreement 55:** Rental contracts may specify an amount for the basic charge

In order to compute the penalty charge for exceeding the contracted rental duration, the period of the actual rental must be known. *P4:4*

### **Agreement 56:**

The second component of the rental charge is the penalty charge (for exceeding the contracted rental duration). *P4.4*

**Agreement 57:** Rental contracts may specify an amount for the penalty charge for late drop-offs

In order to compute the penalty charge for dropping of a car at another location than was contractually agreed, the amount that will be charged as a penalty for this must be known. *P4.5*

**Agreement 58:** There is a penalty charge for cars that are dropped-off at another branch than agreed.

Phrases that can be made are for instance:

The penalty charge for dropping off a car at a branch that is AMS-DHG km away from the contracted drop-off branch, is 61 Euros.

The penalty charge for dropping off a car at a branch that is AMS-RTD km away from the contracted drop-off branch, is 67 Euros.

The penalty charge for dropping off a car at a branch that is AMS-UTR km away from the contracted drop-off branch, is 38 Euros.

The third component of the rental charge is the penalty for dropping off a rented car another location than was contractually agreed. *P4.5*

**Agreement 59:** Rental contracts may specify an amount for the penalty charge for late drop-offs

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

In order for a renter/driver to pay for a rental, the total amount (rental charge) must be known.

**Agreement 61:**

The period of the actual rental is the difference between the date of the drop-off and the date of the pick-up of the rented car, plus one (so that if the drop-off date and the pick-up date are the same, the period is 1 day). *P4.3*

**Agreement 62:** The number of days that a rental has lasted is one more than the difference between the date that the rented car has been dropped off, and the date that the rented car was picked up.

The basic rental charge is the product of the period of the actual rental times the daily tariff that is valid for the type of car that was rented. *P4.3*

**Agreement 63:** The basic charge for a rental is the number of days the rental has lasted multiplied with the daily tariff for the type of car that was rented.

The excess period of the rental is zero, unless the drop-off date exceeds the contracted end date, in which case the period is the number of days between these two. *P4.4*

**Agreement 64:** The number of days in the excess period of a rental is zero, or the difference between the date that the rented car has been dropped off, and the contracted end date, whichever is more.

The penalty charge (for exceeding the contracted rental duration) is basic rental charge is the product of the excess period of the rental times the excess charge per day for the type of car that was rented. *P4.4*

**Agreement 65:** The penalty charge for a rental is the number of days in the excess period of the rental, multiplied with the excess tariff.

The penalty charge for dropping off a rented car another location than was contractually agreed is an amount that depends on the distance between the branches. *P4.5*

**Agreement 66:** The penalty charge for a drop-off at another location than the contracted one, is the number of kilometres between the actual and contracted drop-off locations, multiplied with the location penalty tariff.

In order for a rental case to have the property 'rental has been promised', the total amount that the renter has to pay must be computed. This total amount consists of three parts: *P4:2-5*

1. the basic rental charge,
2. the penalty charge when the car is returned after the contracted drop-off date, and
3. a penalty charge in case the car is dropped off at a different branch than contractually agreed.

## 2.7 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*

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

**Agreement 68:** Payments for rental contracts need to be accepted (or declined).

**Agreement 69:** Payment for a rental may only be accepted after payment is requested.

## 2.8 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 71:** When a rental has ended, the rented car has been dropped off and the rental has been paid.

## 2.9 Enforcing maximum rental duration

### 2.10 Compute total rental charge

### 2.11 Compute number of regular days (period)

### 2.12 Compute tarified (regular or excess) charge

### 2.13 Compute number of excess days (period)

### 2.14 Distance computations

**Agreement 85:** For all combinations of (different) branches, the distance between them is known.

## 2.15 Developer rules

The current prototype generator tooling requires that every ROLE has a rule to maintain. Since we need the ROLE 'Developer' just for the general overview, we must create a dummy rule that is 'maintained' by the 'Developer' role. This rule can be removed when the prototype generator tooling no longer has this requirement.

## 2.16 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 87:** Every session must have a value for 'today'

## 2.17 Computing Projected Costs

## 2.18 New Rental Car Handling of User Interface

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).

## 2.19 New Rental Handling of Branch Office Interface

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 the 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.

## 2.20 Drop-off (Car) Handling of Branch Office Interface

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 100:** 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	×			
Rental period computation	×			
Basic charge computation	×			
Excess period computation	×			
Excess charge computation	×			
Location penalty computation	×			
Requesting payment	×			
Ending Rentals	×			
Trigger interval computation	×			
Trigger rental charge computation	×			
Compute rental charge	×			
Trigger rental period computation	×			



Compute number of days in period	×		
Trigger regular charge computation	×		
Trigger excess charge computation	×		
Compute charge based on number of days		×	
Trigger excess period computation		×	
Compute number of excess period days		×	
Dummy rule			√
Initialize today's date		×	
Trigger projected rental period computation		×	
projectedRentalPeriod computation		×	
Trigger projected basic charge computation		×	
projectedBasicCharge computation		×	
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, Person, DistanceBetweenLocations, CompRentalCharge, DateDifferencePlusOne, CompTariffedCharge, DateDifference, and Distance remain without a purpose.

The purpose of relations *maxRentalDuration*, *rcUserRequestedQ*, *rcBranchRequestedQ*, *rcCarHasBeenDroppedOff*, *rcMaxRentalDuration*, *dateIntervalCompTrigger*, *arg1*, *arg2*, *arg3*, *computedRentalCharge*, *earliestDate*, *latestDate*, *computedRentalPeriod*, *ctcNrOfDays*, *ctcDailyAmount*, *computedTariffedCharge*, *firstDate*, *lastDate*, *computedNrOfExcessDays*, *distbranch*, *distance*, *projectedRentalPeriod*, *projectedBasicCharge*, *sessionUser*, *sessionToday*, *sessionNewUserRC*, *sessionBranch*, *sessionNewBranchRC*, and *sessionDroppedoffCar* is not documented.

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

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

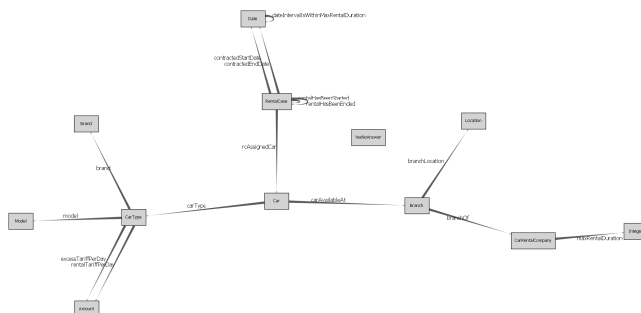


Figure 3.1: Concept diagram of the rules in EU-RentDiagnosisConceptualDiagram

Figure 3.2 shows a conceptual diagram with all relations declared in ‘Rental Contracts’,

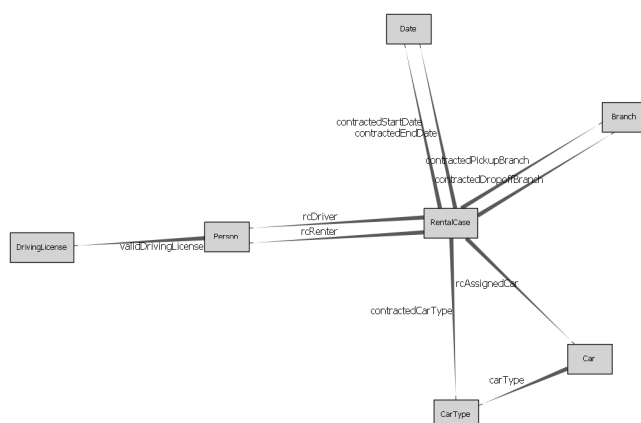


Figure 3.2: Concept diagram of the rules in Rental ContractsDiagnosisConceptualDiagram

On line numbers 139, 191, 228, 239, 251, 347, and 367 of file `.\EURent Ontology.adl` and on line number 143 of file `.\EURent Computations.adl` rules are defined without documenting their purpose. On line numbers 214 and 331 of file `.\EURent Ontology.adl`, on line number 28 of file `.\EURent Interfaces.adl`, and on line numbers 164, 176, 184, 253, 259, and 266 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 9, 23, 27, 43, 56, 60, 70, 82, 86, 94, 103, 119, and 129 of file `.\EURent Computations.adl`, on line numbers 122, 130, 136, and 143 of file `.\EURent Interfaces.adl`, on line numbers 79 and 85 of file `.\EURent RENTER interface.adl`, and on line numbers 154, 158, and 170 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 reference
EU-Rent	10	7	70%	4	2
Rental Contracts	9	8	88%	2	1
Promising Rentals	3	1	33%	3	1
Starting Rentals	3	2	66%	5	2
Dropping off Cars	4	1	25%	3	0
Rental Billing	8	7	87%	6	6
Paying Rentals	1	0	0%	1	0
Ending Rentals	1	1	100%	2	0
Enforcing maximum rental duration	2	0	0%	1	0
Compute total rental charge	4	0	0%	3	0
Compute number of regular days (period)	3	0	0%	3	0
Compute tarified (regular or excess) charge	3	0	0%	4	0
Compute number of excess days (period)	3	0	0%	3	0
Distance computations	2	0	0%	1	0
Developer rules	0	0	-	1	0
Session Initialization	0	0	-	1	0
Computing Projected Costs	2	0	0%	4	0
New Rental Car Handling of User Interface	0	0	-	2	0
New Rental Handling of Branch Office Interface	0	0	-	6	0
Drop-off (Car) Handling of Branch Office Interface	0	0	-	4	0
Entire context	66	27	40%	59	12

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
Rental Billing	UNI rentalPeriod::RentalCase*Integer, UNI rentalBasi
Paying Rentals	Rental payment amount is known
Ending Rentals	Ended Rentals
Enforcing maximum rental duration	UNI rcMaxRentalDuration::RentalCase*Integer
Compute total rental charge	Uniqueness of rental charge computations, UNI arg1::C
Compute number of regular days (period)	Uniqueness of period computations, UNI earliestDate::C
Compute tarified (regular or excess) charge	Uniqueness of tarified charge computations, UNI ctcN
Compute number of excess days (period)	Uniqueness of period computations, UNI firstDate::Da
Distance computations	Completeness of distance table, TOT distbranch::Dista
Computing Projected Costs	UNI projectedRentalPeriod::RentalCase*Integer, UNI
Drop-off (Car) Handling of Branch Office Interface	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.

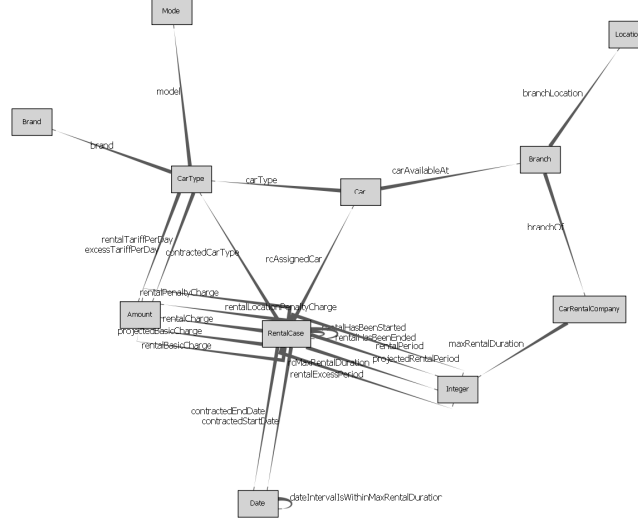


Figure 4.1: Concept diagram of EU-Rent

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

$$\text{branchOf} : \text{Branch} \rightarrow \text{CarRentalCompany} \quad (4.1)$$

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

$$\text{branchLocation} : \text{Branch} \rightarrow \text{Location} \quad (4.2)$$

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

$$carAvailableAt : Car \times Branch \quad (4.3)$$

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

$$carType : Car \rightarrow CarType \quad (4.4)$$

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

$$brand : CarType \rightarrow Brand \quad (4.5)$$

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

$$model : CarType \rightarrow Model \quad (4.6)$$

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

$$rentalTariffPerDay : CarType \rightarrow Amount \quad (4.7)$$

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

$$excessTariffPerDay : CarType \rightarrow Amount \quad (4.8)$$

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

The following relation has been defined

$$\text{maxRentalDuration} : \text{CarRentalCompany} \times \text{Integer} \quad (4.9)$$

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

$$\text{dateIntervalIsWithinMaxRentalDuration} : \text{Date} \times \text{Date} \quad (4.10)$$

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

$$\text{rcAssignedCar} : \text{RentalCase} \times \text{Car} \quad (4.11)$$

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

$$\text{rentalHasBeenStarted} : \text{RentalCase} \times \text{RentalCase} \quad (4.12)$$

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

$$rentalHasBeenEnded : RentalCase \times RentalCase \quad (4.13)$$

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

$$contractedStartDate : RentalCase \times Date \quad (4.14)$$

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

$$contractedEndDate : RentalCase \times Date \quad (4.15)$$

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. Therefore the following requirement has been defined in section 2.1 p. 10: The system is limited to branches that are part of EU-Rent. This is formalized - using relations 5.9 - as

$$branchOf \vdash branchOf; tEU - Rent' \quad (4.16)$$

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. 10: All cars must either be rented, or in stock at one of the branches. This is formalized - using relations 5.12, 4.12, 4.13, 5.14 - as

$$I_{Car} \vdash rcAssignedCar \sim; (rentalHasBeenStarted \cap \overline{rentalHasBeenEnded}); rcAssignedCar \cup carAvailableAt; \quad (4.17)$$

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.

Therefore the following requirement has been defined in section 2.1 p. 11: The difference between the contracted end date and start date may not exceed the maximum duration for rentals. This is formalized - using relations 5.3, 5.4, 4.10 - as

$$contractedStartDate \sim; contractedEndDate \vdash dateIntervalsWithinMaxRentalDuration \quad (4.18)$$

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. 11: A Yes/No answer may only take the values 'Yes' or 'No'. This is formalized - using relations - as

$$I_{YesNoAnswer} \vdash tYes' \cup tNo' \quad (4.19)$$

## 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.

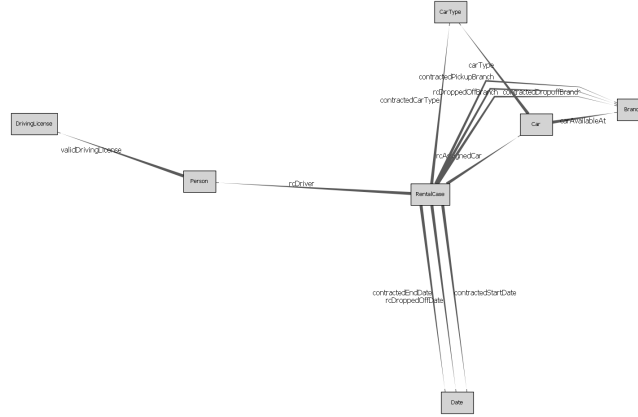


Figure 4.2: Concept diagram of Rental Contracts

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.

For this purpose, the following univalent relation has been defined

$$\text{contractedStartDate} : \text{RentalCase} \times \text{Date} \quad (4.20)$$

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.

For this purpose, the following univalent relation has been defined

$$\text{contractedEndDate} : \text{RentalCase} \times \text{Date} \quad (4.21)$$

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.

For this purpose, the following univalent relation has been defined

$$\textit{contractedCarType} \quad : \quad \textit{RentalCase} \times \textit{CarType} \quad (4.22)$$

Rental contracts may specify the car type of the rental.

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

For this purpose, the following univalent relation has been defined

$$\textit{contractedPickupBranch} \quad : \quad \textit{RentalCase} \times \textit{Branch} \quad (4.23)$$

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 P2:2  
what cars will be dropped off at what branch.

For this purpose, the following univalent relation has been defined

$$\textit{contractedDropoffBranch} \quad : \quad \textit{RentalCase} \times \textit{Branch} \quad (4.24)$$

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 P3.1  
payment thereof, must be administered.

For this purpose, the following univalent relation has been defined

$$\textit{rcRenter} \quad : \quad \textit{RentalCase} \times \textit{Person} \quad (4.25)$$

The person who rents the car is called the renter.

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

For this purpose, the following univalent relation has been defined

$$\textit{rcDriver} \quad : \quad \textit{RentalCase} \times \textit{Person} \quad (4.26)$$

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 P3.3  
number of such a license will be registered. Registration must imply that  
the license is valid.

For this purpose, the following relation has been defined

$$\textit{validDrivingLicense} \quad : \quad \textit{Person} \times \textit{DrivingLicense} \quad (4.27)$$

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

$$\textit{rcAssignedCar} \quad : \quad \textit{RentalCase} \times \textit{Car} \quad (4.28)$$

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

$$carType : Car \rightarrow CarType \quad (4.29)$$

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. 12: Drivers must have a valid driving license. This is formalized - using relations 5.6, 4.27 - as P3.3

$$rcDriver \vdash rcDriver; (I_{Person} \cap validDrivingLicense; validDrivingLicense^\sim) \quad (4.30)$$

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

This is formalized - using relations 5.12, 5.5, 5.15 - as

$$rcAssignedCar \vdash contractedCarType; carType^\sim \quad (4.31)$$

## 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 Compute max rental duration Starting the rental Auto fill in renter in rental contract Dropping off Cars Rental period computation Basic charge computation Excess period computation Excess charge computation Location penalty computation Requesting payment Ending Rentals Trigger interval computation Trigger rental charge computation Compute rental charge Trigger rental period computation Compute number of days in period Trigger regular charge computation Trigger excess charge computation Compute charge based on number of days Trigger excess period computation Compute number of excess period days Initialize today's date Trigger projected rental period computation projectedRentalPeriod computation Trigger projected basic charge computation projectedBasicCharge computation Fill in default renter 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 Return cars to drop-off branch Drop-off date is date of car return
Developer	Dummy rule
User	Submit rental request
Branch	Complete branch rental request Hand the car keys to the driver Car drop-off handling

## 5.1 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).

Figure ?? shows the process model.

Figure 5.1: Process model of Promising RentalstxtProcess

The conceptual diagram of figure ?? 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.

$$\text{contractedPickupBranch} : \text{RentalCase} \times \text{Branch} \quad (5.1)$$

$$\text{contractedDropoffBranch} : \text{RentalCase} \times \text{Branch} \quad (5.2)$$

$$\text{contractedStartDate} : \text{RentalCase} \times \text{Date} \quad (5.3)$$

$$\text{contractedEndDate} : \text{RentalCase} \times \text{Date} \quad (5.4)$$

$$\text{contractedCarType} : \text{RentalCase} \times \text{CarType} \quad (5.5)$$

$$\text{rcDriver} : \text{RentalCase} \times \text{Person} \quad (5.6)$$

$$\text{rcRenter} : \text{RentalCase} \times \text{Person} \quad (5.7)$$

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

Activities that are defined by this rule are finished when:

$$I_{\text{RentalCase}} \cap (\text{rcUserRequestedQ};'tYes'; \text{rcUserRequestedQ} \sim \text{rcBranchRequestedQ};'tYes'; \text{rcBranchRequestedQ}) \quad (5.8)$$

This corresponds to ‘Promising rental requests’ (2.3 op pg. 13).

**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:

$$\text{rentalHasBeenPromised} \vdash (\text{rcUserRequestedQ};'tYes'; \text{rcUserRequestedQ} \sim \text{rcBranchRequestedQ};'tYes'; \text{rcBranchRequestedQ}) \quad (5.9)$$

**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 5.11, the following two relations are introduced.

$$\text{branchOf} : \text{Branch} \rightarrow \text{CarRentalCompany} \quad (5.10)$$

$$\text{maxRentalDuration} : \text{CarRentalCompany} \times \text{Integer} \quad (5.11)$$

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

Activities that are defined by this rule are finished when:

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

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 ?? shows the process model.

Figure 5.3: Process model of Starting RentalstxtProcess

The conceptual diagram of figure ?? 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 (5.12):

$$rcAssignedCar : RentalCase \times Car \quad (5.13)$$

We also use definitions 5.1 ( $contractedPickupBranch$ ), ?? ( $rentalHasBeenPromised$ ), 4.12 ( $rentalHasBeenStarted$ ), and ?? ( $rcKeysHandedOverQ$ ) to formalize requirement 2.4 (page 14):

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rentalHasBeenPromised \cap rcAssignedCar; rcAssignedCar \sim \cap rcKeysHandedOverQ; tYes'; r \quad (5.14)$$

**Started rentals** We use definitions 5.12 ( $rcAssignedCar$ ), ?? ( $rentalHasBeenPromised$ ), 4.12 ( $rentalHasBeenStarted$ ), and ?? ( $rcKeysHandedOverQ$ ).

This means:

$$rentalHasBeenStarted \vdash rentalHasBeenPromised \cap rcAssignedCar; rcAssignedCar \smile \cap rcKeysHandedOverQ \quad (5.15)$$

**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 5.16, the following two relations are introduced.

$$carAvailableAt : Car \times Branch \quad (5.16)$$

$$carType : Car \rightarrow CarType \quad (5.17)$$

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

This means:

$$contractedPickupBranch \smile; (I_{RentalCase} \cap rentalHasBeenPromised \cap (rcKeysHandedOverQ; 'tYes'; rcKey \quad (5.18)$$

This corresponds to the requirement on page 14:

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:

$$I_{RentalCase} \cap rcKeysHandedOverQ; 'tYes'; rcKeysHandedOverQ \smile \vdash rcDriver; rcDriver \smile \quad (5.19)$$

**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:

$$I_{RentalCase} \cap rcKeysHandedOverQ; 'tYes'; rcKeysHandedOverQ^{\sim} \vdash rcRenter; rcRenter^{\sim} \quad (5.20)$$

### 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 ?? shows the process model.

Figure 5.5: Process model of Dropping off CarstxtProcess

The conceptual diagram of figure ?? 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:

$$I_{RentalCase} \cap rentalHasBeenStarted \cap rcDroppedOffCar; rcDroppedOffCar^{\sim} \cap rcDroppedOffDate; rcDroppedOffBranch \quad (5.21)$$

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

$$rcCarHasBeenDroppedOff \vdash rentalHasBeenStarted \cap rcDroppedOffCar; rcDroppedOffCar^{\sim} \cap rcDroppedOffDate; rcDroppedOffBranch \quad (5.22)$$

**Dropped-off car type integrity** We use definitions 5.12 ( $rcAssignedCar$ ) and ?? ( $rcDroppedOffCar$ ). This means:

$$rcDroppedOffCar \vdash rcAssignedCar \quad (5.23)$$

## 5.4 Rental Billing

This process models the work for the car rental company, starting when the car has been dropped off, and leading up to the result that the bill is made. This (fully automated) process consists of the following parts:

*Result: Bill presented*

1. Computing the basic charge;
2. Computing the penalty charge for the use of the car beyond the contractual end date;
3. Computing the penalty charge in case the car is dropped off at a location other than contractually agreed;
4. Computing the total of these charged.

Figure 5.9 shows the process model.

Figure 5.7: Process model of Rental Billing

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

Figure 5.8: Basic sentences of Rental Billing

**Rental period computation** The period of the actual rental is the difference between the date of the drop-off and the date of the pick-up of the rented car, plus one (so that if the drop-off date and the pick-up date are the same, the period is 1 day). *P4.3*

We use definitions 5.3 (*contractedStartDate*), ?? (*rcDroppedOffDate*), ?? (*rentalPeriod*), ?? (*earliestDate*), ?? (*latestDate*), and ?? (*computedRentalPeriod*).

Activities that are defined by this rule are finished when:

$$(\text{contractedStartDate}; \text{earliestDate} \sim \cap \text{rcDroppedOffDate}; \text{latestDate} \sim); \text{computedRentalPeriod} \vdash \text{rentalPeriod} \quad (5.24)$$

**Basic charge computation** The basic rental charge is the product of the period of the actual rental times the daily tariff that is valid for the type of car that was rented. *P4.3*

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

In order to formalize this, a function *rentalTariffPerDay* is introduced (5.23):

$$rentalTariffPerDay : CarType \rightarrow Amount \quad (5.25)$$

We also use definitions 5.15 (*carType*), 5.12 (*rcAssignedCar*), ?? (*rentalPeriod*), ?? (*rentalBasicCharge*), ?? (*ctcNrOfDays*), ?? (*ctcDailyAmount*), and ?? (*computedTariffedCharge*) to formalize requirement 2.7 (page 18):

Activities that are defined by this rule are finished when:

$$(rentalPeriod; ctcNrOfDays \sim \cap rcAssignedCar; carType; rentalTariffPerDay; ctcDailyAmount \sim); compute \quad (5.26)$$

**Excess period computation** The excess period of the rental is zero, unless P4.4  
the drop-off date exceeds the contracted end date, in which case the period is the number of days between these two.

We use definitions 5.4 (*contractedEndDate*), ?? (*rcDroppedOffDate*), ?? (*rentalExcessPeriod*), ?? (*firstDate*), ?? (*lastDate*), and ?? (*computedNrOfExcessDays*).

Activities that are defined by this rule are finished when:

$$(rcDroppedOffDate; lastDate \sim \cap contractedEndDate; firstDate \sim); computedNrOfExcessDays \vdash rentalExce. \quad (5.27)$$

**Excess charge computation** The penalty charge (for exceeding the contracted P4.4  
rental duration) is basic rental charge is the product of the excess period of the rental times the excess charge per day for the type of car that was rented.

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.

In order to formalize this, a function *excessTariffPerDay* is introduced (5.26):

$$excessTariffPerDay : CarType \rightarrow Amount \quad (5.28)$$

We also use definitions 5.15 (*carType*), 5.12 (*rcAssignedCar*), ?? (*rentalExcessPeriod*), ?? (*rentalPenaltyCharge*), ?? (*ctcNrOfDays*), ?? (*ctcDailyAmount*), and ?? (*computedTariffedCharge*) to formalize requirement 2.7 (page 18):

Activities that are defined by this rule are finished when:

$$(rentalExcessPeriod; ctcNrOfDays \sim \cap rcAssignedCar; carType; excessTariffPerDay; ctcDailyAmount \sim); c \quad (5.29)$$

**Location penalty computation** The penalty charge for dropping off a rented car another location than was contractually agreed is an amount that depends on the distance between the branches. P4.5

We use definitions 5.2 (*contractedDropoffBranch*), ?? (*rcDroppedOffBranch*), ?? (*computedLocationPenaltyCharge*), ?? (*rentalLocationPenaltyCharge*), and ?? (*distbranch*).

Activities that are defined by this rule are finished when:

$$(rcDroppedOffBranch; distbranch \smile \cap contractedDropoffBranch; distbranch \smile); computedLocationPenaltyCharge \quad (5.30)$$

**Requesting payment** In order for a rental case to have the property 'rental has been promised', the total amount that the renter has to pay must be computed. This total amount consists of three parts: P4:2-5

1. the basic rental charge,
2. the penalty charge when the car is returned after the contracted drop-off date, and
3. a penalty charge in case the car is dropped off at a different branch than contractually agreed.

We use definitions ?? (*rentalBasicCharge*), ?? (*rentalPenaltyCharge*), ?? (*rentalLocationPenaltyCharge*), ?? (*rentalCharge*), ?? (*arg1*), ?? (*arg2*), ?? (*arg3*), and ?? (*computedRentalCharge*).

Activities that are defined by this rule are finished when:

$$(rentalBasicCharge; arg1 \smile \cap rentalPenaltyCharge; arg2 \smile \cap rentalLocationPenaltyCharge; arg3 \smile); computedRentalCharge \quad (5.31)$$

## 5.5 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 ?? shows the process model.

Figure 5.9: Process model of Paying RentalstxtProcess

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

Figure 5.10: Basic sentences of Paying RentalsConceptualProcess

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

$$I_{RentalCase} \cap rentalIsPaidQ; 'tYes'; rentalIsPaidQ^\sim \vdash paymentHasBeenRequested \quad (5.32)$$

## 5.6 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 ?? shows the process model.

Figure 5.11: Process model of Ending RentalstxtProcess

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

Figure 5.12: Basic sentences of Ending RentalsConceptualProcess

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

$$I_{RentalCase} \cap rcCarHasBeenDroppedOff \cap rentalIsPaidQ; 'tYes'; rentalIsPaidQ^\sim \vdash rentalHasBeenEnded \quad (5.33)$$

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

$$rentalHasBeenEnded \vdash rcCarHasBeenDroppedOff \cap rentalIsPaidQ; 'tYes'; rentalIsPaidQ^\sim \quad (5.34)$$



Figure 5.13: Process model of Enforcing maximum rental durationtxtProcess

## 5.7 Enforcing maximum rental duration

Figure ?? shows the process model.

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

Figure 5.14: Basic sentences of Enforcing maximum rental durationConceptual-Process

**Trigger interval computation** We use definitions 5.3 (*contractedStartDate*), 5.4 (*contractedEndDate*), ?? (*rcMaxRentalDuration*), and ?? (*dateIntervalCompTrigger*).

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap contractedStartDate; contractedStartDate^{\sim} \cap contractedEndDate; contractedEndDate^{\sim} \cap rcMaxRentalDuration \quad (5.35)$$

## 5.8 Compute total rental charge

Figure ?? shows the process model.

Figure 5.15: Process model of Compute total rental chargetxtProcess

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

**Uniqueness of rental charge computations** We use definitions ?? (*arg1*), ?? (*arg2*), and ?? (*arg3*).

This means:

$$arg1; arg1^{\sim} \cap arg2; arg2^{\sim} \cap arg3; arg3^{\sim} \vdash I_{CompRentalCharge} \quad (5.36)$$

**Trigger rental charge computation** We use definitions ?? (*rentalBasicCharge*), ?? (*rentalPenaltyCharge*), ?? (*rentalLocationPenaltyCharge*), ?? (*arg1*), ?? (*arg2*), and ?? (*arg3*).

Activities that are defined by this rule are finished when:

Figure 5.16: Basic sentences of Compute total rental chargeConceptualProcess

$$I_{RentalCase} \cap rentalBasicCharge; rentalBasicCharge \sim \cap rentalPenaltyCharge; rentalPenaltyCharge \sim \cap ren \quad (5.37)$$

**Compute rental charge** We use definitions ?? (*arg1* ), ?? (*arg2* ), ?? (*arg3* ), and ?? (*computedRentalCharge* ).

Activities that are defined by this rule are finished when:

$$I_{CompRentalCharge} \vdash computedRentalCharge; computedRentalCharge \sim \quad (5.38)$$

## 5.9 Compute number of regular days (period)

Figure ?? shows the process model.

Figure 5.17: Process model of Compute number of regular days (period)txtProcess

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

Figure 5.18: Basic sentences of Compute number of regular days (period)ConceptualProcess

**Uniqueness of period computations** We use definitions ?? (*earliestDate* ) and ?? (*latestDate* ).

This means:

$$latestDate; latestDate \sim \cap earliestDate; earliestDate \sim \vdash I_{DateDifferencePlusOne} \quad (5.39)$$

**Trigger rental period computation** We use definitions 5.3 (*contractedStartDate* ), ?? (*rcDroppedOffDate* ), ?? (*earliestDate* ), and ?? (*latestDate* ).

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap contractedStartDate; contractedStartDate \sim \cap rcDroppedOffDate; rcDroppedOffDate \sim \vdash (con \quad (5.40)$$

**Compute number of days in period** We use definitions ?? (*earliestDate* ), ?? (*latestDate* ), and ?? (*computedRentalPeriod* ). Activities that are defined by this rule are finished when:

$$I_{DateDifferencePlusOne} \vdash \text{computedRentalPeriod}; \text{computedRentalPeriod}^{\sim} \quad (5.41)$$

## 5.10 Compute tariffed (regular or excess) charge

Figure ?? shows the process model.

Figure 5.19: Process model of Compute tariffed (regular or excess) charge

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

Figure 5.20: Basic sentences of Compute tariffed (regular or excess) charge

**Uniqueness of tariffed charge computations** We use definitions ?? (*ctcNrOfDays* ) and ?? (*ctcDailyAmount* ). This means:

$$ctcNrOfDays; ctcNrOfDays^{\sim} \cap ctcDailyAmount; ctcDailyAmount^{\sim} \vdash I_{CompTariffedCharge} \quad (5.42)$$

**Trigger regular charge computation** We use definitions 5.23 (*rentalTariffPerDay* ), 5.15 (*carType* ), 5.12 (*rcAssignedCar* ), ?? (*rentalPeriod* ), ?? (*ctcNrOfDays* ), and ?? (*ctcDailyAmount* ). Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rentalPeriod; rentalPeriod^{\sim} \cap rcAssignedCar; rcAssignedCar^{\sim} \vdash (rentalPeriod; ctcNrOfDays) \quad (5.43)$$

**Trigger excess charge computation** We use definitions 5.26 (*excessTariffPerDay* ), 5.15 (*carType* ), 5.12 (*rcAssignedCar* ), ?? (*rentalExcessPeriod* ), ?? (*ctcNrOfDays* ), and ?? (*ctcDailyAmount* ). Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rentalExcessPeriod; rentalExcessPeriod^{\sim} \vdash (rentalExcessPeriod; ctcNrOfDays^{\sim} \cap rcAssignedCar) \quad (5.44)$$

**Compute charge based on number of days** We use definitions ?? (*ctcNrOfDays* ), ?? (*ctcDailyAmount* ), and ?? (*computedTariffedCharge* ).

Activities that are defined by this rule are finished when:

$$I_{CompTariffedCharge} \vdash computedTariffedCharge; computedTariffedCharge^{\sim} \quad (5.45)$$

## 5.11 Compute number of excess days (period)

Figure ?? shows the process model.

Figure 5.21: Process model of Compute number of excess days (period)txtProcess

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

Figure 5.22: Basic sentences of Compute number of excess days (period)ConceptualProcess

**Uniqueness of period computations** We use definitions ?? (*firstDate* ) and ?? (*lastDate* ).

This means:

$$firstDate; firstDate^{\sim} \cap lastDate; lastDate^{\sim} \vdash I_{DateDifference} \quad (5.46)$$

**Trigger excess period computation** We use definitions 5.4 (*contractedEndDate* ), ?? (*rcDroppedOffDate* ), ?? (*firstDate* ), and ?? (*lastDate* ).

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap contractedEndDate; contractedEndDate^{\sim} \cap rcDroppedOffDate; rcDroppedOffDate^{\sim} \vdash (cont \quad (5.47)$$

**Compute number of excess period days** We use definitions ?? (*firstDate* ), ?? (*lastDate* ), and ?? (*computedNrOfExcessDays* ).

Activities that are defined by this rule are finished when:

$$I_{DateDifference} \vdash computedNrOfExcessDays; computedNrOfExcessDays^{\sim} \quad (5.48)$$

Figure 5.23: Process model of Distance computationstxtProcess

## 5.12 Distance computations

Figure ?? shows the process model.

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

Figure 5.24: Basic sentences of Distance computationsConceptualProcess

**Completeness of distance table** We use definition ?? (distbranch).

This means:

$$\overline{I_{Branch}} \vdash distbranch^\sim; distbranch \quad (5.49)$$

## 5.13 Developer rules

Figure ?? shows the process model.

Figure 5.25: Process model of Developer rulestxtProcess

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

**Dummy rule** The current prototype generator tooling requires that every ROLE has a rule to maintain. Since we need the ROLE 'Developer' just for the general overview, we must create a dummy rule that is 'maintained' by the 'Developer' role. This rule can be removed when the prototype generator tooling no longer has this requirement.

Activities that are defined by this rule are finished when:

$$I_{SESSION} \vdash I_{SESSION} \quad (5.50)$$

## 5.14 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

Figure 5.26: Basic sentences of Developer rulesConceptualProcess

(session) variables that are appropriate for that interface, such as the User (id) or the Branch (id) can be set and/or modified.

Figure ?? shows the process model.

Figure 5.27: Process model of Session InitializationtxtProcess

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

Figure 5.28: 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 (5.43):

$$sessionToday : SESSION \times Date \quad (5.51)$$

Activities that are defined by this rule are finished when:

$$I_{SESSION} \vdash sessionToday; sessionToday^\sim \quad (5.52)$$

## 5.15 Computing Projected Costs

Figure ?? shows the process model.

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

**Trigger projected rental period computation** We use definitions 5.3 (*contractedStartDate*), 5.4 (*contractedEndDate*), ?? (*earliestDate*), and ?? (*latestDate*).

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap contractedStartDate; contractedStartDate^\sim \cap contractedEndDate; contractedEndDate^\sim \vdash (5.53)$$

Figure 5.29: Process model of Computing Projected Costs.txtProcess

Figure 5.30: Basic sentences of Computing Projected CostsConceptualProcess

**projectedRentalPeriod computation** We use definitions 5.3 (*contractedStartDate*), 5.4 (*contractedEndDate*), ?? (*earliestDate*), ?? (*latestDate*), ?? (*computedRentalPeriod*), and ?? (*projectedRentalPeriod*). Activities that are defined by this rule are finished when:

$$(contractedStartDate; earliestDate \sim \cap contractedEndDate; latestDate \sim); computedRentalPeriod \vdash projectedRentalPeriod \quad (5.54)$$

**Trigger projected basic charge computation** We use definitions 5.23 (*rentalTariffPerDay*), 5.5 (*contractedCarType*), ?? (*ctcNrOfDays*), ?? (*ctcDailyAmount*), and ?? (*projectedRentalPeriod*). Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap projectedRentalPeriod; projectedRentalPeriod \sim \cap contractedCarType; contractedCarType \sim \vdash projectedBasicCharge \quad (5.55)$$

**projectedBasicCharge computation** We use definitions 5.23 (*rentalTariffPerDay*), 5.5 (*contractedCarType*), ?? (*ctcNrOfDays*), ?? (*ctcDailyAmount*), ?? (*computedTariffedCharge*), ?? (*projectedRentalPeriod*), and ?? (*projectedBasicCharge*). Activities that are defined by this rule are finished when:

$$(projectedRentalPeriod; ctcNrOfDays \sim \cap contractedCarType; rentalTariffPerDay; ctcDailyAmount \sim); computedTariffedCharge \vdash projectedBasicCharge \quad (5.56)$$

## 5.16 New Rental Car Handling of User Interface

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 ?? shows the process model.

Figure 5.31: Process model of New Rental Car Handling of User Interface.txtProcess

Figure 5.32: Basic sentences of New Rental Car Handling of User InterfaceConceptualProcess

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

**Submit rental request** In order to formalize this, a relation session-NewUserRC is introduced (5.30):

$$sessionNewUserRC : SESSION \times RentalCase \quad (5.57)$$

Beside that, we use definition ?? ( $rcUserRequestedQ$ ) to formalize requirement ?? (page ??):

Activities that are defined by this rule are finished when:

$$'t_sSESSION'; sessionNewUserRC \vdash sessionNewUserRC; rcUserRequestedQ; 'tYes'; V_{YesNoAnswerimes} \quad (5.58)$$

**Fill in default renter** In order to formalize this, a relation sessionUser is introduced (5.32):

$$sessionUser : SESSION \times Person \quad (5.59)$$

We also use definitions 5.30 ( $sessionNewUserRC$ ), 5.7 ( $rcRenter$ ), and ?? ( $rcUserRequestedQ$ ) to formalize requirement ?? (page ??):

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rcUserRequestedQ; 'tYes'; rcUserRequestedQ^\sim \vdash rcRenter; rcRenter^\sim \quad (5.60)$$

## 5.17 New Rental Handling of Branch Office Interface

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 ?? shows the process model.

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



Figure 5.33: Process model of New Rental Handling of Branch Office InterfaceProcess

Figure 5.34: Basic sentences of New Rental Handling of Branch Office InterfaceConceptualProcess

**Complete branch rental request** In order to formalize this, a relation  $sessionNewBranchRC$  is introduced (5.34):

$$sessionNewBranchRC : SESSION \times RentalCase \quad (5.61)$$

Beside that, we use definition ?? ( $rcBranchRequestedQ$ ) to formalize requirement ?? (page ??):

Activities that are defined by this rule are finished when:

$$'t_S ESSION'; sessionNewBranchRC \vdash sessionNewBranchRC; rcBranchRequestedQ; 'tYes'; V_{YesNoAns} \quad (5.62)$$

**Hand the car keys to the driver** We use definitions 5.34 ( $sessionNewBranchRC$ ), 5.12 ( $rcAssignedCar$ ), 5.6 ( $rcDriver$ ), ?? ( $rentalHasBeenPromised$ ), and ?? ( $rcKeysHandedOverQ$ ).

Activities that are defined by this rule are finished when:

$$'t_S ESSION'; sessionNewBranchRC; (rentalHasBeenPromised \cap rcAssignedCar; rcAssignedCar^\sim) \vdash sessionNewBranchRC; rcKeysHandedOverQ; 'tYes'; V_{YesNoAns} \quad (5.63)$$

**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 5.34 ( $sessionNewBranchRC$ ), 5.12 ( $rcAssignedCar$ ), ?? ( $rcBranchRequestedQ$ ), and ?? ( $rcKeysHandedOverQ$ ).

Activities that are defined by this rule are finished when:

$$sessionNewBranchRC; (I_{RentalCase} \cap rcAssignedCar; rcAssignedCar^\sim); rcKeysHandedOverQ; 'tYes'; V_{YesNoAns} \vdash sessionNewBranchRC; rcBranchRequestedQ; 'tYes'; V_{YesNoAns} \quad (5.64)$$

**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:

$$I_{RentalCase} \cap rcBranchRequestedQ; 'tYes'; rcBranchRequestedQ^\sim \cap rcDriver; rcDriver^\sim \vdash rcRenter; rcBranchRequestedQ; 'tYes'; V_{YesNoAns} \quad (5.65)$$

**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 (5.37):

$$\text{sessionBranch} \quad : \quad \text{SESSION} \times \text{Branch} \quad (5.66)$$

We also use definitions 5.34 (`sessionNewBranchRC`), 5.1 (`contractedPickupBranch`), and ?? (`rcBranchRequestedQ`) to formalize requirement ?? (page ??):  
Activities that are defined by this rule are finished when:

$$(I_{\text{RentalCase}} \cap \text{rcBranchRequestedQ}; 'tYes'; \text{rcBranchRequestedQ}^\sim); \text{sessionNewBranchRC}^\sim; 't_S \text{ESSIO} \quad (5.67)$$

**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 5.34 (`sessionNewBranchRC`), 5.43 (`sessionToday`), 5.3 (`contractedStartDate`), and ?? (`rcBranchRequestedQ`).

Activities that are defined by this rule are finished when:

$$(I_{\text{RentalCase}} \cap \text{rcBranchRequestedQ}; 'tYes'; \text{rcBranchRequestedQ}^\sim); \text{sessionNewBranchRC}^\sim; 't_S \text{ESSIO} \quad (5.68)$$

## 5.18 Drop-off (Car) Handling of Branch Office Interface

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 ?? shows the process model.

Figure 5.35: Process model of Drop-off (Car) Handling of Branch Office Interface

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

Figure 5.36: Basic sentences of Drop-off (Car) Handling of Branch Office Interface

**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 (??):

$$sessionDroppedoffCar : SESSION \times Car \quad (5.69)$$

We also use definitions 5.14 (`carAvailableAt`), 5.12 (`rcAssignedCar`), 4.12 (`rentalHasBeenStarted`), and 4.13 (`rentalHasBeenEnded`) to formalize requirement ?? (page ??):

This means:

$$'t_S ESSION'; sessionDroppedoffCar \vdash sessionDroppedoffCar; (I_{Car} \cap rcAssignedCar^\sim; (rentalHasBeenStarted \cap rentalHasBeenEnded)) \quad (5.70)$$

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

We use definitions ?? (`sessionDroppedoffCar`), 5.12 (`rcAssignedCar`), ?? (`rcCarHasBeenDroppedOff`), ?? (`rentalIsPaidQ`), and 4.13 (`rentalHasBeenEnded`).

Activities that are defined by this rule are finished when:

$$'t_S ESSION'; sessionDroppedoffCar; rcAssignedCar^\sim; (I_{RentalCase} \cap rcCarHasBeenDroppedOff \cap \overline{rentalIsPaidQ}) \quad (5.71)$$

**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 ?? (`sessionDroppedoffCar`), 5.37 (`sessionBranch`), 5.14 (`carAvailableAt`), 5.12 (`rcAssignedCar`), and ?? (`rcDroppedOffBranch`).

Activities that are defined by this rule are finished when:

$$rcAssignedCar; (I_{Car} \cap (\overline{carAvailableAt}; carAvailableAt^\sim)); sessionDroppedoffCar^\sim; sessionBranch \vdash rcDroppedOffBranch \quad (5.72)$$

**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 ?? (`sessionDroppedoffCar`), 5.43 (`sessionToday`), 5.14 (`carAvailableAt`), 5.12 (`rcAssignedCar`), and ?? (`rcDroppedOffDate`).

Activities that are defined by this rule are finished when:

$$rcAssignedCar; (I_{Car} \cap (\overline{carAvailableAt}; carAvailableAt^\sim)); sessionDroppedoffCar^\sim; sessionToday \vdash rcDroppedOffDate \quad (5.73)$$

## Chapter 6

# Data structure

This chapter contains the result of the data analysis. 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 analysis. 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*  $\times$  *CarRentalCompany* Every branch is part of a car rental company.

**Properties:** UNI, TOT

***branchLocation*** : *Branch*  $\times$  *Location* Every branch operates from a geographical location.

**Properties:** UNI, TOT

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

**Properties:** UNI, TOT

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

**Properties:** UNI, TOT

**brand** : *CarType*  $\times$  *Brand* A cartype has a specific brand.

**Properties:** UNI, TOT

**model** : *CarType*  $\times$  *Model* A cartype has a specific model.

**Properties:** UNI, TOT

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

**Properties:** UNI, TOT

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

**Properties:** UNI, TOT

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

**Properties:** --

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

**Properties:** --

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

**Properties:** UNI

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

**Properties:** UNI

**contractedCarType** : *RentalCase*  $\times$  *CarType* Rental contracts may specify the car type of the rental.

**Properties:** UNI

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

**Properties:** UNI

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

**Properties:** UNI

**rcRenter** : *RentalCase*  $\times$  *Person* The person who rents the car is called the renter.

**Properties:** UNI

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

**Properties:** UNI

***validDrivingLicense*** : *Person*  $\times$  *DrivingLicense* A person may have a valid driving license.

**Properties:** --

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

**Properties:** UNI, SUR

***rentalHasBeenPromised*** : *RentalCase*  $\times$  *RentalCase* Rental cases may have the property 'rental has been promised'

**Properties:** --

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

**Properties:** --

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

**Properties:** --

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

**Properties:** --

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

**Properties:** --

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

**Properties:** --

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

**Properties:** --

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

**Properties:** UNI

***rcDroppedOffDate*** : *RentalCase*  $\times$  *Date* Rented cars are dropped off on specific dates.

**Properties:** UNI

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

**Properties:** UNI

***rentalPeriod*** : *RentalCase*  $\times$  *Integer* **Properties:** UNI

***rentalBasicCharge*** : *RentalCase*  $\times$  *Amount* Rental contracts may specify an amount for the basic charge  
**Properties:** UNI

***rentalExcessPeriod*** : *RentalCase*  $\times$  *Integer* **Properties:** UNI

***rentalPenaltyCharge*** : *RentalCase*  $\times$  *Amount* Rental contracts may specify an amount for the penalty charge for late drop-offs  
**Properties:** UNI

***computedLocationPenaltyCharge*** : *DistanceBetweenLocations*  $\times$  *Amount*  
 There is a penalty charge for cars that are dropped-off at another branch than agreed.  
**Properties:** UNI, TOT

***rentalLocationPenaltyCharge*** : *RentalCase*  $\times$  *Amount* Rental contracts may specify an amount for the penalty charge for late drop-offs  
**Properties:** UNI

***paymentHasBeenRequested*** : *RentalCase*  $\times$  *RentalCase* Rental cases may have the property 'payment has been requested'.  
**Properties:** --

***rentalCharge*** : *RentalCase*  $\times$  *Amount* **Properties:** UNI

***rentalIsPaidQ*** : *RentalCase*  $\times$  *YesNoAnswer* Payments for rental contracts need to be accepted (or declined).  
**Properties:** --

***rentalHasBeenEnded*** : *RentalCase*  $\times$  *RentalCase* Rental cases may have the property 'rental has been ended'.  
**Properties:** --

***rcMaxRentalDuration*** : *RentalCase*  $\times$  *Integer* Rental contracts may specify the maximum rental duration.  
**Properties:** UNI

***dateIntervalCompTrigger*** : *Date*  $\times$  *Date* **Properties:** --

***arg1*** : *CompRentalCharge*  $\times$  *Amount* **Properties:** UNI, TOT

***arg2*** : *CompRentalCharge*  $\times$  *Amount* **Properties:** UNI, TOT

***arg3*** : *CompRentalCharge*  $\times$  *Amount* **Properties:** UNI, TOT

***computedRentalCharge*** : *CompRentalCharge*  $\times$  *Amount* **Properties:** UNI

***earliestDate*** : *DateDifferencePlusOne*  $\times$  *Date* **Properties:** UNI, TOT

***latestDate*** : *DateDifferencePlusOne*  $\times$  *Date* **Properties:** UNI, TOT

*computedRentalPeriod* : *DateDifferencePlusOne*  $\times$  *Integer* Properties: UNI

*ctcNrOfDays* : *CompTariffedCharge*  $\times$  *Integer* Properties: UNI, TOT

*ctcDailyAmount* : *CompTariffedCharge*  $\times$  *Amount* Properties: UNI, TOT

*computedTariffedCharge* : *CompTariffedCharge*  $\times$  *Amount* Properties: UNI

*firstDate* : *DateDifference*  $\times$  *Date* Properties: UNI, TOT

*lastDate* : *DateDifference*  $\times$  *Date* Properties: UNI, TOT

*computedNrOfExcessDays* : *DateDifference*  $\times$  *Integer* Properties: UNI

*distbranch* : *DistanceBetweenLocations*  $\times$  *Branch* A distance is computed relative to a branch.  
Properties: TOT, SUR

*distance* : *DistanceBetweenLocations*  $\times$  *Distance* There may be a distance between locations.  
Properties: UNI, TOT

*projectedRentalPeriod* : *RentalCase*  $\times$  *Integer* Properties: UNI

*projectedBasicCharge* : *RentalCase*  $\times$  *Amount* Properties: UNI

*sessionUser* : *SESSION*  $\times$  *Person* Properties: UNI

*sessionToday* : *SESSION*  $\times$  *Date* Properties: UNI

*sessionNewUserRC* : *SESSION*  $\times$  *RentalCase* Properties: INJ, UNI

*sessionBranch* : *SESSION*  $\times$  *Branch* Properties: UNI

*sessionNewBranchRC* : *SESSION*  $\times$  *RentalCase* Properties: UNI

*sessionDroppedoffCar* : *SESSION*  $\times$  *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.

There are 10 entity types. The details of each entity type are described (in alphabetical order) in the following paragraphs:

### 6.3.1 Entity type: *Branch*

This entity type has the following attributes:



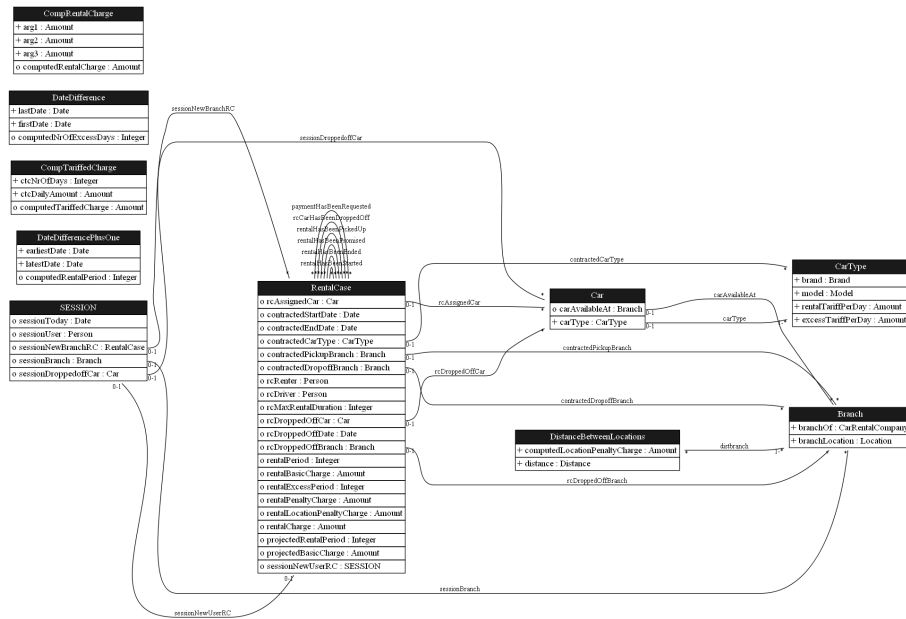


Figure 6.1: Logical data model of EURent

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 *DistanceBetweenLocations* must ‘distbranch’ at least one *Branch*. For the other way round, for this relation holds that each *Branch* zero or more *DistanceBetweenLocations*.
6. 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:

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: *CompRentalCharge*

This entity type has the following attributes:

Attribute	Type	
Id	CompRentalCharge	Primary key
arg1	Amount	Mandatory
arg2	Amount	Mandatory
arg3	Amount	Mandatory
computedRentalCharge	Amount	Optional

CompRentalCharge has the following associations:

### 6.3.5 Entity type: *CompTariffedCharge*

This entity type has the following attributes:

Attribute	Type	
Id	CompTariffedCharge	Primary key
ctcNrOfDays	Integer	Mandatory
ctcDailyAmount	Amount	Mandatory
computedTariffedCharge	Amount	Optional

CompTariffedCharge has the following associations:

### 6.3.6 Entity type: *DateDifference*

This entity type has the following attributes:

Attribute	Type	
Id	DateDifference	Primary key
lastDate	Date	Mandatory
firstDate	Date	Mandatory
computedNrOfExcessDays	Integer	Optional

DateDifference has the following associations:

### 6.3.7 Entity type: *DateDifferencePlusOne*

This entity type has the following attributes:

Attribute	Type	
Id	DateDifferencePlusOne	Primary key
earliestDate	Date	Mandatory
latestDate	Date	Mandatory
computedRentalPeriod	Integer	Optional

DateDifferencePlusOne has the following associations:

### 6.3.8 Entity type: *DistanceBetweenLocations*

This entity type has the following attributes:

Attribute	Type	
Id	DistanceBetweenLocations	Primary key
computedLocationPenaltyCharge	Amount	Mandatory
distance	Distance	Mandatory

DistanceBetweenLocations has the following associations:

1. Every *DistanceBetweenLocations* must ‘distbranch’ at least one *Branch*. For the other way round, for this relation holds that each *Branch* zero or more *DistanceBetweenLocations*.

### 6.3.9 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
rentalPeriod	Integer	Optional

rentalBasicCharge	Amount	Optional
rentalExcessPeriod	Integer	Optional
rentalPenaltyCharge	Amount	Optional
rentalLocationPenaltyCharge	Amount	Optional
rentalCharge	Amount	Optional
projectedRentalPeriod	Integer	Optional
projectedBasicCharge	Amount	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*.

### 6.3.10 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.

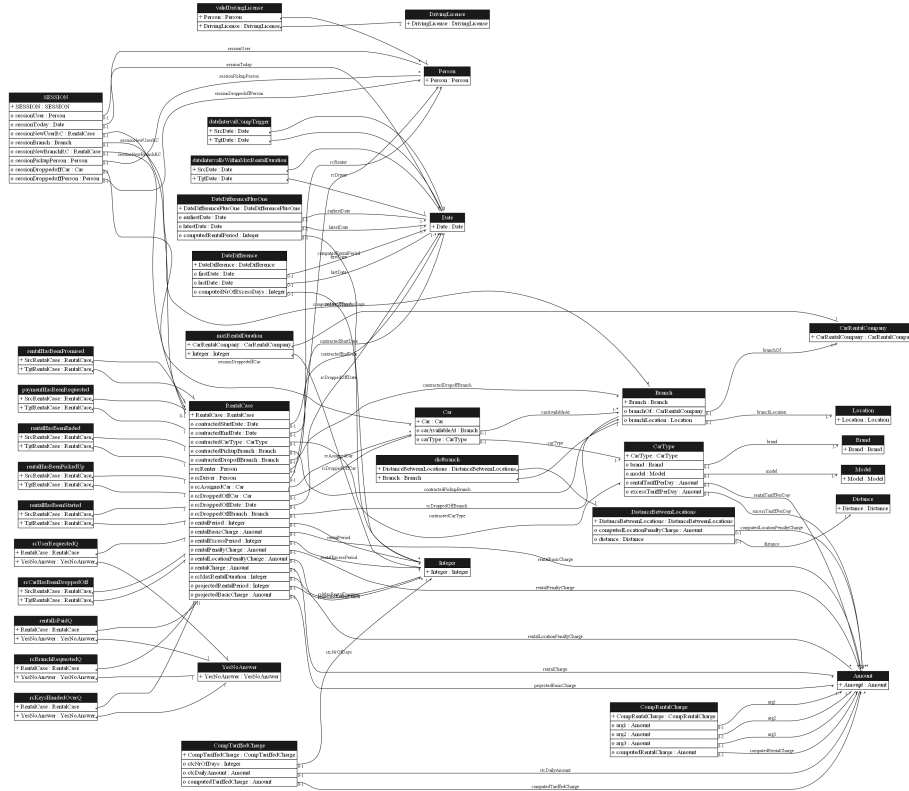


Figure 6.2: Technical data model of EURent

The technical datamodel consists of the following 36 tables:

### 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  $DistanceBetweenLocations \xrightarrow{computedLocationPenaltyCharge} Amount$ .  
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: dateIntervalsWithinMaxRentalDuration

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

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

#### 6.4.24 Table: distbranch

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

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

#### 6.4.25 Table: maxRentalDuration

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

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

#### 6.4.26 Table: paymentHasBeenRequested

This is a link-table, implementing the relation  $RentalCase \xrightarrow{\text{paymentHasBeenRequested}} RentalCase$ . 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]) /\ branchOf

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

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

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

```

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

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

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

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

```

```

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

```

----- 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]

(MAINTEINING -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLocation
(MAINTEINING -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[Branch]

      (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 branchLocati
      (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] /\ -(carAvailableAt

```

```

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

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

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

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

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

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

      (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt~;carAvailableAt~))
      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{dety=Car}
      SELECTFROM -((carAvailableAt /\ -Delta);(carAvailableAt /\ -Delta)~) /\

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

      (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised[RentalCase*Branch]
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM contractedPickupBranch;(-(carAvailableAt /\ -Delta)~;

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

      (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised[RentalCase*Branch]
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] /\ rentalHasBeenPromised[RentalCase*Branch]
PICK a,b FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer];contractedPickupBranch;(-(carAvailableAt /\ -Delta)~;
      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]*'b'[YesNoAnswer]
      THEN BLOCK
      (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM 'Yes'[YesNoAnswer]
      PICK a,b FROM 'Yes'[YesNoAnswer];('a'[RentalCase]*'b'[YesNoAnswer]
      THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
      SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

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

      (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised[RentalCase*Branch]
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised[RentalCase*Branch]
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised[RentalCase*Branch]
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised[RentalCase*Branch]
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised[RentalCase*Branch]
NEW x:YesNoAnswer;
      ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
      SELECTFROM (contractedPickupBranch;(-(carAvailableAt /\ -Delta)~;

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

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

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

    (TO MAINTAIN -(contractedPickupBranch~; (I[RentalCase] /\ rentalHasBeenPromised~))
    (MAINTAINING -(contractedPickupBranch~; (I[RentalCase] /\ rentalHasBeenPromised~))
    (MAINTAINING -I[Car] \/ carAvailableAt; carAvailableAt~ \/ rcAssignedCar~; (rentalHasBeenPromised~))
    (MAINTAINING -(contractedPickupBranch~; (I[RentalCase] /\ rentalHasBeenPromised~))

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

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ALL of DELETE FROM Isn{dety=Car}
    SELECTFROM -((carAvailableAt /\ -Delta); (carAvailableAt /\ -Delta)~) /\ -(rcKeysHandedOverQ~)

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

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

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

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

    (TO MAINTAIN -(contractedPickupBranch~; (I[RentalCase] /\ rentalHasBeenPromised~))
    PICK a,b FROM rcKeysHandedOverQ~; contractedPickupBranch; (-((carAvailableAt /\ -Delta)~; carType))
    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [YesNoAnswer])
        THEN BLOCK
            (CANNOT CHANGE 'Yes' [YesNoAnswer] FROM RentalCase)
            PICK a,b FROM 'Yes' [YesNoAnswer]; ('a' [YesNoAnswer])
            THEN INSERT INTO rcKeysHandedOverQ [RentalCase*YesNoAnswer]
                SELECTFROM 'b' [RentalCase]*'a' [YesNoAnswer]

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```

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

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

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<-----End Derivation --

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ON INSERT Delta IN carType[Car*CarType] EXECUTE    -- (ECA rule 7)
ONE OF INSERT INTO Isn{dety=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

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

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

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

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

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

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

INSERT INTO Isn{dety=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 -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINTAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
(MAINTAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)

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

```

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

(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]

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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 --

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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 car type integr
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM rcAssignedCar;(-(carType /\ -Delta) /\ rcAssignedCar~;contractedCarType

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

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

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

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

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

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised)
PICK a,b FROM rcKeysHandedOverQ~;contractedPickupBranch;(-(carAvailableAt~;(carType /\ -Delta)
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAnswer]*'b'[YesNoAnswer])
THEN BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer] FROM RentalCase)
PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnswer]*'b'[YesNoAnswer])
THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

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

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

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

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

      (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase]
      (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
      (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
      (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenProm
DELETE FROM contractedCarType[RentalCase*CarType]
      SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised~ /\ -(rcKeysHandedOver

      (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{dety=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{dety=RentalCase}
      SELECTFROM -(rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;(carType

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

      (TO MAINTAIN  -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::Car
(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

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```

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

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----- 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{dety=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
(MAINAINING -(contractedPickupBranch~;(I[RentalCase] /\ re
NEW x:YesNoAnswer;
      ALL of BLOCK
        (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Rentable ca

```

```

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

        (TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\
        (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\
        (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] /\ rentalHasBeenPromis
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{dety=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{dety=RentCase}
      SELECTFROM  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;(carType /\ -D

      (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
DELETE FROM Isn{dety=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{dety=Brand}
      SELECTFROM  ((brand \/ Delta)~;brand /\ -I[Brand]) \/ ((brand \/ Delta)~;

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

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

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

```

```

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

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

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

```

```

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

        INSERT INTO Isn{dety=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{dety=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{dety=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;rentalTariffPerDay)
        /\ I[rentalBasicCharge])

        (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay)
        /\ I[rentalBasicCharge])
        INSERT INTO Isn{dety=Amount}
        SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay)
        /\ I[rentalBasicCharge])

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

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

```

```

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

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

INSERT INTO Isn{dety=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 rent

```

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

```

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

      (TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTari
INSERT INTO Isn{dety=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{dety=Amount}
      SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ cont

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

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

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

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

```

```

(MAINTEINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTEINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTEINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI rentalTa
(MAINTEINING -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;(rentalP
      (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;(rentalP
      (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{dety=RentalCase}
      SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;(rentalP
      (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{dety=RentalCase}
      SELECTFROM -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;(r
      (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPe

```

```

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

      (TO MAINTAIN  -I[CarType] /\ rentalTariffPerDay;I[Amount];rentalTariffPer
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[R
(MAINAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;pro
(MAINAINING -(rentalTariffPerDay~;rentalTariffPerDay) /\ I[Amount] FROM UNI ren
(MAINAINING -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{dety=RentalCase}
      SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;(rentalTari

      (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{dety=RentalCase}

```

```

SELECTFROM -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;(rental
(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM Isn{dety=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 --

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```

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{dety=Amount}
SELECTFROM (rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcA

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

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

INSERT INTO Isn{dety=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 ----->

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```

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

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

```

```

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

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

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

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

```

<-----End Derivation --

```

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

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

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

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

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

```

----- Derivation ---->

```

ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
      SELECTFROM (-((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariffPerDay) /\ I[Amount])

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

```



```

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

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

      (TO MAINTAIN  -I[CarType] \/ excessTariffPerDay;I[Amount];excessTariffPerDay~
(MAINAINING  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExc
(MAINAINING  -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI excessTa
(MAINAINING  -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{dety=Integer}
      SELECTFROM  (rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRent

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

      (MAINAINING  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRental
      (MAINAINING  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRental

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

```

```

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

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

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

      (MAINAINING  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDurat
      (MAINAINING  -(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[Date]
```

----- 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~ /\ contractedStartDate) - I[Date]) - I[Date]
(TO MAINTAIN -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMaxRentalDuration[Date*Date])
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedStartDate;((-dateIntervalIsWithinMaxRentalDuration /\ contractedStartDate) - I[Date]) - I[Date]
(TO MAINTAIN -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMaxRentalDuration[Date*Date])
(MAINTAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMaxRentalDuration[Date*Date])
```

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

```
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedEndDate;((-dateIntervalIsWithinMaxRentalDuration~ /\ contractedStartDate) - I[Date]) - I[Date]
(TO MAINTAIN -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMaxRentalDuration[Date*Date])
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedStartDate;((-dateIntervalIsWithinMaxRentalDuration /\ contractedStartDate) - I[Date]) - I[Date]
(TO MAINTAIN -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMaxRentalDuration[Date*Date])
(MAINTAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMaxRentalDuration[Date*Date])
```

<-----End Derivation --

```
ON INSERT Delta IN contractedStartDate[RentalCase*Date] EXECUTE -- (ECA rule 1)
ONE OF INSERT INTO dateIntervalIsWithinMaxRentalDuration[Date*Date]
```

```

SELECTFROM (contractedStartDate \ / Delta)~;contractedEndDate /\ -dateInt

(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{dety=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{dety=Integer}
SELECTFROM (rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDrope

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRent
THEN INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM 'a'[RentalCase]*'b'[Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ c
PICK a,b FROM contractedStartDate~;(rcMaxRentalDuration;rcMaxRent
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Date]*'
THEN INSERT INTO dateIntervalCompTrigger[Date*D
SELECTFROM 'a'[Date]*'b'[Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxR
PICK a,b FROM dateIntervalCompTrigger~;('a'[Date]
THEN INSERT INTO contractedEndDate[RentalCase*D
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' [Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'b' [RentalCase]*'a' [Date]*'x' [Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate
NEW x:Date;
ALL of INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration~ /\ contracted

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contracted
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [Date]*((rcMaxRentalDuration;rcMaxRentalDuration~ /\
THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
SELECTFROM 'a' [Date]*'b' [Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
PICK a,b FROM dateIntervalCompTrigger~;('x' [Date]*
THEN INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'b' [RentalCase]*'a' [Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
NEW x:Date;
ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
SELECTFROM 'x' [Date]*((rcMaxRentalDuration;rcMaxRentalDuration~ /\

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration~ /\

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate
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;rcMaxRentalDuration~ /\
PICK a,b FROM dateIntervalCompTrigger~;(((contractedStartDate /\ Delta
THEN INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'b' [RentalCase]*'a' [Date]

```

```

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMa
(MAINTEINING -(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;rcMaxRent
      THEN INSERT INTO contractedStartDate[RentalCase*Date]
            SELECTFROM 'a'[RentalCase]*'b'[Date]

      (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;cont
PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRent
      THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
            SELECTFROM 'a'[Date]*'b'[Date]

      (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;cont
(MAINTEINING -(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[RentalCase*Date]
                  SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~;cont
PICK a,b FROM contractedStartDate~;'a'[RentalCase]
            THEN INSERT INTO earliestDate[DateDifferencePlusOne]
                  SELECTFROM 'b'[DateDifferencePlusOne]

            (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~;cont
(MAINTEINING -(rcDroppedOffDate;rcDroppedOffDate~;contractedEndDate
NEW x:Date;
      ALL of INSERT INTO contractedStartDate[RentalCase*Date]
            SELECTFROM 'a'[RentalCase]*'b'[Date]

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~;cont
INSERT INTO earliestDate[DateDifferencePlusOne]
      SELECTFROM 'b'[DateDifferencePlusOne]

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~;cont
(MAINTEINING -(rcDroppedOffDate;rcDroppedOffDate~;contractedEndDate
(MAINTEINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]
      THEN INSERT INTO rcDroppedOffDate[RentalCase*Date]
            SELECTFROM 'a'[RentalCase]*'b'[Date]

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~;cont
PICK a,b FROM rcDroppedOffDate~;'a'[RentalCase]
      THEN INSERT INTO latestDate[DateDifferencePlusOne]
            SELECTFROM 'b'[DateDifferencePlusOne]

```



```

SELECTFROM 'b'[DateDifferencePlusOne]

(TO MAINTAIN -(contractedEndDate;cont
(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~ /\
PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;con
THEN BLOCK
(CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigg
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
INSERT INTO projectedRentalPeriod[RentalCase*Integer]
SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;late

(TO MAINTAIN -((contractedStartDate;earliestDate~ /\ contractedEndDate;l
INSERT INTO Isn{dety=Integer}
SELECTFROM (projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\

(TO MAINTAIN -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
INSERT INTO Isn{dety=Date}
SELECTFROM (contractedStartDate \/ Delta)~;(I[RentalCase] /\ rcBranchReq

(TO MAINTAIN -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ
INSERT INTO Isn{dety=Date}
SELECTFROM ((contractedStartDate \/ Delta)~;contractedStartDate /\ -I[Da

(TO MAINTAIN -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM
INSERT INTO Isn{dety=RentalCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{dety=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~

```

```

(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
(MAINAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contr
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINAINING -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI con

```

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

```

ONE OF INSERT INTO dateIntervalsWithinMaxRentalDuration[Date*Date]
    SELECTFROM (contractedStartDate \/ Delta)~;contractedEndDate /\ -dateInterval

(TO MAINTAIN -(contractedStartDate~;contractedEndDate) \/ dateIntervalsWithi
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~ /\ rcDroppedO
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~ /\ 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;rcMaxRentalDuration~
        (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;rcDroppedOffDate~
INSERT INTO earliestDate[DateDifferencePlusOne]
SELECTFROM 'b'[DateDifferencePlusOne]*'a'[DateDifferencePlusOne]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase*
THEN INSERT INTO rcDroppedOffDate[RentalCase*Date]
SELECTFROM 'a'[RentalCase]*'b'[Date]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
PICK a,b FROM rcDroppedOffDate~;'a'[RentalCase*Date]
THEN INSERT INTO latestDate[DateDifferencePlusOne]
SELECTFROM 'b'[DateDifferencePlusOne]*'a'[DateDifferencePlusOne]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
NEW x:Date;
ALL of INSERT INTO rcDroppedOffDate[RentalCase*Date]
SELECTFROM 'a'[RentalCase]*'b'[DateDifferencePlusOne]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
INSERT INTO latestDate[DateDifferencePlusOne]
SELECTFROM 'b'[DateDifferencePlusOne]*'a'[DateDifferencePlusOne]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;rcDroppedOffDate~
THEN BLOCK
        (CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigger re
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedEndDate;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedEndDate;contractedEndDate~ /\
THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase*
THEN INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM 'a'[RentalCase]*'b'[Date]

        (TO MAINTAIN -(contractedEndDate;contractedEndDate~
PICK a,b FROM contractedStartDate~;'a'[RentalCase*Date]
THEN INSERT INTO earliestDate[DateDifferencePlusOne]
SELECTFROM 'b'[DateDifferencePlusOne]*'a'[DateDifferencePlusOne]

        (TO MAINTAIN -(contractedEndDate;contractedEndDate~
        (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[DateDifferencePlus
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 rule
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM -((contractedStartDate /\ -Delta);(contractedStartDate /\ -Delta)

        (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 /\ -Delta);dateIntervalCompTri,

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedEndDate;(-(dateIntervalCompTrigger~;(contracte

(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~;(contracte

(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);dateIntervalCompTri,

(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{dety=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{dety=RentalCase}
SELECTFROM -(((contractedStartDate /\ -Delta);earliestDate~ /\ co

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contracted
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
ONE OF DELETE FROM Isn{dety=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;contractedStartDate
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{dety=RentalCase}
```

```

SELECTFROM -((contractedStartDate /\ -Delta);dateIntervalCompTrigger;c

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
(MAINAINING -(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
(MAINAINING -(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{dety=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{dety=RentalCase}
SELECTFROM -(((contractedStartDate /\ -Delta);earliestDate~ /\ contrac

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStart
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;(con
ONE OF DELETE FROM Isn{dety=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];rcBranch
(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{dety=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{dety=Integer}
  SELECTFROM (rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contracted

(TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRent
  THEN INSERT INTO contractedStartDate[RentalCase*Date]
    SELECTFROM 'a'[RentalCase]*'b'[Date]

      (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ c
PICK a,b FROM contractedStartDate~;(rcMaxRentalDuration;rcMaxRent
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Date]*'
  THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
    SELECTFROM 'a'[Date]*'b'[Date]

      (TO MAINTAIN -(rcMaxRentalDuration;rcMaxR
PICK a,b FROM dateIntervalCompTrigger~;('a'[Date]*'b'[Date]
THEN INSERT INTO contractedEndDate[RentalCase*Date]
  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'[Date]

      (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRent
INSERT INTO contractedEndDate[RentalCase*Date]
  SELECTFROM 'b'[RentalCase]*'a'[Date]*'x'[Date]

      (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRent
      (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration
      (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration
      (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ co
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndD
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;rcMaxRent
PICK a,b FROM dateIntervalCompTrigger~;('x'[Date]*'b'[Date]
THEN INSERT INTO contractedEndDate[RentalCase*Date]
  SELECTFROM 'b'[RentalCase]*'a'[Date]

      (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRent
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\

```

```

NEW x:Date;
  ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
    SELECTFROM 'x'[Date]*((rcMaxRentalDuration;rcMaxRentalDuration)
      (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration)
        INSERT INTO contractedEndDate[RentalCase*Date]
          SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration)
            (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration)
              (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~
                (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~/
                  (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~/ \ contr
                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~/ \ contractedEnd
                      (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;rcMaxRentalDuration)
                              PICK a,b FROM dateIntervalCompTrigger~;((contractedStartDate~;rcMaxRentalDuration)
                                THEN INSERT INTO contractedEndDate[RentalCase*Date]
                                  SELECTFROM 'b'[RentalCase]*'a'[Date]

                                  (TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration)
                                    (MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration)
                                      INSERT INTO dateIntervalCompTrigger[Date*Date]
                                        SELECTFROM (contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration)

                                      (TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration)
                                        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRentalDuration)
                                          THEN INSERT INTO contractedStartDate[RentalCase*Date]
                                            SELECTFROM 'a'[RentalCase]*'b'[Date]

                                            (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedStartDate~)
                                              PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRentalDuration)
                                                THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
                                                  SELECTFROM 'a'[Date]*'b'[Date]

                                                  (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedStartDate~)
                                                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate)
                                                      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffDate;rcDroppedOffDate)
                                                        THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Date]
                                                          THEN INSERT INTO contractedEndDate[RentalCase*Date]
                                                            SELECTFROM 'a'[RentalCase]*'b'[Date]

                                                            (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
                                                              PICK a,b FROM contractedEndDate~;('a'[RentalCase]
                                                                THEN INSERT INTO firstDate[DateDifference]
                                                                  SELECTFROM 'b'[DateDifference]*'a'[Date]

```



```

SELECTFROM 'b' [DateDifferencePlusOne]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
NEW x:Date;
ALL of INSERT INTO contractedStartDate[RentalCase]
SELECTFROM 'a' [RentalCase]*'b' [DateDifferencePlusOne]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
INSERT INTO earliestDate[DateDifferencePlusOne]
SELECTFROM 'b' [DateDifferencePlusOne]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]
THEN INSERT INTO contractedEndDate[RentalCase]
SELECTFROM 'a' [RentalCase]*'b' [DateDifferencePlusOne]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
PICK a,b FROM contractedEndDate~;'a' [RentalCase]
THEN INSERT INTO latestDate[DateDifferencePlusOne]
SELECTFROM 'b' [DateDifferencePlusOne]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
NEW x:Date;
ALL of INSERT INTO contractedEndDate[RentalCase]
SELECTFROM 'a' [RentalCase]*'b' [DateDifferencePlusOne]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
INSERT INTO latestDate[DateDifferencePlusOne]
SELECTFROM 'b' [DateDifferencePlusOne]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate)
PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;contractedStartDate)
THEN BLOCK
(CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigger)
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate)
INSERT INTO projectedRentalPeriod[RentalCase*Integer]
SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate)

(TO MAINTAIN -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate)
INSERT INTO Isn{dety=Integer}
SELECTFROM (projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\

```



```

      (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
INSERT INTO Isn{dety=Date}
      SELECTFROM ((contractedEndDate \/ Delta)~;contractedEndDate /\ -I[Date]))

      (TO MAINTAIN  -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI
INSERT INTO Isn{dety=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

(MAINTAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalsWithinMa
(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 ----->

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ONE OF INSERT INTO dateIntervalsWithinMaxRentalDuration[Date*Date]
      SELECTFROM (contractedStartDate~;contractedEndDate /\ -dateIntervalsWithinMa

      (TO MAINTAIN  -(contractedStartDate~;contractedEndDate) \/ dateIntervalsWithi
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

```

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(TO MAINTAIN -(contractedEndDate~;rentalHasBeenPromised) \/ contractedEndDate
INSERT INTO Isn{dety=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{dety=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
(MAINAINING -(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*Date]
      SELECTFROM 'b'[DateDifference]*'a'[Date]

      (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
NEW x:Date;
      ALL of INSERT INTO contractedEndDate[RentalCase*Date]
      SELECTFROM 'a'[RentalCase]*'b'[DateDifference]

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
INSERT INTO firstDate[DateDifference*Date]
      SELECTFROM 'b'[DateDifference]*'a'[RentalCase]

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
      (MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~
      (MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
      THEN INSERT INTO rcDroppedOffDate[RentalCase*Date]
      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
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
NEW x:Date;
      ALL of INSERT INTO rcDroppedOffDate[RentalCase*Date]
      SELECTFROM 'a'[RentalCase]*'b'[DateDifference]

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
INSERT INTO lastDate[DateDifference*Date]
      SELECTFROM 'b'[DateDifference]*'a'[RentalCase]

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedO
      (MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~
      (MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra

```

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        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedOffDate
THEN BLOCK
        (CANNOT CHANGE V[DateDifference*RentalCase] FROM Trigger excess pe
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDa
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedEndDate;(contractedEndDa
        THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]
                THEN INSERT INTO contractedStartDate[RentalCase]
                SELECTFROM 'a'[RentalCase]*'b'[Date]

                (TO MAINTAIN -(contractedEndDate;contractedEndDa
PICK a,b FROM contractedStartDate~;'a'[RentalCase]
                THEN INSERT INTO earliestDate[DateDifferencePlusOne]
                SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

                (TO MAINTAIN -(contractedEndDate;contractedEndDa
(MAINTAINING -(contractedEndDate;contractedEndDa
NEW x:Date;
        ALL of INSERT INTO contractedStartDate[RentalCase]
        SELECTFROM 'a'[RentalCase]*'b'[DateDifferencePlusOne]

        (TO MAINTAIN -(contractedEndDate;contractedEndDa
INSERT INTO earliestDate[DateDifferencePlusOne]
        SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

        (TO MAINTAIN -(contractedEndDate;contractedEndDa
        (MAINTAINING -(contractedEndDate;contractedEndDa
        (MAINTAINING -(contractedEndDate;contractedEndDa
        (MAINTAINING -(contractedEndDate;contractedEndDa~ /\ contractedEndDa
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]
        THEN INSERT INTO contractedEndDate[RentalCase]
        SELECTFROM 'a'[RentalCase]*'b'[Date]

        (TO MAINTAIN -(contractedEndDate;contractedEndDa
PICK a,b FROM contractedEndDa~;'a'[RentalCase]
        THEN INSERT INTO latestDate[DateDifferencePlusOne]
        SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

        (TO MAINTAIN -(contractedEndDate;contractedEndDa
(MAINTAINING -(contractedEndDate;contractedEndDa
NEW x:Date;
        ALL of INSERT INTO contractedEndDate[RentalCase]
        SELECTFROM 'a'[RentalCase]*'b'[DateDifferencePlusOne]

        (TO MAINTAIN -(contractedEndDate;contractedEndDa
INSERT INTO latestDate[DateDifferencePlusOne]
        SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

        (TO MAINTAIN -(contractedEndDate;contractedEndDa
(MAINTAINING -(contractedEndDate;contractedEndDa

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(MAINAINING -(contractedEndDate;contractedEndDate~
(MAINAINING -(contractedEndDate;contractedEndDate~ /\ cont
(MAINAINING -(contractedEndDate;contractedEndDate~ /\ contractedS
PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;contract
THEN BLOCK
(CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigger pr
(MAINAINING -(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]

(MAINAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMaxRent
(MAINAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
(MAINAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
(MAINAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
(MAINAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINAINING -(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]

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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) \/ contr
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM contractedEndDate;(-(contractedEndDate /\ -Delta)~ /\

      (TO MAINTAIN -(contractedEndDate~;rentalHasBeenPromised) \/ contr
(MAINTAINING -(contractedEndDate~;rentalHasBeenPromised) \/ contractedEnd
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) \/ contractedEnd
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{dety=RentalCase}
      SELECTFROM -(contractedStartDate;dateIntervalCompTrigger;(contra

      (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndD

```





```

SELECTFROM -(((contractedEndDate /\ -Delta);firstDate~ /\ rcDrop
(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*DateDifference];(firstDate;(contracted
(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
DELETE FROM Isn{dety=RentalCase}
SELECTFROM -(((contractedEndDate /\ -Delta);firstDate~ /\ rcDrop
(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;con
ONE OF DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM -(((contractedStartDate;earliestDate~ /\ (contractedEnd
(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~ /\ (contractedEnd
(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contracted
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*DateDifferencePlusOne];(earliestDate;c
(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contracted
DELETE FROM Isn{dety=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 ----->

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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{dety=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{dety=RentalCase}
SELECTFROM -(((contractedEndDate /\ -Delta);firstDate~ /\ rcDroppedOff

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate
ONE OF DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM -(((contractedStartDate;earliestDate~ /\ (contractedEndDate

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*DateDifferencePlusOne];(earliestDate;contractedEndDate

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM -(((contractedStartDate;earliestDate~ /\ (contractedEndDate

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*DateDifferencePlusOne];(earliestDate;contractedEndDate

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedEndDate
(MAINTAINING -rentalHasBeenPromised /\ contractedEndDate;contractedEndDate~ FROM Promised
(MAINTAINING -rentalHasBeenPromised /\ contractedEndDate;contractedEndDate~ FROM Promised
(MAINTAINING -rentalHasBeenPromised /\ contractedEndDate;contractedEndDate~ FROM Promised
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contractedEndDate
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contractedEndDate
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedEndDate

<-----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{dety=CarType}
SELECTFROM (contractedCarType /\ Delta)~;rcAssignedCar;carType /\ -I[CarType]

(TO MAINTAIN -(contractedCarType~;rcAssignedCar;carType) /\ I[CarType] FROM Rented

```

```

INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
  SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType

(TO MAINTAIN -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType
INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
  SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType

(TO MAINTAIN -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType
INSERT INTO contractedCarType[RentalCase*CarType]
  SELECTFROM rentalHasBeenPromised~;(contractedCarType \/ Delta) /\ -contractedCarType

(TO MAINTAIN -(contractedCarType~;rentalHasBeenPromised) \/ contractedCarType
INSERT INTO Isn{dety=CarType}
  SELECTFROM ((contractedCarType \/ Delta)~;rentalHasBeenPromised;contractedCarType

(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[RentalCase] /\ rentalHasBeenPromised)
  THEN INSERT INTO carAvailableAt[Car*Branch]
    SELECTFROM 'b'[Car]*'a'[Branch]

    (TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised)
    PICK a,b FROM carAvailableAt;((contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised)
    THEN INSERT INTO carType[Car*CarType]
      SELECTFROM 'a'[Car]*'b'[CarType]

      (TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised)
      (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised)
      NEW x:Car;
      ALL of INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM 'x'[Car]*((contractedCarType~;(I[RentalCase] /\ rentalHasBeenPromised)

      (TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised)
      INSERT INTO carType[Car*CarType]
        SELECTFROM 'x'[Car]*((contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised)

      (TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised)
      (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised)
      (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised)
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedCarType;(contractedCarType~;(I[RentalCase] /\ rentalHasBeenPromised)
      THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Car]*'b'[CarType]
        THEN INSERT INTO projectedRentalPeriod[RentalCase*CarType]
          SELECTFROM 'a'[RentalCase]*'b'[CarType]

          (TO MAINTAIN -(contractedCarType;(contractedCarType~;(I[RentalCase] /\ rentalHasBeenPromised)
          PICK a,b FROM projectedRentalPeriod~;'a'[Car]*'b'[CarType]
          THEN INSERT INTO ctcNrOfDays[CompTariff*RentalCase*CarType]

```

```

SELECTFROM 'b' [CompTariffedCharge]

      (TO MAINTAIN -(contractedCarType;cont
(MAINAINING -(contractedCarType;contractedCarT
NEW x:Integer;
      ALL of INSERT INTO projectedRentalPeriod[Rent
SELECTFROM 'a' [RentalCase]*'b' [CompTa

      (TO MAINTAIN -(contractedCarType;cont
INSERT INTO ctcNrOfDays[CompTariffedCh
SELECTFROM 'b' [CompTariffedCharge]*'a

      (TO MAINTAIN -(contractedCarType;cont
      (MAINAINING -(contractedCarType;contractedCar
      (MAINAINING -(contractedCarType;contractedCarT
(MAINAINING -(contractedCarType;contractedCarType~ /\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [
      THEN INSERT INTO contractedCarType[RentalCa
SELECTFROM 'a' [RentalCase]*'b' [Car

      (TO MAINTAIN -(contractedCarType;cont
PICK a,b FROM contractedCarType~;'a' [Re
      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
      THEN INSERT INTO rentalCa
SELECTFROM 'a' [

      (TO MAINTAIN -(
PICK a,b FROM rentalCa
      THEN INSERT INTO ctcDail
SELECTFROM 'b' [

      (TO MAINTAIN -(
(MAINAINING -(contractedCar
NEW x:Amount;
      ALL of INSERT INTO rentalCa
SELECTFROM 'a' [Car

      (TO MAINTAIN -(con
INSERT INTO ctcDail
SELECTFROM 'b' [Comp

      (TO MAINTAIN -(con
      (MAINAINING -(contractedC
      (MAINAINING -(contractedCar
      (MAINAINING -(contractedCarType;con
(MAINAINING -(contractedCarType;contractedCarT
NEW x:CarType;
      ALL of INSERT INTO contractedCarType[RentalCa
SELECTFROM 'a' [RentalCase]*'b' [CompTa

```

```

        (TO MAINTAIN -(contractedCarType;contractedCarType)
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rentalTariff
        THEN INSERT INTO rentalTariff
        SELECTFROM 'a' [CarType]

        (TO MAINTAIN -(contractedCarType;contractedCarType)
        PICK a,b FROM rentalTariff
        THEN INSERT INTO ctcDailyAmount
        SELECTFROM 'b' [ContractedCarType]

        (TO MAINTAIN -(contractedCarType;contractedCarType)
        (MAINTAINING -(contractedCarType;contractedCarType)
        NEW x:Amount;
        ALL of INSERT INTO rentalTariff
        SELECTFROM 'x' [ContractedCarType]

        (TO MAINTAIN -(contractedCarType;contractedCarType)
        INSERT INTO ctcDailyAmount
        SELECTFROM 'b' [ContractedCarType]

        (TO MAINTAIN -(contractedCarType;contractedCarType)
        (MAINTAINING -(contractedCarType;contractedCarType)
        (MAINTAINING -(contractedCarType;contractedCarType)
        (MAINTAINING -(contractedCarType;contractedCarType)
        (MAINTAINING -(contractedCarType;contractedCarType)
        (MAINTAINING -(contractedCarType;contractedCarType)
        (MAINTAINING -(contractedCarType;contractedCarType)
        PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod /\ ctcDailyAmount)
        THEN BLOCK
        (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
        (MAINTAINING -(contractedCarType;contractedCarType) /\ projectedRentalPeriod
        INSERT INTO projectedBasicCharge[RentalCase*Amount]
        SELECTFROM ((projectedRentalPeriod;ctcNrOfDays /\ contractedCarType;rentalCase)

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

        (TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays /\ contractedCarType;rentalCase)
        INSERT INTO Isn{dety=CarType}
        SELECTFROM ((contractedCarType /\ Delta)~;contractedCarType /\ -I[CarType]

        (TO MAINTAIN -(contractedCarType~;contractedCarType) /\ I[CarType] FROM Isn{dety=RentalCase}
        INSERT INTO Isn{dety=RentalCase}
        SELECTFROM (Delta;Delta /\ I[RentalCase]) - I[RentalCase]

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

```

```

(MAINTEINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
(MAINTEINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
(MAINTEINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
(MAINTEINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTEINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTEINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTEINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTEINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTEINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINTEINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /
(MAINTEINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;pro
(MAINTEINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINTEINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINTEINING -(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{dety=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{dety=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
(MAINAINING -(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[RentalCase]
                SELECTFROM 'a'[RentalCase]*'b'[Integer]

                (TO MAINTAIN  -(contractedCarType;contractedCarType~
                PICK a,b FROM projectedRentalPeriod~;('a'[RentalCase] /\
                THEN INSERT INTO ctcNrOfDays[CompTariffedCharge]
                    SELECTFROM 'b'[CompTariffedCharge]*'a'[RentalCase]

                    (TO MAINTAIN  -(contractedCarType;contractedCarType~
                    (MAINTAINING -(contractedCarType;contractedCarType~
                    NEW x:Integer;
                        ALL of INSERT INTO projectedRentalPeriod[RentalCase]
                            SELECTFROM 'a'[RentalCase]*'b'[CompTariffedCharge]

                            (TO MAINTAIN  -(contractedCarType;contractedCarType~
                            INSERT INTO ctcNrOfDays[CompTariffedCharge]
                                SELECTFROM 'b'[CompTariffedCharge]*'a'[RentalCase]

                                (TO MAINTAIN  -(contractedCarType;contractedCarType~
                                (MAINTAINING -(contractedCarType;contractedCarType~
                                (MAINTAINING -(contractedCarType;contractedCarType~
                                (MAINTAINING -(contractedCarType;contractedCarType~ /\ proj
                                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase] /\
                                    THEN INSERT INTO contractedCarType[RentalCase]
                                        SELECTFROM 'a'[RentalCase]*'b'[CarType]

                                        (TO MAINTAIN  -(contractedCarType;contractedCarType~
                                        PICK a,b FROM contractedCarType~;('a'[RentalCase] /\
                                        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
(MAINAINING -(contractedCarType;
NEW x:Amount;
    ALL of INSERT INTO rentalTariff
        SELECTFROM 'a'[CarType]

    (TO MAINTAIN -(contract
INSERT INTO ctcDailyAmou
    SELECTFROM 'b'[CompTari

    (TO MAINTAIN -(contract
    (MAINAINING -(contractedCarTyp
    (MAINAINING -(contractedCarType;
    (MAINAINING -(contractedCarType;contract
(MAINAINING -(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
(MAINAINING -(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
    (MAINAINING -(contractedCarType;c
(MAINAINING -(contractedCarType;con

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```

                                (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 car
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 car
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{dety=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 ----->

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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~ /\ (contractedCarType
(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~ /\ (contractedCarType
(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ projectedRental
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
SELECTFROM (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;projectedR
(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ projectedRental
DELETE FROM Isn{dety=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~ /\ contractedCarType
(TO MAINTAIN -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType
(TO MAINTAIN -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
INSERT INTO contractedPickupBranch[RentalCase*Branch]
SELECTFROM rentalHasBeenPromised~;(contractedPickupBranch \/ Delta) /\ -
(TO MAINTAIN -(contractedPickupBranch~;rentalHasBeenPromised) \/ contrac
INSERT INTO Isn{dety=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{dety=Integer}
SELECTFROM (rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRent

(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] /\ rentalHasBeenProm
NEW x:Car;
ALL of INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'x'[Car]*((contractedCarType~;(I[RentalCase] /\ rental

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rental
INSERT INTO carType[Car*CarType]
SELECTFROM 'x'[Car]*((contractedPickupBranch \/ Delta)~);(I[Ren

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rental
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenProm
INSERT INTO Isn{dety=Branch}
SELECTFROM (contractedPickupBranch \/ Delta)~;(I[RentalCase] /\ rcBranch

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequest
INSERT INTO Isn{dety=Branch}
SELECTFROM ((contractedPickupBranch \/ Delta)~;contractedPickupBranch /\

(TO MAINTAIN -(contractedPickupBranch~;contractedPickupBranch) \/ I[Branch
INSERT INTO Isn{dety=RentalCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{dety=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

```

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(MAINAINING -(rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
(MAINAINING -(rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
(MAINAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRental
(MAINAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRental
(MAINAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINAINING -(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

```



```

(MAINAINING -(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
(MAINAINING -(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]

(MAINAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBranch~
(MAINAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDurat
(MAINAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDurat
(MAINAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\ -(r
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINAINING -(contractedPickupBranch~;contractedPickupBranch) \/ I[Branch] FROM UNI

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<-----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

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      (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{dety=RentalCase}
      SELECTFROM ((-contractedPickupBranch /\ (I[RentalCase] /\ rcBranch

      (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAn
      DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
      SELECTFROM ((-contractedPickupBranch /\ (I[RentalCase] /\ rcBranch

      (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

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

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      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{dety=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

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(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType)
INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType)

(TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType)
INSERT INTO contractedDropoffBranch[RentalCase*Branch]
SELECTFROM rentalHasBeenPromised~;(contractedDropoffBranch \/ Delta) /\

(TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised) \/ contractedDropoffBranch
INSERT INTO Isn{dety=Branch}
SELECTFROM ((contractedDropoffBranch \/ Delta)~;rentalHasBeenPromised;contractedDropoffBranch)

(TO MAINTAIN  -(contractedDropoffBranch~;rentalHasBeenPromised;contractedDropoffBranch)
INSERT INTO contractedDropoffBranch[RentalCase*Branch]
SELECTFROM (rentalHasBeenPromised;contractedDropoffBranch /\ -contractedDropoffBranch)

(TO MAINTAIN  -(rentalHasBeenPromised;contractedDropoffBranch) \/ contractedDropoffBranch
INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch)

(TO MAINTAIN  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch)
INSERT INTO Isn{dety=Amount}
SELECTFROM (rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~;contractedDropoffBranch;distbranch)

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~;contractedDropoffBranch;distbranch)
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffBranch;distbranch~;contractedDropoffBranch;distbranch)
THEN INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
SELECTFROM 'a'[RentalCase]*'b'[Amount]

(TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch)
PICK a,b FROM rentalLocationPenaltyCharge~;((rcDroppedOffBranch;distbranch~;contractedDropoffBranch;distbranch)
THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

(TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch)
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch)
NEW x:Amount;
ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch)

(TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch)
INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
SELECTFROM ((distbranch;rcDroppedOffBranch~ /\ distbranch;contractedDropoffBranch;distbranch)

(TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch)
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch)
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch)
INSERT INTO Isn{dety=Branch}
SELECTFROM ((contractedDropoffBranch \/ Delta)~;contractedDropoffBranch;distbranch)

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```

      (TO MAINTAIN  -(contractedDropoffBranch~;contractedDropoffBranch) \/ I[Br
INSERT INTO Isn{dety=RentCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{dety=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;distbr
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTAINING -(contractedDropoffBranch~;contractedDropoffBranch) \/ I[Branch] FR

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----- 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{dety=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{dety=Amount}
      SELECTFROM (rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /\ c

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      (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~ /\ contractedDropoffBranch;
PICK a,b FROM rentalLocationPenaltyCharge~;((rcDroppedOffBranch;distbranch~ /\
      THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
      SELECTFROM 'b' [DistanceBetweenLocations]*'a' [Amount]

      (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
NEW x:Amount;
      ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
      SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
      (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
      SELECTFROM ((distbranch;rcDroppedOffBranch~ /\ distbranch;contractedDropoffBranch;

      (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
INSERT INTO Isn{detyp=Branch}
      SELECTFROM ((contractedDropoffBranch \/ Delta)~;contractedDropoffBranch /\ -I[Branch]

      (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;contractedDropoffBranch;
      (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contractedDropoffBranch;
      (MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranch;
      (MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranch;
      (MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranch;
      (MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranch;
      (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]

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SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropoffBranch /\ -Delta)

(TO MAINTAIN -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranch)
ONE OF DELETE FROM contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM rentalHasBeenPromised;(-(contractedDropoffBranch /\ -Delta)

      (TO MAINTAIN -(contractedDropoffBranch~;rentalHasBeenPromised) \/
      DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM contractedDropoffBranch;(-(contractedDropoffBranch /\ -Delta)

      (TO MAINTAIN -(contractedDropoffBranch~;rentalHasBeenPromised) \/
      (MAINTAINING -(contractedDropoffBranch~;rentalHasBeenPromised) \/ contractedDropoffBranch)
ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM ((-contractedDropoffBranch /\ rentalHasBeenPromised;contractedDropoffBranch)

      (TO MAINTAIN -(rentalHasBeenPromised;contractedDropoffBranch) \/
      DELETE FROM contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM rentalHasBeenPromised~;((-contractedDropoffBranch /\ rentalHasBeenPromised)

      (TO MAINTAIN -(rentalHasBeenPromised;contractedDropoffBranch) \/
      (MAINTAINING -(rentalHasBeenPromised;contractedDropoffBranch) \/ contractedDropoffBranch)
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranch)
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranch)
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranch)

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

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ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropoffBranch /\ -Delta)

      (TO MAINTAIN -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranch)
ONE OF DELETE FROM contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM rentalHasBeenPromised;(-(contractedDropoffBranch /\ -Delta)

      (TO MAINTAIN -(contractedDropoffBranch~;rentalHasBeenPromised) \/ contractedDropoffBranch)
      DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM contractedDropoffBranch;(-(contractedDropoffBranch /\ -Delta)

      (TO MAINTAIN -(contractedDropoffBranch~;rentalHasBeenPromised) \/ contractedDropoffBranch)
      (MAINTAINING -(contractedDropoffBranch~;rentalHasBeenPromised) \/ contractedDropoffBranch)
ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM ((-contractedDropoffBranch /\ rentalHasBeenPromised;contractedDropoffBranch)

      (TO MAINTAIN -(rentalHasBeenPromised;contractedDropoffBranch) \/ contractedDropoffBranch)
      DELETE FROM contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM rentalHasBeenPromised~;((-contractedDropoffBranch /\ rentalHasBeenPromised)

      (TO MAINTAIN -(rentalHasBeenPromised;contractedDropoffBranch) \/ contractedDropoffBranch)

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(MAINAINING -(rentalHasBeenPromised;contractedDropoffBranch) \/ contractedDro
(MAINAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranch
(MAINAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranch
(MAINAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoffBranch

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<-----End Derivation --

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ON INSERT Delta IN rcRenter[RentalCase*Person] EXECUTE    -- (ECA rule 31)
ONE OF INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM (rcRenter;(rcRenter \/ Delta)~ /\ rcDriver;rcDriver~ /\ contr

      (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCar
INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM (rcRenter;(rcRenter \/ Delta)~ /\ rcDriver;rcDriver~ /\ contr

      (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{dety=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 Promis
INSERT INTO Isn{dety=Person}
      SELECTFROM ((rcRenter \/ Delta)~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rc

      (TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHand
INSERT INTO Isn{dety=Person}
      SELECTFROM ((rcRenter \/ Delta)~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcU

      (TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserReque
INSERT INTO Isn{dety=Person}
      SELECTFROM ((rcRenter \/ Delta)~;rcDriver;rcDriver~;rcRenter /\ (rcRente

      (TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
INSERT INTO Isn{dety=Person}
      SELECTFROM ((rcRenter \/ Delta)~;rcRenter /\ -I[Person]) \/ ((rcRenter \

      (TO MAINTAIN  -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::Rental
INSERT INTO Isn{dety=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{dety=Person}

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SELECTFROM (Delta~;Delta /\ I[Person]) - I[Person]

(MAINAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Rent
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
(MAINAINING -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::RentalCase*Pe

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

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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{dety=RentalCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{dety=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 --

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ON DELETE Delta FROM rcRenter[RentalCase*Person] EXECUTE -- (ECA rule 32)
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rentalHasBeen

(TO MAINTAIN -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised :
ONE OF DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rentalHasBeenPromised;(-(rcRenter /\ -Delta) /\ rental

(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 /\ rentalHasBeenProm

(TO MAINTAIN -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM P
(MAINTAINING -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM Promise
ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
SELECTFROM (-((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcKe

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      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcKeysHandedOverQ

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
DELETE FROM Isn{dety=RentCase}
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcKeysHandedOverQ

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
      (MAINTAINING  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
      ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcUserRequestedQ

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcUserRequestedQ

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
DELETE FROM Isn{dety=RentCase}
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcUserRequestedQ

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
      (MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
      ONE OF DELETE FROM rcDriver[RentalCase*Person]
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcDriver[RentalCase*Person]

      (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\
DELETE FROM rcDriver[RentalCase*Person]
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcDriver[RentalCase*Person]

      (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcDriver[RentalCase*Person]

      (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcDriver[RentalCase*Person]

      (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\
DELETE FROM Isn{dety=RentCase}
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcDriver[RentalCase*Person]

      (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\
      (MAINTAINING  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\
      (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[RentalCase*Person]
      (MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase*Person]
      (MAINTAINING  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\

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

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ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rentalHasBeenPromised[RentalCase*RentalCase]

(TO MAINTAIN  -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rentalHasBeenPromised[RentalCase*RentalCase]
ONE OF DELETE FROM rcRenter[RentalCase*Person]
      SELECTFROM rentalHasBeenPromised;(-(rcRenter /\ -Delta) /\ rentalHasBeenPromised[RentalCase*RentalCase])

(TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM Promised rentalHasBeenPromised[RentalCase*RentalCase]
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM rcRenter;(-(rcRenter /\ -Delta)~ /\ rcRenter~;rentalHasBeenPromised[RentalCase*RentalCase])

(TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM Promised rentalHasBeenPromised[RentalCase*RentalCase]
(MAINTAINING -(rcRenter~;rentalHasBeenPromised) \/ rcRenter~ FROM Promised rentalHasBeenPromised[RentalCase*RentalCase]
ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM ((-rcRenter /\ rentalHasBeenPromised;rcRenter) \/ (Delta /\ rcRenter~;rentalHasBeenPromised[RentalCase*RentalCase]))

(TO MAINTAIN  -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM Promised rentalHasBeenPromised[RentalCase*Person]
DELETE FROM rcRenter[RentalCase*Person]
      SELECTFROM rentalHasBeenPromised~;((-rcRenter /\ rentalHasBeenPromised[RentalCase*RentalCase]) /\ rcRenter~)

(TO MAINTAIN  -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM Promised rentalHasBeenPromised[RentalCase*Person]
(MAINTAINING -(rentalHasBeenPromised;rcRenter) \/ rcRenter FROM Promised rentalHasBeenPromised[RentalCase*Person]
ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
      SELECTFROM (-((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcKeysHandedOverQ[RentalCase*YesNoAnswer])

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Re]ntalCase*YesNoAnswer]
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
      SELECTFROM (-((rcRenter /\ -Delta);(rcRenter~ /\ -Delta)~)) /\ rcKeysHandedOverQ[RentalCase*YesNoAnswer]

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Re]ntalCase*YesNoAnswer]
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcKeysHandedOverQ[RentalCase*YesNoAnswer]

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Re]ntalCase*YesNoAnswer]
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Re]ntalCase*YesNoAnswer]
ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
      SELECTFROM (-((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcUserRequestedQ[RentalCase*YesNoAnswer])

(TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Re]ntalCase*YesNoAnswer]
DELETE FROM rcUserRequestedQ[RentalCase*YesNoAnswer]
      SELECTFROM (-((rcRenter /\ -Delta);(rcRenter~ /\ -Delta)~)) /\ rcUserRequestedQ[RentalCase*YesNoAnswer]

(TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Re]ntalCase*YesNoAnswer]
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcUserRequestedQ[RentalCase*YesNoAnswer]

(TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Re]ntalCase*YesNoAnswer]

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(MAINAINING -(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{dety=RentalCase}
      SELECTFROM (-(rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcDriver;r

      (TO MAINTAIN -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAns
      (MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcB
(MAINAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINAINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental reques
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase]
(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe

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<-----End Derivation --

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ON INSERT Delta IN rcDriver[RentalCase*Person] EXECUTE      -- (ECA rule 33)
ALL of INSERT INTO Isn{dety=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

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(TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promis
(TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised
INSERT INTO Isn{dety=RentatCase}
  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{dety=Person}
  SELECTFROM 'a' [Person]*'b' [Person]

      (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person]
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
  THEN INSERT INTO validDrivingLicen
    SELECTFROM 'a' [Person]*'b' [

      (TO MAINTAIN  -rcDriver \/ r
PICK a,b FROM validDrivingLicense
THEN INSERT INTO validDrivingLicen
  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] /\ validDrivingLicen
NEW x:Person;
  ALL of INSERT INTO rcDriver[RentalCase*Person]
    SELECTFROM ((rcDriver /\ -(rcDriver;(I[Person] /\ validD

      (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validD
INSERT INTO Isn{dety=Person}
  SELECTFROM 'x' [Person]*((rcDriver /\ -(rcDriver;(I[Person]

      (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validD
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [Per

```

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        THEN INSERT INTO validDrivingLicense[Person]
            SELECTFROM 'a'[Person]*'b'[DrivingLicense]

        (TO MAINTAIN -rcDriver \/ rcDriver;(I
        PICK a,b FROM validDrivingLicense~;'x'[Per
        THEN INSERT INTO validDrivingLicense[Person]
            SELECTFROM 'b'[Person]*'a'[DrivingLicense]

        (TO MAINTAIN -rcDriver \/ rcDriver;(I
        (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ v
        NEW x:DrivingLicense;
        INSERT INTO validDrivingLicense[Person*DrivingLicense]
            SELECTFROM 'x'[Person]*'x'[DrivingLicense] \/ (

        (TO MAINTAIN -rcDriver \/ rcDriver;(I[Person] /\
        (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ v
        (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrive
        (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense
        (MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;valid
        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] /\ validDrivingLicense
        NEW x:DrivingLicense;
        INSERT INTO validDrivingLicense[Person*DrivingLicense]
            SELECTFROM (((rcDriver \/ Delta)~;rcDriver /\ -I[Person])) \/ ((

        (TO MAINTAIN -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense
        (MAINTAINING -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense
        (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~ /\ rcBranchRequested
        PICK a,b FROM rcRenter~;((rcDriver;rcDriver \/ Delta)~ /\
        THEN INSERT INTO rcRenter[RentalCase*Person]
            SELECTFROM 'b'[RentalCase]*'a'[Person]

        (TO MAINTAIN -(rcDriver;rcDriver~ /\ rcBranchRequested
        (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN
        NEW x:Person;

```

```

INSERT INTO rcRenter[RentalCase*Person]
    SELECTFROM ((rcDriver;rcDriver \ / Delta)~ /\ rcBranchRequestedQ;
        (TO MAINTAIN -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
        (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
        (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer]
        (MAINTAINING -rcDriver \ / rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLicense;
        (MAINTAINING -rcDriver \ / rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLicense;
        (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contractedCarType;
        (MAINTAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contractedCarType;
        (MAINTAINING -rentalHasBeenPromised \ / rcDriver;rcDriver~ FROM Promised rental rcRenter;rcRenter~
        (MAINTAINING -rentalHasBeenPromised \ / rcDriver;rcDriver~ FROM Promised rental rcRenter;rcRenter~
        (MAINTAINING -rentalHasBeenPromised \ / rcDriver;rcDriver~ FROM Promised rental rcRenter;rcRenter~
        (MAINTAINING -rentalHasBeenPromised \ / rcDriver;rcDriver~ FROM Promised rental rcRenter;rcRenter~
        (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCase*Person]
        (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\ I[RentalCase*Person]
        (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\ I[RentalCase*Person]
        (MAINTAINING -(rcDriver~;rcDriver) \ / I[Person] FROM UNIrcDriver::RentalCase*Person

```

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ALL of INSERT INTO Isn{dety=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{dety=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{dety=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{dety=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] \/ ((rcDriver

        (TO MAINTAIN -rcDriver \/ rcDriver;(I[Person] /\ validD
        (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)~;rcDriver
        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)~;rcDriver
        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]) \/ ((rcDriver

        (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)~ /\ rcBranch
        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

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(MAINAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental request
(MAINAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental request
(MAINAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental request
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCase]
(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~
(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~
(MAINAINING -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase*Person)

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<-----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;validDrivingLicense)
      (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLicense)
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM -((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rentalHasBeenPromised
      (TO MAINTAIN  -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental request
ONE OF DELETE FROM rcDriver[RentalCase*Person]
      SELECTFROM rentalHasBeenPromised;(-(rcDriver /\ -Delta) /\ rentalHasBeenPromised)
      (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promised rental request
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM rcDriver;(-(rcDriver /\ -Delta)~ /\ rcDriver~;rentalHasBeenPromised)
      (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promised rental request
(MAINAINING -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promised rental request
ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM ((-rcDriver /\ rentalHasBeenPromised;rcDriver) \/ (Delta /\ rcDriver))
      (TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised rental request
DELETE FROM rcDriver[RentalCase*Person]
      SELECTFROM rentalHasBeenPromised~;((-rcDriver /\ rentalHasBeenPromised) /\ rcDriver)
      (TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised rental request
(MAINAINING -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised rental request
ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
      SELECTFROM (-((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcKeysHandedOverQ)
      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ FROM Promised rental request
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
      SELECTFROM (-((rcDriver /\ -Delta);(rcDriver~ /\ -Delta)) /\ rcKeysHandedOverQ)
      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ FROM Promised rental request
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM -((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcKeysHandedOverQ

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```

        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
        (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\
(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 \/ rcDriver;rcDriver~ FROM Promised rental r
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Rent

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

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ALL of DELETE FROM rcDriver[RentalCase*Person]
    SELECTFROM -(rcDriver /\ -Delta);(I[Person] /\ validDrivingLicense;validDriving

    (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDriving
    DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
    SELECTFROM -(rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rentalHasBeenPromised

    (TO MAINTAIN  -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised rental
    ONE OF DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM rentalHasBeenPromised;(-(rcDriver /\ -Delta) /\ rentalHasBeenPromised

        (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promised rental
        DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM rcDriver;(-(rcDriver /\ -Delta)~ /\ rcDriver~;rentalHasBeenPromised

        (TO MAINTAIN  -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promised rental
        (MAINTAINING -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promised rental
        ONE OF DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
            SELECTFROM ((-rcDriver /\ rentalHasBeenPromised;rcDriver) \/ (Delta /\

            (TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised rental
            DELETE FROM rcDriver[RentalCase*Person]
            SELECTFROM rentalHasBeenPromised~;((-rcDriver /\ rentalHasBeenPromised)~

            (TO MAINTAIN  -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised rental
            (MAINTAINING -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised rental
            ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                SELECTFROM (-((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcKeysHandedOverQ~

                (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
                DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
                SELECTFROM (-((rcDriver /\ -Delta);(rcDriver~ /\ -Delta)) /\ rcKeysHandedOverQ~

                (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
                DELETE FROM Isn{detyp=RentalCase}
                SELECTFROM -(rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcKeysHandedOverQ~

                (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~

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```

      (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{dety=Person}
      SELECTFROM (Delta;Delta~ /\ I[Person]) - I[Person]

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

```

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

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ALL of INSERT INTO Isn{dety=Person}
      SELECTFROM (Delta;Delta~ /\ I[Person]) - I[Person]

INSERT INTO Isn{dety=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);(validDr

(TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDr
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~ FROM
PICK a,b FROM contractedCarType~;((rcAssignedCar /\ -(contractedCar
      THEN INSERT INTO carType[Car*CarType]
            SELECTFROM 'b'[Car]*'a'[CarType]

      (TO MAINTAIN  -rcAssignedCar \/ contractedCarType;carType~ FROM
(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{dety=CarType}
            SELECTFROM (contractedCarType~;rcAssignedCar;carType /\ -I[CarType]) \/

```

```

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

(TO MAINTAIN  -(rcAssignedCar;carType) \/ contractedCarType FROM Rented c
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ r

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ r
INSERT INTO rcAssignedCar[RentalCase*Car]
SELECTFROM rentalHasBeenStarted~;(rcAssignedCar \/ Delta) /\ -rcAssignedCar

(TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssignedCar~ FROM Rented c
INSERT INTO Isn{dety=Car}
SELECTFROM ((rcAssignedCar \/ Delta)~;rentalHasBeenStarted;rcAssignedCar

(TO MAINTAIN  -(rcAssignedCar~;rentalHasBeenStarted;rcAssignedCar) \/ I[CarType] FROM Rented c
INSERT INTO rcAssignedCar[RentalCase*Car]
SELECTFROM (rentalHasBeenStarted;rcAssignedCar /\ -rcAssignedCar) \/ (rentalHasBeenStarted;rcAssignedCar /\ -rcAssignedCar)

(TO MAINTAIN  -(rentalHasBeenStarted;rcAssignedCar) \/ rcAssignedCar FROM Rented c
INSERT INTO Isn{dety=Car}
SELECTFROM (rcAssignedCar \/ Delta)~;rcDroppedOffCar /\ -I[Car]

(TO MAINTAIN  -(rcAssignedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off
INSERT INTO rentalBasicCharge[RentalCase*Amount]
SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff) /\ -rcAssignedCar) /\ -rcAssignedCar

(TO MAINTAIN  -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff) /\ -rcAssignedCar) /\ -rcAssignedCar
INSERT INTO Isn{dety=Amount}
SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff) /\ -rcAssignedCar) /\ -rcAssignedCar

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

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

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff) /\ -rcAssignedCar) /\ -rcAssignedCar
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcAssignedCar;rcAssignedCar /\ -rcAssignedCar) /\ -rcAssignedCar)
THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase] /\ -rcAssignedCar) /\ -rcAssignedCar
THEN INSERT INTO rentalPeriod[RentalCase*Amount]
SELECTFROM 'a'[RentalCase]*'b'[RentalCase] /\ -rcAssignedCar

(TO MAINTAIN  -(rcAssignedCar;rcAssignedCar /\ -rcAssignedCar) /\ -rcAssignedCar
PICK a,b FROM rentalPeriod~;'a'[RentalCase] /\ -rcAssignedCar
THEN INSERT INTO ctcNrOfDays[CompTariff]
SELECTFROM rentalPeriod~;'a'[RentalCase] /\ -rcAssignedCar

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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
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NEW x:Amo
ALL of

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                                (MAINTAINING -(rcAssignedCar
(MAINTAINING -(rcAssignedCar
NEW x:CarType;
    ALL of INSERT INTO carType
        SELECTFROM 'a'[Car

                                (TO MAINTAIN -(rcAssignedCar
                                ONE OF ONE NONEMPTY
                                    THEN

                                PICK
                                THEN

                                (MAINTAINING
                                NEW x:Amount
                                    ALL of INS
                                        SE

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                                (MAINTAINING
                                (MAINTAINING
                                    (MAINTAINING -(rcAssignedCar
                                    (MAINTAINING -(rcAssignedCar
                                    (MAINTAINING -(rcAssignedCar
                                    (MAINTAINING -(rcAssignedCar;rcAssignedCar
                                    (MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
NEW x:Car;
    ALL of INSERT INTO rcAssignedCar[RentalCase*CarType]
        SELECTFROM 'a'[RentalCase]*'b'[CompTar

                                (TO MAINTAIN -(rcAssignedCar;rcAssignedCar
                                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                    THEN INSERT INTO carType
                                        SELECTFROM 'a'[Car

                                (TO MAINTAIN -(rcAssignedCar
                                PICK a,b FROM carType~;
                                THEN ONE OF ONE NONEMPTY
                                    THEN

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NEW x:Amount
  ALL of INS
      SE
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(MAINTRAINING -(rcAs

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(MAINTAINING -(rcAssignedCar;rc
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NEW x:CarType;
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ALL of INSERT INTO carType[Ca

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SELECTFROM 'x' [Car]*'
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(TO MAINTAIN  -(rcAssi
ONE OF ONE NONEMPTY AL
                        THEN INS
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NEW x:Amount;

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(MAINTAINING -(rcAssignedCar;
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(MAINTAINING -(rcAssignedCar;rc
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(MAINTAINING -(rcAssignedCar;rcAssigne
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(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalP
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;r
PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalT
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger :
(MAINAINING -(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' [YesNoAnswer

(TO MAINTAIN -(' _SESSION' [SESSION];session
PICK a,b FROM rcKeysHandedOverQ~;('a' [RentalCase
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
THEN BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer]
PICK a,b FROM 'Yes' [YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer]
(MAINAINING -(' _SESSION' [SESSION];
(MAINAINING -(' _SESSION' [SESSION];
(MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
(MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer]
BLOCK
(CANNOT CHANGE V[YesNoAnswer]
(MAINAINING -(' _SESSION' [SESSION];
(MAINAINING -(' _SESSION' [SESSION];
(MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
(MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
NEW x:YesNoAnswer;
ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
SELECTFROM 'a' [RentalCase]*'b' [RentalCase]*'b' [YesNoAnswer]

(TO MAINTAIN -(' _SESSION' [SESSION];sessionNewBranchRC;
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionNewBranchRC~;
THEN BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer]
PICK a,b FROM 'Yes' [YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer]
(MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
NEW x:YesNoAnswer;
ALL of BLOCK

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(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC;(re
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHas
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenProm
(MAINAINING -('_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 Hand
PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnsw
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase] F
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand t
BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessio
(MAINAINING -(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
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNe
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
(MAINAINING -(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

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(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssign
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];sessionDrop
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[RentalCase
        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

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                                (TO MAINTAIN -('_SESSION' [SESSION]
(MAINAINING -('_SESSION' [SESSION]
NEW x:YesNoAnswer;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes' [YesNoAnswer]
        INSERT INTO rentalIsPaid
        SELECTFROM 'b' [RentalCase]

                                (TO MAINTAIN -('_SESSION' [SESSION]
                                (MAINAINING -('_SESSION' [SESSION]
                                (MAINAINING -('_SESSION' [SESSION]
                                (MAINAINING -('_SESSION' [SESSION];sessionDroppedoffCar;
                                (MAINAINING -('_SESSION' [SESSION];sessionDroppedoffCar;
                                (MAINAINING -('_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar;
                                (MAINAINING -('_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar;
(MAINAINING -('_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar;
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
    SELECTFROM (rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));

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

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

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

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

(TO MAINTAIN -(rcAssignedCar~;rcAssignedCar) /\ I[Car] FROM UNI rcAssignedCar
INSERT INTO Isn{dety=RentalCase}
    SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

(MAINAINING -rcAssignedCar /\ contractedCarType;carType~ FROM Rented car type is
(MAINAINING -rcAssignedCar /\ contractedCarType;carType~ FROM Rented car type is
(MAINAINING -rcAssignedCar /\ contractedCarType;carType~ FROM Rented car type is
(MAINAINING -rcAssignedCar /\ contractedCarType;carType~ FROM Rented car type is
(MAINAINING -rcAssignedCar /\ contractedCarType;carType~ FROM Rented car type is
(MAINAINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssignedCar

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(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

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

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ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcAssignedCar /\ -(contractedCarType
      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

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(TO MAINTAIN  -(contractedCarType~;rcAssignedCar) \/ carType~ FROM Rented car
INSERT INTO Isn{dety=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{dety=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{dety=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{dety=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{dety=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]

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        (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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PICK a,
THEN IN
        S

        (T
(MAINTAINING -
NEW x:Amount;
    ALL of INSE
        SELE

        (TO M
INSE
        SELE

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                                (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 INSE
                                        SELE

                                (TO M
                                PICK a,b F
                                THEN INSE
                                    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 INSE

```

```

SELECT
    (TO MAIN
    PICK a,b FROM
    THEN INSERT
    SELECT
    (TO MAIN
    (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
    (TO MAINTAI
    (MAINTAINING -(rcA
    (MAINTAINING -(rcAss
    (MAINTAINING -(rcAssignedCa

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(MAINAINING -(rcAssignedCar;rcAssig
(MAINAINING -(rcAssignedCar;rcAssig
(MAINAINING -(rcAssignedCar;rcAssignedCar~
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ ren
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ renta
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rental
PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTariff
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger regul
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((' _SESSION' [SESSION];sessionNewBranchRC
THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM 'a' [SESSION]*'b' [RentalCase]

(TO MAINTAIN -(' _SESSION' [SESSION];sessionNewBranchRC;(rentalHasB
PICK a,b FROM sessionNewBranchRC~;((' _SESSION' [SESSION];sessionNewBranchRC
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]*
THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
SELECTFROM 'a' [RentalCase]*'b' [YesNoAnswer]

(TO MAINTAIN -(' _SESSION' [SESSION];sessionNewBranchRC
PICK a,b FROM rcKeysHandedOverQ~;('a' [RentalCase]*'b' [YesNoAnswer]
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcKeysHandedOverQ
THEN BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer]
PICK a,b FROM 'Yes' [YesNoAnswer];
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer]
(MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer]
BLOCK
(CANNOT CHANGE V[YesNoAnswer*Re
(MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC
(MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC
(MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC
(MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC;(rentalHasB
NEW x:YesNoAnswer;
ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
SELECTFROM 'a' [RentalCase]*'b' [RentalCase]*'x' [YesNoAnswer]

(TO MAINTAIN -(' _SESSION' [SESSION];sessionNewBranchRC
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcKeysHandedOverQ
THEN BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer]
PICK a,b FROM 'Yes' [YesNoAnswer];('x' [YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer*Re

```

```

(MAINAINING -('_SESSION' [SESSION];sessionN
NEW x:YesNoAnswer;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes' [YesNoAnswer]
        BLOCK
            (CANNOT CHANGE V[YesNoAnswer*Renta
        (MAINAINING -('_SESSION' [SESSION];sessio
        (MAINAINING -('_SESSION' [SESSION];sessionN
        (MAINAINING -('_SESSION' [SESSION];sessionNewBranch
        (MAINAINING -('_SESSION' [SESSION];sessionNewBranchRC;(re
        (MAINAINING -('_SESSION' [SESSION];sessionNewBranchRC;(rent
        (MAINAINING -('_SESSION' [SESSION];sessionNewBranchRC;(rentalHasBe
(MAINAINING -('_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];sessionNewBranch
PICK a,b FROM rcKeysHandedOverQ~;('x' [RentalCase]*((' _S
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (
    THEN BLOCK
        (CANNOT CHANGE 'Yes' [YesNoAnswer]
        PICK a,b FROM 'Yes' [YesNoAnswer];('a
    THEN BLOCK
        (CANNOT CHANGE V[YesNoAnswer*Re
(MAINAINING -('_SESSION' [SESSION];sessionN
NEW x:YesNoAnswer;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes' [YesNoAnswer]
        BLOCK
            (CANNOT CHANGE V[YesNoAnswer*Renta
        (MAINAINING -('_SESSION' [SESSION];sessio
        (MAINAINING -('_SESSION' [SESSION];sessionN
        (MAINAINING -('_SESSION' [SESSION];sessionNewBranch
(MAINAINING -('_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

```

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(CANNOT CHANGE V[YesNoAnswer*RentalCase]
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC;(renta
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalH
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenP
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised
(MAINAINING -('_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
(MAINAINING -(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
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];se
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sess
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewB
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(ren
NEW x:YesNoAnswer;
ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
SELECTFROM ((sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBra
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*((sessionNe
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
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(r
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(r
(MAINAINING -(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]

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

      (TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
(MAINAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar
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{dety=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
(MAINAINING -('_SESSION' [SESSION
NEW x:YesNoAnswer;
      ALL of BLOCK
        (CANNOT CHANGE 'Yes' [Yes
        INSERT INTO rentalIsPaid
        SELECTFROM 'b' [RentalCa

        (TO MAINTAIN -('_SESSION
        (MAINAINING -('_SESSION' [SESSI
        (MAINAINING -('_SESSION' [SESSION
        (MAINAINING -('_SESSION' [SESSION];sessi
(MAINAINING -('_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

```



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PICK a,b FROM 'Yes'[YesNoAnsw
THEN INSERT INTO rentalIsPaid
SELECTFROM 'b'[RentalCa

(TO MAINTAIN -('_SESSION'
(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

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(MAINTEINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integrity)
(MAINTEINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integrity)
(MAINTEINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssignedCar)
(MAINTEINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started rental
(MAINTEINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started rental
(MAINTEINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started rental
(MAINTEINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started rental
(MAINTEINING -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type integrity)
(MAINTEINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTEINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTEINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTEINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTEINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[RentalCase]
(MAINTEINING -(('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar)
(MAINTEINING -(('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar)
(MAINTEINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcKeysHandedOverQ
(MAINTEINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcKeysHandedOverQ
(MAINTEINING -(('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]
(MAINTEINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDroppedoffCar
(MAINTEINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDroppedoffCar
(MAINTEINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDroppedoffCar
(MAINTEINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDroppedoffCar
(MAINTEINING -(rcAssignedCar~;rcAssignedCar) \/ I[Car] FROM UNI rcAssignedCar::RentalCase

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<-----End Derivation --

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ON DELETE Delta FROM rcAssignedCar[RentalCase*Car] EXECUTE -- (ECA rule 38)
ALL of DELETE FROM Isn{dety=Car}
    SELECTFROM -(carAvailableAt;carAvailableAt~) /\ -((rcAssignedCar /\ -Delta) /\ rcAssignedCar)

(TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar)
DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
    SELECTFROM -((rcAssignedCar /\ -Delta);(rcAssignedCar /\ -Delta)~) /\ rcAssignedCar

(TO MAINTAIN -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM rcAssignedCar)
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
    SELECTFROM rentalHasBeenStarted;(-(rcAssignedCar /\ -Delta) /\ rcAssignedCar)

(TO MAINTAIN -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssignedCar)
DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
    SELECTFROM rcAssignedCar;(-(rcAssignedCar /\ -Delta)~ /\ rcAssignedCar)

(TO MAINTAIN -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssignedCar)
(MAINTEINING -(rcAssignedCar~;rentalHasBeenStarted) \/ rcAssignedCar~ FROM rcAssignedCar)
ONE OF DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
    SELECTFROM ((-rcAssignedCar /\ rentalHasBeenStarted;rcAssignedCar) /\ rcAssignedCar)

(TO MAINTAIN -(rentalHasBeenStarted;rcAssignedCar) \/ rcAssignedCar)

```

```

DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM rentalHasBeenStarted~;((-rcAssignedCar /\ rentalHasBeenStarted) /\ rcAssignedCar) \
/ rcAssignedCar FROM rcAssignedCar[RentalCase*Car]
(MAINTAINING -(rentalHasBeenStarted;rcAssignedCar) /\ rcAssignedCar FROM rcAssignedCar[RentalCase*Car]) \
DELETE FROM rcDroppedOffCar[RentalCase*Car]
SELECTFROM (-rcAssignedCar /\ rcDroppedOffCar) /\ (Delta /\ rcDroppedOffCar) FROM rcDroppedOffCar[RentalCase*Car]
(TO MAINTAIN -rcDroppedOffCar /\ rcAssignedCar FROM Dropped-off car type) \
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -Deleted) /\ rcAssignedCar) /\ rcAssignedCar) \
/ rcAssignedCar FROM rcAssignedCar[RentalCase*Car]
DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM (- (V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod;rcAssignedCar) /\ rcAssignedCar) \
/ rcAssignedCar FROM rcAssignedCar[RentalCase*Car]
(TO MAINTAIN -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod;rcAssignedCar) /\ rcAssignedCar) \
DELETE FROM rentalPeriod[RentalCase*Integer]
SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -Deleted) /\ rcAssignedCar) /\ rcAssignedCar) \
/ rcAssignedCar FROM rcAssignedCar[RentalCase*Car]
(TO MAINTAIN -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod;rcAssignedCar) /\ rcAssignedCar) \
DELETE FROM rentalPeriod[RentalCase*Integer]
SELECTFROM (- (V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod;rcAssignedCar) /\ rcAssignedCar) \
/ rcAssignedCar FROM rcAssignedCar[RentalCase*Car]
(TO MAINTAIN -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod;rcAssignedCar) /\ rcAssignedCar) \
DELETE FROM Isn{dety=RentalCase}
SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -Deleted) /\ rcAssignedCar) /\ rcAssignedCar) \
/ rcAssignedCar FROM rcAssignedCar[RentalCase*Car]
(TO MAINTAIN -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod;rcAssignedCar) /\ rcAssignedCar) \
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod;rcAssignedCar) /\ rcAssignedCar) \
ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
SELECTFROM (-((rentalExcessPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -Deleted) /\ rcAssignedCar) /\ rcAssignedCar) \
/ rcAssignedCar FROM rcAssignedCar[RentalCase*Car]
(TO MAINTAIN -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) /\ I[RentalCase]) \
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
SELECTFROM (- (V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalExcessPeriod;rcAssignedCar) /\ rcAssignedCar) \
/ rcAssignedCar FROM rcAssignedCar[RentalCase*Car]
(TO MAINTAIN -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) /\ I[RentalCase]) \
DELETE FROM Isn{dety=RentalCase}
SELECTFROM -((rentalExcessPeriod;ctcNrOfDays~ /\ (rcAssignedCar /\ -Deleted) /\ rcAssignedCar) /\ rcAssignedCar) \
/ rcAssignedCar FROM rcAssignedCar[RentalCase*Car]
(TO MAINTAIN -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) /\ I[RentalCase]) \
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) /\ I[RentalCase]) \
DELETE FROM sessionDroppedoffCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];(-(sessionDroppedoffCar;(I[Car] /\ (rcAssignedCar /\ -Deleted) /\ rcAssignedCar) /\ rcAssignedCar) \
/ rcAssignedCar FROM rcAssignedCar[RentalCase*Car]
(TO MAINTAIN -('_SESSION'[SESSION];sessionDroppedoffCar) /\ sessionDroppedoffCar) \
ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ -Deleted) /\ rcAssignedCar) \
/ rcAssignedCar FROM rcAssignedCar[RentalCase*Car]

```

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      (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~;(rental
      (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

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

```

ALL of DELETE FROM Isn{dety=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

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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{dety=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{dety=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];sessionDrope
DELETE FROM sessionDroppedoffCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessi

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDrope
(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

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(MAINTEINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM Started renta
(MAINTEINING -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type integrity)
(MAINTEINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Rental
(MAINTEINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExc
(MAINTEINING -(('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
(MAINTEINING -(('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C

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<-----End Derivation --

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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 Promis
PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnsw
      THEN INSERT INTO rcBranchRequestedQ[RentalCase*
      SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

      (TO MAINTAIN -rentalHasBeenPromised \/ rc
(MAINTEINING -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;'Ye
(MAINTEINING -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*YesNoAnswer]
      SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

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        (TO MAINTAIN -rentalHasBeenPromised \/ rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        THEN INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM 'a' [RentalCase]*'b' [YesNoAnswer]

        (TO MAINTAIN -rentalHasBeenPromised \/ rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        PICK a,b FROM rcUserRequestedQ~;((rentalHasBeenPromised /\ -(rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [YesNoAnswer]
        THEN BLOCK
        (CANNOT CHANGE 'Yes' [YesNoAnswer] FROM PromisedQ; 'Yes' [YesNoAnswer]
        PICK a,b FROM 'Yes' [YesNoAnswer];('a' [YesNoAnswer]
        THEN INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM 'b' [RentalCase]*'a' [YesNoAnswer]

        (TO MAINTAIN -rentalHasBeenPromised \/ rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        NEW x:YesNoAnswer;
        ALL of BLOCK
        (CANNOT CHANGE 'Yes' [YesNoAnswer] FROM PromisedQ; 'Yes' [YesNoAnswer]
        INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM 'b' [RentalCase]*'a' [YesNoAnswer]

        (TO MAINTAIN -rentalHasBeenPromised \/ rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        (MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ; 'Yes' [YesNoAnswer]
        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(contractedPickupBranch[RentalCase*Branch]
        THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM 'a' [RentalCase]*'b' [Branch]

        (TO MAINTAIN -rentalHasBeenPromised \/ contractedPickupBranch[RentalCase*Branch]
        PICK a,b FROM contractedPickupBranch~;((rentalHasBeenPromised /\ -(contractedPickupBranch[RentalCase*Branch]
        THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM 'b' [RentalCase]*'a' [Branch]

        (TO MAINTAIN -rentalHasBeenPromised \/ contractedPickupBranch[RentalCase*Branch]
        (MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch[RentalCase*Branch]
        NEW x:Branch;
        INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM ((rentalHasBeenPromised /\ -(contractedPickupBranch[RentalCase*Branch]

        (TO MAINTAIN -rentalHasBeenPromised \/ contractedPickupBranch[RentalCase*Branch]
        (MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch[RentalCase*Branch]
        INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM (rentalHasBeenPromised~;contractedPickupBranch /\ -contractedPickupBranch[RentalCase*Branch]

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(TO MAINTAIN -(contractedPickupBranch~;rentalHasBeenPromised) \/ contract
INSERT INTO Isn{dety=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 \/ contractedDropoffBranch
PICK a,b FROM contractedDropoffBranch~;((rentalHasBeenPromised /\ -(co
THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
SELECTFROM 'b'[RentalCase]*'a'[Branch]

(TO MAINTAIN -rentalHasBeenPromised \/ contractedDropoffBranch
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contracted
INSERT INTO contractedDropoffBranch[RentalCase*Branch]
SELECTFROM (rentalHasBeenPromised~;contractedDropoffBranch /\ -contracte

(TO MAINTAIN -(contractedDropoffBranch~;rentalHasBeenPromised) \/ contra
INSERT INTO Isn{dety=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{dety=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;contractedEndDa
INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM (rentalHasBeenPromised~;contractedEndDate /\ -contractedEndDa

(TO MAINTAIN -(contractedEndDate~;rentalHasBeenPromised) \/ contractedEn
INSERT INTO Isn{dety=Date}
SELECTFROM (contractedEndDate~;rentalHasBeenPromised;contractedEndDate /\

(TO MAINTAIN -(contractedEndDate~;rentalHasBeenPromised;contractedEndDa
INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM (rentalHasBeenPromised;contractedEndDate /\ -contractedEndDa

(TO MAINTAIN -(rentalHasBeenPromised;contractedEndDate) \/ contractedEnd
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;contractedCarType
NEW x:CarType;
INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM ((rentalHasBeenPromised /\ -(contractedCarType;contractedCar

(TO MAINTAIN -rentalHasBeenPromised \/ contractedCarType;contractedCar

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(MAINAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Promised r
INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM (rentalHasBeenPromised~;contractedCarType /\ -contractedCarType~ FROM Promised r

(TO MAINTAIN -(contractedCarType~;rentalHasBeenPromised) \/ contractedCarType~ FROM Promised r
INSERT INTO Isn{dety=CarType}
SELECTFROM (contractedCarType~;rentalHasBeenPromised;contractedCarType /\ -contractedCarType~ FROM Promised r

(TO MAINTAIN -(contractedCarType~;rentalHasBeenPromised;contractedCarType~ FROM Promised r
INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM (rentalHasBeenPromised;contractedCarType /\ -contractedCarType~ FROM Promised r

(TO MAINTAIN -(rentalHasBeenPromised;contractedCarType) \/ contractedCarType~ FROM Promised r
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rcDriver;rcDriver~ FROM Promised r
THEN INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM 'a'[RentalCase]*'b'[Person]

(TO MAINTAIN -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised r
PICK a,b FROM rcDriver~;((rentalHasBeenPromised /\ -(rcDriver;rcDriver~ FROM Promised r
THEN INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM 'b'[RentalCase]*'a'[Person]

(TO MAINTAIN -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised r
(MAINAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised r
NEW x:Person;
INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM ((rentalHasBeenPromised /\ -(rcDriver;rcDriver~)) \/ (Delta;rcDriver~ FROM Promised r

(TO MAINTAIN -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised r
(MAINAINING -rentalHasBeenPromised \/ rcDriver;rcDriver~ FROM Promised r
INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM (rentalHasBeenPromised~;rcDriver /\ -rcDriver) \/ (Delta~;rcDriver~ FROM Promised r

(TO MAINTAIN -(rcDriver~;rentalHasBeenPromised) \/ rcDriver~ FROM Promised r
INSERT INTO Isn{dety=Person}
SELECTFROM (rcDriver~;rentalHasBeenPromised;rcDriver /\ -I[Person]) \/ (Delta~;rcDriver~ FROM Promised r

(TO MAINTAIN -(rcDriver~;rentalHasBeenPromised;rcDriver) \/ I[Person] FROM Promised r
INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM (rentalHasBeenPromised;rcDriver /\ -rcDriver) \/ (Delta;rcDriver~ FROM Promised r

(TO MAINTAIN -(rentalHasBeenPromised;rcDriver) \/ rcDriver FROM Promised r
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rcDriver;rcDriver~ FROM Promised r
THEN INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM 'a'[RentalCase]*'b'[Person]

(TO MAINTAIN -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised r
PICK a,b FROM rcRenter~;((rentalHasBeenPromised /\ -(rcRenter;rcRenter~ FROM Promised r
THEN INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM 'b'[RentalCase]*'a'[Person]

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        (TO MAINTAIN  -rentalHasBeenPromised /\ rcRenter;rcRenter~ FROM Promised r
(MAINAINING -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{dety=Person}
        SELECTFROM (rcRenter~;rentalHasBeenPromised;rcRenter /\ -I[Person]) /\ (

(TO MAINTAIN  -(rcRenter~;rentalHasBeenPromised;rcRenter) /\ I[Person] FROM
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
(MAINAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenProm
NEW x:Car;
        ALL of INSERT INTO carAvailableAt[Car*Branch]
                SELECTFROM 'x'[Car]*((contractedCarType~;(I[RentalCase] /\ rent

        (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rental
        INSERT INTO carType[Car*CarType]
                SELECTFROM 'x'[Car]*((contractedPickupBranch~;(I[RentalCase] /\

        (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rental
        (MAINAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
(MAINAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenProm
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'[YesNoAnswer]

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

(TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC;
PICK a,b FROM rcKeysHandedOverQ~;('x'[RentalCase]*
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand
PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase] F
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand
BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase] F
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
NEW x:YesNoAnswer;
ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
SELECTFROM 'x'[RentalCase]*((('_SESSION'[SESSION]

(TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand
PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase] F
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionNewBranchRC~;'_SESSION'[SESSION]
THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

(TO MAINTAIN -((sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;
PICK a,b FROM rcKeysHandedOverQ~;((sessionNewBranchRC~;'_SESSION'[SESSION]
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand
PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase] F
(MAINTAINING -((sessionNewBranchRC~;'_SESSION'[SESSION]

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NEW x:YesNoAnswer;
ALL of BLOCK
    (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand t.
BLOCK
    (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM
    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];session
(MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
INSERT INTO Isn{dety=RentCase}
    SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{dety=RentCase}
    SELECTFROM (Delta~;Delta /\ I[RentalCase]) - I[RentalCase]

(MAINTAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcB
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
(MAINTAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickupBr
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoff
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoff
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoff
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoff
(MAINTAINING -rentalHasBeenPromised \/ contractedDropoffBranch;contractedDropoff
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(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 \/ 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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(MAINTEINING -rentalHasBeenPromised \/ rcRenter;rcRenter~ FROM Promised rental r
(MAINTEINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssi
(MAINTEINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\
(MAINTEINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\
(MAINTEINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\

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

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ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rcBranch
      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 \/ rcBranch
(MAINTEINING -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
(MAINTEINING -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'[YesM
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
(MAINTEINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNo

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(MAINAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer]
(MAINAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[YesNoAnswer];r
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(rcBranch
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 \/ rcBranch
(MAINAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Promised re
INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnsw
SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]*'x'[Y

(TO MAINTAIN -rentalHasBeenPromised \/ rcBranchRe
(MAINAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;
(MAINAINING -rentalHasBeenPromised \/ rcBranchRequestedQ;'Yes'[Ye
(MAINAINING -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
(MAINAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickup
NEW x:Branch;
INSERT INTO contractedPickupBranch[RentalCase*Branch]
SELECTFROM ((rentalHasBeenPromised /\ -(contractedPickupBranch;contractedPi

(TO MAINTAIN -rentalHasBeenPromised \/ contractedPickupBranch;contractedPic
(MAINAINING -rentalHasBeenPromised \/ contractedPickupBranch;contractedPickup
INSERT INTO contractedPickupBranch[RentalCase*Branch]
SELECTFROM (rentalHasBeenPromised~;contractedPickupBranch /\ -contractedPicku

(TO MAINTAIN -(contractedPickupBranch~;rentalHasBeenPromised) \/ contractedPi
INSERT INTO Isn{dety=Branch}

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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{dety=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

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(TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised) \/ contractedStartDate
INSERT INTO Isn{dety=Date}
SELECTFROM (contractedStartDate~;rentalHasBeenPromised;contractedStartDate /\

(TO MAINTAIN  -(contractedStartDate~;rentalHasBeenPromised;contractedStartDate
INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM (rentalHasBeenPromised;contractedStartDate /\ -contractedStartDate

(TO MAINTAIN  -(rentalHasBeenPromised;contractedStartDate) \/ contractedStartDate
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalHasBeenPromised /\ -(contractedStartDate
THEN INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'a' [RentalCase]*'b' [Date]

(TO MAINTAIN  -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate
PICK a,b FROM contractedEndDate~;((rentalHasBeenPromised /\ -(contractedEndDate
THEN INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'b' [RentalCase]*'a' [Date]

(TO MAINTAIN  -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate
(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FR
INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM (rentalHasBeenPromised~;contractedEndDate /\ -contractedEndDate) \

(TO MAINTAIN  -(contractedEndDate~;rentalHasBeenPromised) \/ contractedEndDate
INSERT INTO Isn{dety=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 /\ -(contractedEndDate
THEN INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM 'a' [RentalCase]*'b' [CarType]

(TO MAINTAIN  -rentalHasBeenPromised \/ contractedCarType;contractedCarType
PICK a,b FROM contractedCarType~;((rentalHasBeenPromised /\ -(contractedCarType
THEN INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM 'b' [RentalCase]*'a' [CarType]

(TO MAINTAIN  -rentalHasBeenPromised \/ contractedCarType;contractedCarType
(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]

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SELECTFROM (rentalHasBeenPromised~;contractedCarType /\ -contractedCarType) \

(TO MAINTAIN -(contractedCarType~;rentalHasBeenPromised) \/ contractedCarType
INSERT INTO Isn{dety=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{dety=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

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(MAINTEINING -(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{dety=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];sessionNewBranchRC
THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM 'a'[SESSION]*'b'[RentalCase]

(TO MAINTAIN -(' _SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
PICK a,b FROM sessionNewBranchRC~;((' _SESSION'[SESSION];sessionNewBranch
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

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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{dety=RentalCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{dety=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
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(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
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(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
(MAINTAINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~ FROM
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(MAINTAINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM Prom
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(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

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(MAINTEINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\ -(r
(MAINTEINING -(('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
(MAINTEINING -(('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss

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<-----End Derivation --

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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~ /\ rcDr

      (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~ /\ rcDr

      (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~ /\ rcDr

      (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~ /\ rcDr

      (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~ /\ rcDr

      (TO MAINTAIN -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contra
DELETE FROM contractedDropoffBranch[RentalCase*Branch]

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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{detypr=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

```

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(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{dety=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 /\

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      (TO MAINTAIN  -rentalHasBeenStarted /\ rentalHasBeenPromised FROM Started
(MAINAINING  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINAINING  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINAINING  -rentalHasBeenStarted /\ rentalHasBeenPromised FROM Started rentals

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

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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]

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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{dety=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{dety=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

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```

      (TO MAINTAIN  -rentalHasBeenStarted /\ rentalHasBeenPromised FROM Started rent
(MAINAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINAINING -rentalHasBeenStarted /\ rentalHasBeenPromised FROM Started rentals)

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<-----End Derivation --

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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' [YesNoAnswer]
      THEN INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM 'b' [RentalCase]*'a' [Person]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes' [YesNoAnswer];rc
(MAINAINING -(rcUserRequestedQ;'Yes' [YesNoAnswer];rcUserRequested
NEW x:Person;
      INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM ((rcUserRequestedQ;'Yes' [YesNoAnswer];(rcUserRequest

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes' [YesNoAnswer];rcUserRequest
(MAINAINING -(rcUserRequestedQ;'Yes' [YesNoAnswer];rcUserRequested
(MAINAINING -(rcUserRequestedQ;'Yes' [YesNoAnswer];rcUserRequestedQ~ /\ I
INSERT INTO Isn{dety=Person}
      SELECTFROM (rcRenter~;rcUserRequestedQ;'Yes' [YesNoAnswer];(rcUserRequest

      (TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes' [YesNoAnswer];rcUserRequest
INSERT INTO Isn{dety=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

(MAINAINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINAINING -(rcUserRequestedQ;'Yes' [YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
(MAINAINING -(rcUserRequestedQ;'Yes' [YesNoAnswer];rcUserRequestedQ~ /\ I[Rental

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

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ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]

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```

SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(TO MAINTAIN -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNoAnswer]
THEN INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM 'a'[RentalCase]*'b'[Person]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
PICK a,b FROM rcRenter~;((rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
THEN INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM 'b'[RentalCase]*'a'[Person]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
(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[RentalCase]
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 --

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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'[YesNoAnswer]
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*YesNoAnswer]

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      (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
      DELETE FROM sessionNewUserRC[SESSION*RentalCase]
      SELECTFROM  '_SESSION'[SESSION];sessionNewUserRC;(-(rcUserRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \
      (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \
      (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \
      (MAINTAINING -rentalHasBeenPromised \ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \
      (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \ sessionNewUserRC;rcUserRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \
      (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \ sessionNewUserRC;rcUserRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \

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

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ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM -(rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~) /\ -(rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~) /\
      (TO MAINTAIN  -rentalHasBeenPromised \ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \
      DELETE FROM sessionNewUserRC[SESSION*RentalCase]
      SELECTFROM  '_SESSION'[SESSION];(-(sessionNewUserRC;rcUserRequestedQ /\ -DeltarentalHasBeenPromised \ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \
      (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewUserRC) \ sessionNewUserRC;rcUserRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \
      ONE OF DELETE FROM sessionNewUserRC[SESSION*RentalCase]
      SELECTFROM  '_SESSION'[SESSION];sessionNewUserRC;(-(V[RentalCase*YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \
      (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
      DELETE FROM sessionNewUserRC[SESSION*RentalCase]
      SELECTFROM  '_SESSION'[SESSION];sessionNewUserRC;(-(rcUserRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \
      (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
      (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \ rcUserRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \
      (MAINTAINING -rentalHasBeenPromised \ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \
      (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \ sessionNewUserRC;rcUserRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \
      (MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) \ sessionNewUserRC;rcUserRequestedQ~;'_SESSION'[SESSION];sessionNewUserRC) \

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<-----End Derivation --

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ON INSERT Delta IN rcBranchRequestedQ[RentalCase*YesNoAnswer] EXECUTE  -- (ECA
ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType[RentalCase*YesNoAnswer];rcBranchRequestedQ[RentalCase*YesNoAnswer]
      (TO MAINTAIN  -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType[RentalCase*YesNoAnswer];rcBranchRequestedQ[RentalCase*YesNoAnswer]
      ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDriver;rcDriver~ /\ contractedCarType[RentalCase*YesNoAnswer];rcBranchRequestedQ[RentalCase*YesNoAnswer]
      THEN INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM  'a'[RentalCase]*'b'[Person]
      (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ[RentalCase*YesNoAnswer];rcBranchRequestedQ[RentalCase*YesNoAnswer]
      PICK a,b FROM rcRenter~;((rcDriver;rcDriver~ /\ rcBranchRequestedQ[RentalCase*YesNoAnswer];rcBranchRequestedQ[RentalCase*YesNoAnswer]

```





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ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contractedCarType;
      (TO MAINTAIN -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contractedCarType;
      ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
      THEN INSERT INTO rcRenter[RentalCase*Person]
            SELECTFROM 'a'[RentalCase]*'b'[Person]

            (TO MAINTAIN -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
            PICK a,b FROM rcRenter~;((rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
            THEN INSERT INTO rcRenter[RentalCase*Person]
                  SELECTFROM 'b'[RentalCase]*'a'[Person]

            (TO MAINTAIN -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
            (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
            NEW x:Person;
            INSERT INTO rcRenter[RentalCase*Person]
                  SELECTFROM ((rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
                  (TO MAINTAIN -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
                  (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
            (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
            INSERT INTO Isn{detyp=Person}
            SELECTFROM (rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])

            (TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
            INSERT INTO contractedPickupBranch[RentalCase*Branch]
            SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])

            (TO MAINTAIN -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
            INSERT INTO Isn{detyp=Branch}
            SELECTFROM (contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])

            (TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
            INSERT INTO contractedStartDate[RentalCase*Date]
            SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])

            (TO MAINTAIN -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
            INSERT INTO Isn{detyp=Date}
            SELECTFROM (contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])

            (TO MAINTAIN -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])
            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;contractedCarType;contractedCarType;
            (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;'Yes'[YesNoAnswer])

```

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(MAINTEINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques

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<-----End Derivation --

```

ON DELETE Delta FROM rcBranchRequestedQ[RentalCase*YesNoAnswer] EXECUTE -- (E
ALL of DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
    SELECTFROM -((rcBranchRequestedQ /\ -Delta);'Yes'[YesNoAnswer];(rcBranchReques

(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]

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
    SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcBranchRequestedQ

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
(MAINTEINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
    SELECTFROM -(sessionNewBranchRC;(rcBranchRequestedQ /\ -Delta))

(TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
DELETE FROM Isn{dety=RentalCase}
    SELECTFROM sessionNewBranchRC~;(-(sessionNewBranchRC;(rcBranchRequestedQ

(TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
DELETE FROM rcAssignedCar[RentalCase*Car]
    SELECTFROM sessionNewBranchRC~;(-(sessionNewBranchRC;(rcBranchRequestedQ

(TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
DELETE FROM rcAssignedCar[RentalCase*Car]
    SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];(-(rcBranchRequestedQ

(TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
    SELECTFROM (I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);sessionNewBranchRC

(TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
(MAINTEINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar
ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]

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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~);session

(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~

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

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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*YesM

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcBranchRequeste

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranc

```

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(MAINTEINING -(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  

(MAINTEINING -(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 /\ sessionNewBranch  

      (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] /  

(MAINTEINING -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcAssi  

(MAINTEINING -rentalHasBeenPromised /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranch  

(MAINTEINING -(('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch  

(MAINTEINING -(('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch

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(MAINTEINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
(MAINTEINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK

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<-----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

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

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INSERT INTO Isn{detyP=RentalCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase] \/ (Delta~;Delta /\ I[Ren

```

<-----End Derivation --

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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
(MAINTEINING -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM S
NEW x:Car;
INSERT INTO rcAssignedCar[RentalCase*Car]
SELECTFROM ((rentalHasBeenStarted /\ -(rcAssignedCar;rcAssignedCar~))

(TO MAINTAIN -rentalHasBeenStarted \/ rcAssignedCar;rcAssignedCar~ FROM
(MAINTEINING -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}

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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'[YesNoAnswer]

(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 \/ rcKeys
(MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOv
(MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOver
(MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'
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]

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SELECTFROM (rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;r

(TO MAINTAIN -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;
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

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

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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]) \/

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(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

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      (TO MAINTAIN  -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcD
INSERT INTO Isn{dety=RentCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{dety=RentCase}
      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 --

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ON DELETE Delta FROM rentalHasBeenStarted[RentalCase*RentalCase] EXECUTE  -- (
ALL of DELETE FROM Isn{dety=Car}
      SELECTFROM -(carAvailableAt;carAvailableAt~) /\ -(rcAssignedCar~;(rental

      (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~
ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
      SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes' [Yes

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedO
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNoAnswer]
      SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes' [Ye

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedO
DELETE FROM rcAssignedCar[RentalCase*Car]
      SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes' [Yes

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedO
DELETE FROM rcAssignedCar[RentalCase*Car]
      SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes' [Ye

      (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{dety=RentCase}
      SELECTFROM (-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes' [YesN

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedO
(MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\

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DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
  SELECTFROM (-rentalHasBeenStarted /\ rcCarHasBeenDroppedOff) \/ (Delta /\

(TO MAINTAIN -rcCarHasBeenDroppedOff \/ rentalHasBeenStarted FROM Dropped
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] /\

(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~;(rental
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssi
(MAINTAINING -rcCarHasBeenDroppedOff \/ rentalHasBeenStarted FROM Dropped off Car
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar

```

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

```

ALL of DELETE FROM Isn{dety=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'[YesNoAns

(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'[YesNoAns

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
  SELECTFROM (-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNoAns

```

```

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
DELETE FROM Isn{dety= 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];sessionDrope
DELETE FROM sessionDroppedoffCar[SESSION*Car]
      SELECTFROM  '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessi

      (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDrope
(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{dety=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{dety=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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```

INSERT INTO Isn{dety=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]
(MAINAINING -(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[RentalCase] /\
    (TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\
  (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
(MAINAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
(MAINAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
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
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
NEW x:Person;
  INSERT INTO rcDriver[RentalCase*Person]
    SELECTFROM ((rcKeysHandedOverQ;'Yes'[YesNoAnswer];(rcKeysHandedOv

    (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOv
(MAINAINING -(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
(MAINAINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\
NEW x:Person;
      INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM ((rcKeysHandedOverQ;'Yes' [YesNoAnswer];(rcKeysHandedOverQ~ /\
      (TO MAINTAIN -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\
      (MAINAINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\
(MAINAINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\
ONE OF 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] /\ r
      PICK a,b FROM sessionNewBranchRC~;((sessionNewBranchRC;(I[RentalCase] /\
      THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
      SELECTFROM 'a' [RentalCase]*'b' [YesNoAnswer]

      (TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ r
(MAINAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
NEW x:RentalCase;
      ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
      SELECTFROM ((sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;

      (TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
      INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
      SELECTFROM 'x' [RentalCase]*((sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;

      (TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
      (MAINAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
      (MAINAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
      (MAINAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar;
(MAINAINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssignedCar;
(MAINAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\
(MAINAINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCase] /\
(MAINAINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCase] /\
(MAINAINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCase] /\
(MAINAINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCase] /\
(MAINAINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCase] /\
(MAINAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~ /\
(MAINAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~ /\

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

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ALL of INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
      SELECTFROM (rcKeysHandedOverQ;'Yes' [YesNoAnswer];(rcKeysHandedOverQ /\ Delta)

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(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

```

```

(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
NEW x:Person;
    INSERT INTO rcDriver[RentalCase*Person]
        SELECTFROM ((rcKeysHandedOverQ;'Yes'[YesNoAnswer];(rcKeysHandedOverQ~

    (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
    (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];rcKeysHandedOverQ~
    (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

```



```

(MAINAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\ -(r
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
(MAINAINING -(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'[YesNoAnswer]
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
(MAINAINING -('_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 /\ :
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ :

```

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

```

ALL of DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
SELECTFROM -((rcKeysHandedOverQ /\ -Delta);'Yes'[YesNoAnswer];(rcKeysHandedOverQ

      (TO MAINTAIN -rentalHasBeenStarted \ / rcKeysHandedOverQ;'Yes'[YesNoAnswer];rc
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];(-(sessionNewBranchRC

      (TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-(sessionNewBranchRC

      (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];sessionNewBranchRC
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcKeysHandedOverQ

      (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;

      (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;

      (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC

```

```

DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM -(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];rcKeysHand

      (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;
      (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ;
      (MAINTAINING -rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ;
      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar[RentalCase*Car]
      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar[RentalCase*Car]

```

<-----End Derivation --

```

ON INSERT Delta IN rcCarHasBeenDroppedOff[RentalCase*RentalCase] EXECUTE -- (
ONE OF INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
SELECTFROM (rcCarHasBeenDroppedOff /\ -rentalHasBeenStarted) /\ (Delta /\ rentalHasBeenStarted)

      (TO MAINTAIN -rcCarHasBeenDroppedOff /\ rentalHasBeenStarted FROM DroppedOffCar[RentalCase*Car]
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcCarHasBeenDroppedOff /\ -rentalHasBeenStarted) /\ (Delta /\ rentalHasBeenStarted)
      THEN INSERT INTO rcDroppedOffCar[RentalCase*Car]
      SELECTFROM 'a'[RentalCase]*'b'[Car]

      (TO MAINTAIN -rcCarHasBeenDroppedOff /\ rcDroppedOffCar;rcDroppedOffCar[RentalCase*Car]
      PICK a,b FROM rcDroppedOffCar~;((rcCarHasBeenDroppedOff /\ -rentalHasBeenStarted) /\ (Delta /\ rentalHasBeenStarted)
      THEN INSERT INTO rcDroppedOffCar[RentalCase*Car]
      SELECTFROM 'b'[RentalCase]*'a'[Car]

      (TO MAINTAIN -rcCarHasBeenDroppedOff /\ rcDroppedOffCar;rcDroppedOffCar[RentalCase*Car]
      (MAINTAINING -rcCarHasBeenDroppedOff /\ rcDroppedOffCar;rcDroppedOffCar[RentalCase*Car]
      NEW x:Car;
      INSERT INTO rcDroppedOffCar[RentalCase*Car]
      SELECTFROM ((rcCarHasBeenDroppedOff /\ -rentalHasBeenStarted) /\ (Delta /\ rentalHasBeenStarted)

      (TO MAINTAIN -rcCarHasBeenDroppedOff /\ rcDroppedOffCar;rcDroppedOffCar[RentalCase*Car]
      (MAINTAINING -rcCarHasBeenDroppedOff /\ rcDroppedOffCar;rcDroppedOffCar[RentalCase*Car]
      INSERT INTO rcDroppedOffCar[RentalCase*Car]
      SELECTFROM (rcCarHasBeenDroppedOff~;rcDroppedOffCar /\ -rcDroppedOffCar)

      (TO MAINTAIN -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) /\ rcDroppedOffCar[RentalCase*Car]
      INSERT INTO Isn{dety=Car}
      SELECTFROM (rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar /\ -rcDroppedOffCar)

      (TO MAINTAIN -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar) /\ rcDroppedOffCar[RentalCase*Car]
      INSERT INTO rcDroppedOffCar[RentalCase*Car]
      SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffCar /\ -rcDroppedOffCar)

      (TO MAINTAIN -(rcCarHasBeenDroppedOff;rcDroppedOffCar) /\ rcDroppedOffCar[RentalCase*Car]
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcCarHasBeenDroppedOff /\ -rentalHasBeenStarted) /\ (Delta /\ rentalHasBeenStarted)
      THEN INSERT INTO rcDroppedOffDate[RentalCase*Date]
      SELECTFROM 'a'[RentalCase]*'b'[Date]

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        (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 /\ -rcDroppedOffDate

        (TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDroppedOff
INSERT INTO Isn{dety=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 /\ -(rcC
THEN INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
        SELECTFROM 'b'[RentalCase]*'a'[Branch]

        (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;r
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBr
NEW x:Branch;
        INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
        SELECTFROM ((rcCarHasBeenDroppedOff /\ -(rcDroppedOffBranch;rcDroppedO

        (TO MAINTAIN  -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOff
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBr
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
        SELECTFROM (rcCarHasBeenDroppedOff~;rcDroppedOffBranch /\ -rcDroppedOffB

        (TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcDroppedO
INSERT INTO Isn{dety=Branch}
        SELECTFROM (rcDroppedOffBranch~;rcCarHasBeenDroppedOff;rcDroppedOffBranch

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(TO MAINTAIN -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff;rcDroppedOffBr
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffBranch /\ -rcDroppedOffBr

(TO MAINTAIN -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) /\ rcDroppedOff
INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
SELECTFROM (rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasB

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarH
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'[R
    THEN INSERT INTO rentalIsPaidQ[RentalCase]
        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'[R

        (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 PICK
    THEN BLOCK

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(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];sessionDroppedoffCar
(MAINTAINING -( '_SESSION'[SESSION];sessionDroppedoffCar;rcAss
(MAINTAINING -( '_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I
INSERT INTO Isn{dety=RentalCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

(MAINTAINING -rcCarHasBeenDroppedOff \ rentalHasBeenStarted FROM Dropped off Car
(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 1
(MAINTAINING -rcCarHasBeenDroppedOff \ rcDroppedOffDate;rcDroppedOffDate~ FROM 1
(MAINTAINING -rcCarHasBeenDroppedOff \ rcDroppedOffDate;rcDroppedOffDate~ FROM 1
(MAINTAINING -rcCarHasBeenDroppedOff \ rcDroppedOffDate;rcDroppedOffDate~ FROM 1
(MAINTAINING -rcCarHasBeenDroppedOff \ rcDroppedOffDate;rcDroppedOffDate~ FROM 1
(MAINTAINING -rcCarHasBeenDroppedOff \ rcDroppedOffDate;rcDroppedOffDate~ FROM 1
(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 -rcCarHasBeenDroppedOff \ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDr
(MAINTAINING -( '_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rental

```

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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 /\ -(rcDroppedOff
      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{dety=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 FROM
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;rcDrope
PICK a,b FROM rcDroppedOffDate~;((rcCarHasBeenDroppedOff /\ -(rcDropped
      THEN INSERT INTO rcDroppedOffDate[RentalCase*Date]
            SELECTFROM 'b' [RentalCase]*'a' [Date]

            (TO MAINTAIN -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDrope
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
NEW x:Date;
      INSERT INTO rcDroppedOffDate[RentalCase*Date]
            SELECTFROM ((rcCarHasBeenDroppedOff /\ -(rcDroppedOffDate;rcDroppedOffDate~

      (TO MAINTAIN -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM

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INSERT INTO rcDroppedOffDate[RentalCase*Date]
SELECTFROM (rcCarHasBeenDroppedOff~;rcDroppedOffDate /\ -rcDroppedOffDate) \/

(TO MAINTAIN -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDroppedOffDate~
INSERT INTO Isn{dety=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 /\ -(rcDrop
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;rcDroppedOffBranch
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
SELECTFROM (rcCarHasBeenDroppedOff~;rcDroppedOffBranch /\ -rcDroppedOffBranch

(TO MAINTAIN -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcDroppedOffBra
INSERT INTO Isn{dety=Branch}
SELECTFROM (rcDroppedOffBranch~;rcCarHasBeenDroppedOff;rcDroppedOffBranch /\

(TO MAINTAIN -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff;rcDroppedOffBranch)
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffBranch /\ -rcDroppedOffBranch

(TO MAINTAIN -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDroppedOffBranch
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];sessionDrope
THEN ALL of INSERT INTO Isn{dety=RentalCase}

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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'[

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(MAINTEINING -(' _SESSION' [SESSION]
(MAINTEINING -(' _SESSION' [SESSION];s
(MAINTEINING -(' _SESSION' [SESSION];sessionD
(MAINTEINING -(' _SESSION' [SESSION];sessionDroppedo
(MAINTEINING -(' _SESSION' [SESSION];sessionDroppedoff
(MAINTEINING -(' _SESSION' [SESSION];sessionDroppedoffCar;rcA
(MAINTEINING -(' _SESSION' [SESSION];sessionDroppedoffCar;rcAssigned
(MAINTEINING -(' _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]

(MAINTEINING -rcCarHasBeenDroppedOff \/ rentalHasBeenStarted FROM Dropped off Cars)
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ FROM D
(MAINTEINING -(rentalIsPaidQ;'Yes' [YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDropped
(MAINTEINING -(' _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;rcDrope

(TO MAINTAIN -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDropped
DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
SELECTFROM ((-rcCarHasBeenDroppedOff~ /\ rcDroppedOffBranch;rcDrope

(TO MAINTAIN -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDropped
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM ((-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDrope

(TO MAINTAIN -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDropped

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```

DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM ((-rcCarHasBeenDroppedOff~ /\ rcDroppedOffBranch;rcDrope

(TO MAINTAIN -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDropped
DELETE FROM rcDroppedOffCar[RentalCase*Car]
SELECTFROM ((-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDrope

(TO MAINTAIN -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDropped
DELETE FROM rcDroppedOffCar[RentalCase*Car]
SELECTFROM ((-rcCarHasBeenDroppedOff~ /\ rcDroppedOffBranch;rcDrope

(TO MAINTAIN -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDropped
DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
SELECTFROM (-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDrope

(TO MAINTAIN -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDropped
DELETE FROM Isn{dety=RentalCase}
SELECTFROM (-rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDrope

(TO MAINTAIN -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDropped
(MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate
DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
SELECTFROM (-rcCarHasBeenDroppedOff /\ rentalHasBeenEnded) \/ (Delta /\ :

(TO MAINTAIN -rentalHasBeenEnded \/ rcCarHasBeenDroppedOff FROM Ended Re
(MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDrope
(MAINTAINING -rentalHasBeenEnded \/ rcCarHasBeenDroppedOff FROM Ended Rentals)

```

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

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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;rcDroppedOf

(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;rcDroppedOf

(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{dety= 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;rcDroppedOff
(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{dety=Car}
      SELECTFROM ((rcDroppedOffCar \/ Delta)~;rcCarHasBeenDroppedOff;rcDropped

      (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar)
INSERT INTO rcDroppedOffCar[RentalCase*Car]
      SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffCar /\ -rcDroppedOffCar)

      (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOffCar
INSERT INTO rcAssignedCar[RentalCase*Car]
      SELECTFROM (rcDroppedOffCar /\ -rcAssignedCar) \/ (Delta /\ -rcAssignedC

      (TO MAINTAIN  -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type
INSERT INTO Isn{dety=Car}
      SELECTFROM (rcAssignedCar~;rcDroppedOffCar /\ -I[Car]) \/ (rcAssignedCar

```

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      (TO MAINTAIN  -(rcAssignedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off
      INSERT INTO Isn{dety=Car}
      SELECTFROM ((rcDroppedOffCar \/ Delta)~;rcDroppedOffCar /\ -I[Car]) \/ (

      (TO MAINTAIN  -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDr
      INSERT INTO Isn{dety=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

      INSERT INTO Isn{dety=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

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

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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) /\ -rcDroppedOff

      (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDroppedOffCar~ F
      INSERT INTO Isn{dety=Car}
      SELECTFROM ((rcDroppedOffCar \/ Delta)~;rcCarHasBeenDroppedOff;rcDroppedOffCar

      (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ I[
      INSERT INTO rcDroppedOffCar[RentalCase*Car]
      SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffCar /\ -rcDroppedOffCar) \/ (r

      (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOffCar FR
      INSERT INTO rcAssignedCar[RentalCase*Car]
      SELECTFROM (rcDroppedOffCar /\ -rcAssignedCar) \/ (Delta /\ -rcAssignedCar)

      (TO MAINTAIN  -rcDroppedOffCar \/ rcAssignedCar FROM Dropped-off car type inte
      INSERT INTO Isn{dety=Car}
      SELECTFROM (rcAssignedCar~;rcDroppedOffCar /\ -I[Car]) \/ (rcAssignedCar~;Del

      (TO MAINTAIN  -(rcAssignedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off car
      INSERT INTO Isn{dety=Car}
      SELECTFROM ((rcDroppedOffCar \/ Delta)~;rcDroppedOffCar /\ -I[Car]) \/ ((rcDr

```

```

      (TO MAINTAIN  -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDroppedOffCar
      INSERT INTO Isn{dety=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

      (MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDroppedOffDate~
      (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM DroppedOffCar
      (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM DroppedOffCar
      (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM DroppedOffCar
      (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM DroppedOffCar
      (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) \/ rcDroppedOffCar
      DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
      SELECTFROM rcDroppedOffCar;(-(rcDroppedOffCar /\ -Delta)~ /\ rcDroppedOffCar

      (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDroppedOffCar
      (MAINTAINING -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDroppedOffCar
      ONE OF DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
      SELECTFROM ((-rcDroppedOffCar /\ rcCarHasBeenDroppedOff;rcDroppedOffCar

      (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOffCar
      DELETE FROM rcDroppedOffCar[RentalCase*Car]
      SELECTFROM rcCarHasBeenDroppedOff~;((-rcDroppedOffCar /\ rcCarHasBeenDroppedOff

      (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOffCar
      (MAINTAINING -(rcCarHasBeenDroppedOff;rcDroppedOffCar) \/ rcDroppedOffCar
      (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM DroppedOffCar
      (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM DroppedOffCar
      (MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffCar;rcDroppedOffCar~ FROM DroppedOffCar

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

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```

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) \/ rcDroppedOff
DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
      SELECTFROM rcDroppedOffCar;(-(rcDroppedOffCar /\ -Delta)~ /\ rcDropped

      (TO MAINTAIN  -(rcDroppedOffCar~;rcCarHasBeenDroppedOff) \/ rcDroppedOff
(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 --

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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~ /\ rcDroppedOffDate
INSERT INTO rcDroppedOffDate[RentalCase*Date]
      SELECTFROM rcCarHasBeenDroppedOff~;(rcDroppedOffDate \/ Delta) /\ -rcDro

      (TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDroppedOff
INSERT INTO Isn{dety=Date}
      SELECTFROM ((rcDroppedOffDate \/ Delta)~;rcCarHasBeenDroppedOff;rcDropped

      (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

```

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(TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;la
INSERT INTO Isn{dety=Integer}
SELECTFROM (rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDropped

(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{dety=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[RentalCase]
        SELECTFROM 'a' [RentalCase]*'b' [DateDifferencePlusOne]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate;
        PICK a,b FROM contractedStartDate~;('a' [RentalCase]
        THEN INSERT INTO earliestDate[DateDifferencePlusOne]
        SELECTFROM 'b' [DateDifferencePlusOne]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate;
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate;
        NEW x:Date;
        ALL of INSERT INTO contractedStartDate[RentalCase]
        SELECTFROM 'a' [RentalCase]*'b' [DateDifferencePlusOne]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate;
        INSERT INTO earliestDate[DateDifferencePlusOne]
        SELECTFROM 'b' [DateDifferencePlusOne]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate;
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate;
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate;
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [
        THEN INSERT INTO rcDroppedOffDate[RentalCase]
        SELECTFROM 'a' [RentalCase]*'b' [DateDifferencePlusOne]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate;
        PICK a,b FROM rcDroppedOffDate~;('a' [RentalCase]
        THEN INSERT INTO latestDate[DateDifferencePlusOne]
        SELECTFROM 'b' [DateDifferencePlusOne]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate;
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate;
        NEW x:Date;

```



```

ALL of INSERT INTO rcDroppedOffDate[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[DateDifferencePlusOne]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
INSERT INTO latestDate[DateDifferencePlusOne]
SELECTFROM 'b'[DateDifferencePlusOne]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contract
(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;rcDroppedOffDate)
THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
THEN INSERT INTO contractedEndDate[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[DateDifference]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
PICK a,b FROM contractedEndDate~;'a'[RentalCase]
THEN INSERT INTO firstDate[DateDifference]
SELECTFROM 'b'[DateDifference]*'a'[RentalCase]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
NEW x:Date;
ALL of INSERT INTO contractedEndDate[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[DateDifference]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
INSERT INTO firstDate[DateDifference]
SELECTFROM 'b'[DateDifference]*'a'[RentalCase]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contract
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
THEN INSERT INTO rcDroppedOffDate[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[DateDifference]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
PICK a,b FROM rcDroppedOffDate~;'a'[RentalCase]
THEN INSERT INTO lastDate[DateDifference]
SELECTFROM 'b'[DateDifference]*'a'[RentalCase]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)

```

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(MAINTEINING -(rcDroppedOffDate;rcDroppedOffDate
NEW x:Date;
    ALL of INSERT INTO rcDroppedOffDate[RentalCase]
        SELECTFROM 'a'[RentalCase]*'b'[DateDifference]
        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
        INSERT INTO lastDate[DateDifference*Date]
        SELECTFROM 'b'[DateDifference]*'a'[RentalCase]
        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contract
        PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedOffDate)
        THEN BLOCK
            (CANNOT CHANGE V[DateDifference*RentalCase] FROM Trigger except
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEnd
        INSERT INTO Isn{dety=Date}
        SELECTFROM (rcDroppedOffDate /\ Delta)~;rcAssignedCar;(I[Car] /\ -(carAvailableAt
        (TO MAINTAIN -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt
        INSERT INTO Isn{dety=Date}
        SELECTFROM ((rcDroppedOffDate /\ Delta)~;rcDroppedOffDate /\ -I[Date])) /\
        (TO MAINTAIN -(rcDroppedOffDate~;rcDroppedOffDate) /\ I[Date] FROM UNI rcDroppedOffDate
        INSERT INTO Isn{dety=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]
        INSERT INTO Isn{dety=Date}
        SELECTFROM (Delta~;Delta /\ I[Date]) - I[Date]
        (MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDroppedOffDate)
        (MAINTAINING -rcCarHasBeenDroppedOff /\ rcDroppedOffDate;rcDroppedOffDate~ FROM Isn{dety=Date}
        (MAINTAINING -rcCarHasBeenDroppedOff /\ rcDroppedOffDate;rcDroppedOffDate~ FROM Isn{dety=Date}
        (MAINTAINING -rcCarHasBeenDroppedOff /\ rcDroppedOffDate;rcDroppedOffDate~ FROM Isn{dety=Date}
        (MAINTAINING -rcCarHasBeenDroppedOff /\ rcDroppedOffDate;rcDroppedOffDate~ FROM Isn{dety=Date}
        (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate) /\ rcDroppedOffDate)
        (MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate) /\ rcDroppedOffDate)
        (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comparedTo)
        (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comparedTo)
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate)
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate)
        (MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session)
        (MAINTAINING -(rcDroppedOffDate~;rcDroppedOffDate) /\ I[Date] FROM UNI rcDroppedOffDate

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ONE OF INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
      SELECTFROM (rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;(rcDro

(TO MAINTAIN -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDro
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;rcDroppedOffDate~
(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;rcDroppedOffDate~
PICK a,b FROM rcDroppedOffDate~;('a'[RentalCase*
THEN INSERT INTO latestDate[DateDifferencePlusOne]*
SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
NEW x:Date;
ALL of INSERT INTO rcDroppedOffDate[RentalCase*Date]
SELECTFROM 'a'[RentalCase]*'b'[DateDifferencePlusOne]*
SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
INSERT INTO latestDate[DateDifferencePlusOne]*
SELECTFROM 'b'[DateDifferencePlusOne]*'a'[

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;rcDroppedOffDate~
THEN BLOCK
(CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigger re
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedEndDate~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffDate;rcDroppedOffDate~
THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase*
THEN INSERT INTO contractedEndDate[RentalCase*
SELECTFROM 'a'[RentalCase]*'b'[Date]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
PICK a,b FROM contractedEndDate~;('a'[RentalCase*
THEN INSERT INTO firstDate[DateDifferencePlusOne]*
SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
NEW x:Date;
ALL of INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'a'[RentalCase]*'b'[DateDifferencePlusOne]*

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```

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate)
INSERT INTO firstDate[DateDifference*Date]
        SELECTFROM 'b'[DateDifference]*'a'[RentalCase]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate)
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]
        THEN INSERT INTO rcDroppedOffDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[Date]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate)
        PICK a,b FROM rcDroppedOffDate~;'a'[RentalCase]
        THEN INSERT INTO lastDate[DateDifference*Date]
        SELECTFROM 'b'[DateDifference]*'a'[Date]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate)
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\
NEW x:Date;
        ALL of INSERT INTO rcDroppedOffDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[DateDifference]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate)
        INSERT INTO lastDate[DateDifference*Date]
        SELECTFROM 'b'[DateDifference]*'a'[RentalCase]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate)
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
        PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedOffDate)
        THEN BLOCK
        (CANNOT CHANGE V[DateDifference*RentalCase] FROM Trigger excess period
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate)
        INSERT INTO Isn{detyp=Date}
        SELECTFROM (rcDroppedOffDate \/ Delta)~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAssignedCar))
        (TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAssignedCar))
        INSERT INTO Isn{detyp=Date}
        SELECTFROM ((rcDroppedOffDate \/ Delta)~;rcDroppedOffDate /\ -I[Date]) \/ ((rcDroppedOffDate /\ I[Date]) /\ -I[Date])

        (TO MAINTAIN  -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI rcDroppedOffDate
        INSERT INTO Isn{detyp=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

```

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(MAINAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM Dropp
(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINAINING -(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;rcDroppedOffDate~
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM rcCarHasBeenDroppedOff;(-(rcDroppedOffDate /\ -Delta)~ /\ rcDro

(TO MAINTAIN -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDro
DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
SELECTFROM rcDroppedOffDate;(-(rcDroppedOffDate /\ -Delta)~ /\ rcDro

(TO MAINTAIN -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDro
(MAINAINING -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) \/ rcDroppedOffDa
ONE OF DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
SELECTFROM ((-rcDroppedOffDate /\ rcCarHasBeenDroppedOff;rcDroppedOffDa

(TO MAINTAIN -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDro
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM rcCarHasBeenDroppedOff~;(-(rcDroppedOffDate /\ rcCarHas

(TO MAINTAIN -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDro
(MAINAINING -(rcCarHasBeenDroppedOff;rcDroppedOffDate) \/ rcDroppedOffDa
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM (-((contractedStartDate;earliestDate~ /\ (rcDroppedOffDa

(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]

```



```

        (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)) /\
(MAINAINING  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)) /\
NEW x:Branch;
        INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM (rcAssignedCar~;(-rcDroppedOffDate /\ rcAssignedCar;

        (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)) /\
(MAINAINING  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)) /\
DELETE FROM sessionDroppedoffCar[SESSION*Car]
        SELECTFROM sessionToday;((-rcDroppedOffDate~ /\ sessionToday~;ses

        (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)) /\
DELETE FROM sessionToday[SESSION*Date]
        SELECTFROM sessionDroppedoffCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)) /\

        (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)) /\
        (MAINAINING  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)) /\
(MAINAINING  -rcCarHasBeenDroppedOff /\ rcDroppedOffDate;rcDroppedOffDate~ FROM I
(MAINAINING  -rcCarHasBeenDroppedOff /\ rcDroppedOffDate;rcDroppedOffDate~ FROM I
(MAINAINING  -rcCarHasBeenDroppedOff /\ rcDroppedOffDate;rcDroppedOffDate~ FROM I
(MAINAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contracted
(MAINAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracted
(MAINAINING  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionToday;

```

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

```

ALL of DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM -(rcDroppedOffDate /\ -Delta);(rcDroppedOffDate /\ -Delta)~) /\ rcCarHasBeenDroppedOff;

        (TO MAINTAIN  -rcCarHasBeenDroppedOff /\ rcDroppedOffDate;rcDroppedOffDate~ FROM I
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM rcCarHasBeenDroppedOff;(-rcDroppedOffDate /\ -Delta) /\ rcCarHasBeenDroppedOff;

        (TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) /\ rcDroppedOffDate;rcDroppedOffDate~
DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM rcDroppedOffDate;(-rcDroppedOffDate /\ -Delta)~ /\ rcCarHasBeenDroppedOff;

        (TO MAINTAIN  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) /\ rcDroppedOffDate;rcDroppedOffDate~
(MAINAINING  -(rcDroppedOffDate~;rcCarHasBeenDroppedOff) /\ rcDroppedOffDate~
ONE OF DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM ((-rcDroppedOffDate /\ rcCarHasBeenDroppedOff;rcDroppedOffDate~ /\ rcCarHasBeenDroppedOff;

        (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffDate) /\ rcDroppedOffDate;rcDroppedOffDate~
DELETE FROM rcDroppedOffDate[RentalCase*Date]
        SELECTFROM rcCarHasBeenDroppedOff~;((-rcDroppedOffDate /\ rcCarHasBeenDroppedOff;rcDroppedOffDate~ /\ rcCarHasBeenDroppedOff;

        (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffDate) /\ rcDroppedOffDate;rcDroppedOffDate~
(MAINAINING  -(rcCarHasBeenDroppedOff;rcDroppedOffDate) /\ rcDroppedOffDate;rcDroppedOffDate~

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```

ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM -((contractedStartDate;earliestDate~ /\ (rcDroppedOffDate

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM -(V[RentalCase*DateDifferencePlusOne];(earliestDate;contra

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM -((contractedStartDate;earliestDate~ /\ (rcDroppedOffDate

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM -(V[RentalCase*DateDifferencePlusOne];(earliestDate;contra

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM -((contractedStartDate;earliestDate~ /\ (rcDroppedOffDate /

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
(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{dety=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{dety=Car}
      SELECTFROM rcAssignedCar~;((-rcDroppedOffDate /\ rcAssignedCar;(I[Car]

      (TO MAINTAIN -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableA

```

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ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcAssignedCar~;((-rcDroppedOff
    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;carAvailableAt
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt
DELETE FROM sessionDroppedoffCar[SESSION*Car]
    SELECTFROM sessionToday;((-rcDroppedOffDate~ /\ sessionToday~;sessionD

    (TO MAINTAIN -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt
DELETE FROM sessionToday[SESSION*Date]
    SELECTFROM sessionDroppedoffCar;(I[Car] /\ -(carAvailableAt;carAvailableAt

    (TO MAINTAIN -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt
(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{dety=Branch}
    SELECTFROM ((rcDroppedOffBranch /\ Delta)~;rcCarHasBeenDroppedOff;rcDropp

    (TO MAINTAIN -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff;rcDroppedOffBr

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INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
  SELECTFROM (rcCarHasBeenDroppedOff;rcDroppedOffBranch /\ -rcDroppedOffBr

(TO MAINTAIN -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDroppedOff
INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
  SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;d

(TO MAINTAIN -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
INSERT INTO Isn{dety=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~ /\ contractedDropoff

    (TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDrop
  INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocatio
    SELECTFROM ((distbranch;rcDroppedOffBranch~ /\ distbranch;contr

    (TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDrop
  (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
INSERT INTO Isn{dety=Branch}
  SELECTFROM (rcDroppedOffBranch \/ Delta)~;rcAssignedCar;(I[Car] /\ -(car

(TO MAINTAIN -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailab
INSERT INTO Isn{dety=Branch}
  SELECTFROM ((rcDroppedOffBranch \/ Delta)~;rcDroppedOffBranch /\ -I[Branch

(TO MAINTAIN -(rcDroppedOffBranch~;rcDroppedOffBranch) \/ I[Branch] FROM
INSERT INTO Isn{dety=RentalCase}
  SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

(MAINTAINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDrop
(MAINTAINING -rcCarHasBeenDroppedOff \/ rcDroppedOffBranch;rcDroppedOffBranch~ F

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(MAINAINING -rcCarHasBeenDroppedOff \/\ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINAINING -rcCarHasBeenDroppedOff \/\ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINAINING -rcCarHasBeenDroppedOff \/\ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINAINING -(rcDroppedOffBranch~;rcDroppedOffBranch) \/\ I[Branch] FROM UNI rcD

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

```

ONE OF INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
      SELECTFROM (rcDroppedOffBranch;(rcDroppedOffBranch \/\ Delta)~ /\ rcDroppedOfff

      (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) \/\ rcDroppedOffBra
      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]

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```

SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
(TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Am
SELECTFROM ((distbranch;rcDroppedOffBranch~ /\ distbranch;contracted

(TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
(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;rcDroppedOff
(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 rcDrope

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<-----End Derivation --

```

ON DELETE Delta FROM rcDroppedOffBranch[RentalCase*Branch] EXECUTE -- (ECA ru
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) \/ rcDro
DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
SELECTFROM rcDroppedOffBranch;(-(rcDroppedOffBranch /\ -Delta)~ /\

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```

        (TO MAINTAIN  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) /\ rcDr
(MAINAINING  -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) /\ rcDroppedOff
ONE OF DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM ((-rcDroppedOffBranch /\ rcCarHasBeenDroppedOff;rcDrop

        (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) /\ rcDr
DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
        SELECTFROM rcCarHasBeenDroppedOff~;((-rcDroppedOffBranch /\ rcCar

        (TO MAINTAIN  -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) /\ rcDr
(MAINAINING  -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) /\ rcDroppedOff
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM ((-rcDroppedOffBranch /\ rcAssignedCar;(I[Car] /\ -(car

        (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvail
DELETE FROM Isn{dety=Car}
        SELECTFROM rcAssignedCar~;((-rcDroppedOffBranch /\ rcAssignedCar;

        (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvail
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] /\ -(carAvailableAt;carAvail
PICK a,b FROM carAvailableAt~;rcAssignedCar~;((-rcDroppedOff
        THEN INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM 'b'[Car]*'a'[Branch]

        (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvail
(MAINAINING  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvail
NEW x:Branch;
        INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM (rcAssignedCar~;(-rcDroppedOffBranch /\ rcAssignedCar

        (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvail
(MAINAINING  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvail
DELETE FROM sessionDroppedoffCar[SESSION*Car]
        SELECTFROM sessionBranch~;((-rcDroppedOffBranch /\ sessionBranch~

        (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvail
DELETE FROM sessionBranch[SESSION*Branch]
        SELECTFROM sessionDroppedoffCar;(I[Car] /\ -(carAvailableAt;carAvail

        (TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvail
(MAINAINING  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)
(MAINAINING  -rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINAINING  -rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINAINING  -rcCarHasBeenDroppedOff /\ rcDroppedOffBranch;rcDroppedOffBranch~ F
(MAINAINING  -(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) \/ rcDroppedOffBranch
DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
      SELECTFROM rcDroppedOffBranch;(-(rcDroppedOffBranch /\ -Delta)~ /\ rcDroppedOffBranch)

(TO MAINTAIN -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcDroppedOffBranch
(MAINTAINING -(rcDroppedOffBranch~;rcCarHasBeenDroppedOff) \/ rcDroppedOffBranch)
ONE OF DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
      SELECTFROM ((-rcDroppedOffBranch /\ rcCarHasBeenDroppedOff;rcDroppedOffBranch)

(TO MAINTAIN -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDroppedOffBranch
DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
      SELECTFROM rcCarHasBeenDroppedOff~;((-rcDroppedOffBranch /\ rcCarHasBeenDroppedOff)

(TO MAINTAIN -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDroppedOffBranch
(MAINTAINING -(rcCarHasBeenDroppedOff;rcDroppedOffBranch) \/ rcDroppedOffBranch)
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
      SELECTFROM ((-rcDroppedOffBranch /\ rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt)

(TO MAINTAIN -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt)
DELETE FROM Isn{dety=Car}
      SELECTFROM rcAssignedCar~;((-rcDroppedOffBranch /\ rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt)

(TO MAINTAIN -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt)
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcAssignedCar~;((-rcDroppedOffBranch /\ rcAssignedCar)
      THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'a'[Car]*'b'[Branch]

(TO MAINTAIN -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt)
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM carAvailableAt~;rcAssignedCar~;((-rcDroppedOffBranch /\ rcAssignedCar)
      THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'b'[Car]*'a'[Branch]

(TO MAINTAIN -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt)
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt)
NEW x:Branch;
      INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM (rcAssignedCar~;(-rcDroppedOffBranch /\ rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt)

(TO MAINTAIN -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt)
(MAINTAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt)

```

```

DELETE FROM sessionDroppedoffCar[SESSION*Car]
SELECTFROM sessionBranch;((-rcDroppedOffBranch~ /\ sessionBranch~;sess

(TO MAINTAIN -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~))
DELETE FROM sessionBranch[SESSION*Branch]
SELECTFROM sessionDroppedoffCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~))

(TO MAINTAIN -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~))
(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{dety=Integer}
SELECTFROM ((rentalPeriod /\ Delta~;(contractedStartDate;earliestDate~

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
(TO MAINTAIN -(rentalPeriod~;rentalPeriod) /\ I[Integer] FROM UNI rental
INSERT INTO rentalBasicCharge[RentalCase*Amount]
SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTar

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

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssign
INSERT INTO Isn{dety=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*Integer]
SELECTFROM 'a'[RentalCase]*'b'[Integer]

(TO MAINTAIN -(rcAssignedCar;rcAssignedCar~
PICK a,b FROM rentalPeriod~;'a'[RentalCase]*'b'[Integer]
THEN INSERT INTO ctcNrOfDays[CompTariffedCharge]
SELECTFROM 'b'[CompTariffedCharge]

(TO MAINTAIN -(rcAssignedCar;rcAssignedCar~
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\ :
NEW x:Integer;
ALL of INSERT INTO rentalPeriod[RentalCase*Integer]
SELECTFROM 'a'[RentalCase]*'b'[CompTariffedCharge]

```





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ONE OF ONE NONEMPTY
THEN

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THEN

(MAINTAINING
NEW x:Amount
ALL of INS
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(MAINTAINING -(rcAssignedCar
(MAINTAINING -(rcAssignedCar
(MAINTAINING -(rcAssignedCar;rcAssignedCar
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
NEW x:Car;
ALL of INSERT INTO rcAssignedCar[RentalCase*CarType]
SELECTFROM 'a'[RentalCase]*'b'[CompType]

(TO MAINTAIN -(rcAssignedCar;rcAssignedCarType
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN INSERT INTO carType
SELECTFROM 'a'[CarType]

(TO MAINTAIN -(rcAssignedCar;rcAssignedCarType
PICK a,b FROM carType~;
THEN ONE OF ONE NONEMPTY
THEN

PICK
THEN

(MAINTAINING
NEW x:Amount

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ALL of INS
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(MAINAINING -(rcAssignedCar;rc
NEW x:CarType;
ALL of INSERT INTO carType[Car
SELECTFROM 'x'[Car]*'.

(TO MAINTAIN -(rcAssi
ONE OF ONE NONEMPTY AL
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THEN INS
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NEW x:Amount;
ALL of INSERT
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(MAINAINING -(rcAssignedCar;rc
(MAINAINING -(rcAssignedCar;rcAssigned
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ :
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalP
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;r
PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalT
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger :

```

```

(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~
(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[R
(MAINAINING -(rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rentalPeriod::

```

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

```

ALL of INSERT INTO Isn{dety=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{dety=Amount}
    SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;ca

    (TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar
    INSERT INTO Isn{dety=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'[Ren

                    (TO MAINTAIN -(rcAssignedCar;rcAssigned
    (MAINAINING -(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
    (MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ ren
    (MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ renta

```

```

(MAINTEINING -(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

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    PICK a,
    THEN IN
    S

    (T
    (MAINTAINING -
    NEW x:Amount;
    ALL of INSERT
    SELE

    (TO M
    INSERT
    SELE

    (TO M
    (MAINTAINING
    (MAINTAINING -
    (MAINTAINING -(rcAssi
(MAINTEINING -(rcAssignedCar;rcAs
NEW x:CarType;
    ALL of INSERT INTO carType[Car*
        SELECTFROM 'a'[Car]*'b'

    (TO MAINTAIN -(rcAssign
ONE OF ONE NONEMPTY ALTE
    THEN INSERT
    SELE

    (TO M
    PICK a,b F
    THEN INSERT
    SELE

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                                (TO M
                                (MAINTAINING -(rc
                                NEW x:Amount;
                                ALL of INSERT I
                                SELECTF

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                                INSERT I
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                                (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 INSE
                                SELE

                                (TO M
                                PICK a,b F
                                THEN INSE
                                SELE

                                (TO M
                                (MAINTAINING -(rc
                                NEW x:Amount;
                                ALL of INSERT I
                                SELECTF

                                (TO MAIN
                                INSERT I
                                SELECTF

                                (TO MAIN

```



```

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~ /\ rcDroppedOfff
DELETE FROM earliestDate[DateDifferencePlusOne*Date]
    SELECTFROM computedRentalPeriod;((-rentalPeriod~ /\ computedRental

    (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOfff
DELETE FROM rcDroppedOffDate[RentalCase*Date]
    SELECTFROM ((-rentalPeriod /\ (contractedStartDate;earliestDate~

    (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOfff
DELETE FROM latestDate[DateDifferencePlusOne*Date]
    SELECTFROM computedRentalPeriod;((-rentalPeriod~ /\ computedRental

    (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOfff
DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
    SELECTFROM (earliestDate;contractedStartDate~ /\ latestDate;rcDro

    (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOfff
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;lat
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
    SELECTFROM (-(((rentalPeriod /\ -Delta);ctcNrOfDays~ /\ rcAssigned

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

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

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

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

    (TO MAINTAIN  -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;renta
(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{dety=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

```



```

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*Am
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;rentalLocationPenal
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

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```

(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*Amount]
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;rentalLo
(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;carType
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM computedTariffedCharge;((-rentalBasicCharge~ /\ comput

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM ((-rentalBasicCharge /\ (rentalPeriod;ctcNrOfDays~ /\ :

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
DELETE FROM carType[Car*CarType]
SELECTFROM rcAssignedCar~;((-rentalBasicCharge /\ (rentalPeriod;c

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
DELETE FROM rentalTariffPerDay[CarType*Amount]
SELECTFROM carType~;rcAssignedCar~;((-rentalBasicCharge /\ (renta

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
SELECTFROM computedTariffedCharge;((-rentalBasicCharge~ /\ comput

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
SELECTFROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTar

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType
(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;(rentalBasicCh

(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;(rentalBasicCh

(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;(rentalBasicCh

(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{dety=RentalCase}
SELECTFROM (-(((rentalBasicCharge /\ -Delta);arg1~ /\ rentalPenaltyChar

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena

```

<-----End Derivation --

```

ON INSERT Delta IN rentalExcessPeriod[RentalCase*Integer] EXECUTE -- (ECA rule
ALL of INSERT INTO Isn{dety=Integer}
SELECTFROM ((rentalExcessPeriod \/ Delta)~;(rcDroppedOffDate;lastDate~ /\

(TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
(TO MAINTAIN -(rentalExcessPeriod~;rentalExcessPeriod) \/ I[Integer] FROM
INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;ex

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

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
INSERT INTO Isn{dety=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

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TH

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NEW x:Amo
  ALL of

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NEW x:Amount  
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SE

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                                (TO
                                (MAINTAINING
                                (MAINTAINING
                                (MAINTAINING -(rentalExcessPeriod
(MAINTAINING -(rentalExcessPeriod
NEW x:CarType;
    ALL of INSERT INTO carType[CarType]
        SELECTFROM 'x' [Car]*.

```

```

(TO MAINTAIN  -(rental
ONE OF ONE NONEMPTY AL
                        THEN INS
                        SE

```

```

      (TO
PICK  a,b
THEN  INS
      SE.

```

```

                                (TO
(MAINTEINING -(
NEW x:Amount;
    ALL of INSERT
                                SELEC

```

```
(TO MAKE)
INSERT
SELECT
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(TO MAINTAINING - (rentalExcessPer
(MAINTAINING - (rentalExcessPer
```



```

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

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PICK a,
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(MAINTAINING -
NEW x:Amount;
ALL of INSERT
SELE

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INSERT
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(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 INSE
      SELE

      (TO M
      PICK a,b F
      THEN INSE
      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;rental
      (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod
      (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 INSE
      SELE

      (TO M
      PICK a,b F
      THEN INSE
      SELE

      (TO M
      (MAINTAINING -(re

```

```

NEW x:Amount;
ALL of INSERT I
SELECTF

(TO MAIN
INSERT I
SELECTF

(TO MAIN
(MAINAINING -(
(MAINAINING -(re
(MAINAINING -(rentalExc
(MAINAINING -(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
(MAINAINING -(renta
NEW x:Amount;
ALL of INSERT INTO
SELECTFROM

(TO MAINTAI
INSERT INTO
SELECTFROM

(TO MAINTAI
(MAINAINING -(ren
(MAINAINING -(renta
(MAINAINING -(rentalExcess
(MAINAINING -(rentalExcessPeriod;
(MAINAINING -(rentalExcessPeriod;re
(MAINAINING -(rentalExcessPeriod;rentalExc
(MAINAINING -(rentalExcessPeriod;rentalExcessPeri
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalC
PICK a,b FROM (ctcNrOfDays;rentalExcessPeriod~ /\ ctcDailyAmount;excess
THEN BLOCK

```

```

(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger exces
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/(re
(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/(rentalExc
(MAINAINING -(rentalExcessPeriod~;rentalExcessPeriod) \/(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
(MAINAINING -((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{dety=RentalCase}
SELECTFROM -(((rentalExcessPeriod /\ -Delta);ctcNrOfDays~ /\ rcAs
(TO MAINTAIN -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[Rental
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \
(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
(MAINAINING -(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{dety=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{dety=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~ /\ ren
```

```
(TO MAINTAIN -(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
INSERT INTO Isn{dety=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[Rental
SELECTFROM 'a'[RentalCase]*'b'[Amo
```

```
(TO MAINTAIN -(rentalLocationPenal
PICK a,b FROM rentalBasicCharge~;'a'[Re
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*Am
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
```



```

(TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
INSERT INTO Isn{dety=RentatCase}
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

```

```

(MAINAINING -(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
(MAINAINING -(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
      (MAINAINING -(rentalLocationPenaltyCharge;rentalL
      (MAINAINING -(rentalLocationPenaltyCharge;rentalLoc
      (MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPe
      (MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\
      THEN BLOCK
      (CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger rental
      (MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
(MAINAINING -(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 /\ (rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
      (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
DELETE FROM excessTariffPerDay[CarType*Amount]
      SELECTFROM carType~;rcAssignedCar~;((-rentalPenaltyCharge /\ (rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
      (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
      SELECTFROM computedTariffedCharge;((-rentalPenaltyCharge~ /\ computedTariffedCharge[CompTariffedCharge*Amount]
      (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
      SELECTFROM (ctcNrOfDays;rentalExcessPeriod~ /\ ctcDailyAmount;excessTariffPerDay[CarType*Amount]
      (TO MAINTAIN  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
      (MAINTAINING  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariffPerDay[CarType*Amount]
ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
      SELECTFROM (-((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\ (rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge[RentalCase*Amount]
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
      SELECTFROM (- (V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge[RentalCase*Amount]
      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge[RentalCase*Amount]
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM (-((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\ (rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge[RentalCase*Amount]
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM (- (V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge[RentalCase*Amount]
      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge[RentalCase*Amount]
DELETE FROM rentalBasicCharge[RentalCase*Amount]
      SELECTFROM (-((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\ (rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge[RentalCase*Amount]
DELETE FROM rentalBasicCharge[RentalCase*Amount]
      SELECTFROM (- (V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge[RentalCase*Amount]
      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge[RentalCase*Amount]
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM -((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\ (rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge[RentalCase*Amount]
      (MAINTAINING  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ (rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;
      (MAINTAINING  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariffPerDay[CarType*Amount]
      (MAINTAINING  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalLocationPenaltyCharge[RentalCase*Amount]

```

----- 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{dety=RentatCase}
      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~ /\ contractedDropoffBranch;
INSERT INTO Isn{dety=Amount}
      SELECTFROM  (rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~

      (TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
INSERT INTO Isn{dety=Amount}
      SELECTFROM  ((computedLocationPenaltyCharge \/ Delta)~;computedLocationPe

      (TO MAINTAIN  -(computedLocationPenaltyCharge~;computedLocationPenaltyCha
INSERT INTO Isn{dety=DistanceBetweenLocations}
      SELECTFROM  (Delta;Delta~ /\ I[DistanceBetweenLocations]) - I[DistanceBet

INSERT INTO Isn{dety=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{dety=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);(computedLocation

(TO MAINTAIN -I[DistanceBetweenLocations] \/ computedLocationPenaltyChar
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(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{dety=DistanceBetweenLocations}
      SELECTFROM -((computedLocationPenaltyCharge /\ -Delta);(computedLocationPenal

      (TO MAINTAIN -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;I[
(MAINAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINAINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/ I[Amo
(MAINAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;computedLo

```

<-----End Derivation --

```

ON INSERT Delta IN rentalLocationPenaltyCharge[RentalCase*Amount] EXECUTE  --
ALL of INSERT INTO Isn{dety=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{dety=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[RentalCase*Amount]
      SELECTFROM 'a'[RentalCase]*'b'[Amount]

      (TO MAINTAIN -(rentalLocationPenaltyCharge~;(rentalBasicCharge~;(rentalBasicCharge~;
PICK a,b FROM rentalBasicCharge~;'a'[RentalCase]*'b'[Amount]
      THEN INSERT INTO arg1[CompRentalCharge*Amount]

```

```

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*Am
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*Am
SELECTFROM 'b' [CompRentalCharge]*'.

(TO MAINTAIN -(rentalLocationPenal
(MAINTAINING -(rentalLocationPenaltyCharge;rent

```

```

NEW x:Amount;
ALL of INSERT INTO rentalLocationPenaltyCharge
    SELECTFROM 'a' [RentalCase]*'b' [CompRentalCharge*Amount]

    (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge) \
    INSERT INTO arg3[CompRentalCharge*Amount]
    SELECTFROM 'b' [CompRentalCharge]*'a' [RentalCase])

    (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge) \
    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge) \
    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge) \
    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge) \
    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge) \
    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;distbranch) \
    (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge) \
    (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge) \
    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge) \ rentalLocationPenaltyCharge) \
    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge) \ I[Amount])

```

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

```

ALL of INSERT INTO Isn{dety=Amount}
    SELECTFROM ((rentalLocationPenaltyCharge /\ Delta)~;(rcDroppedOffBranch;distbranch) \
    (TO MAINTAIN -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch) \
    (TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge) \
    (TO MAINTAIN -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) \ I[Amount])
    INSERT INTO rentalCharge[RentalCase*Amount]
    SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge) \
    (TO MAINTAIN -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge) \
    INSERT INTO Isn{dety=RentalCase}
    SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalLocationPenaltyCharge;rentalLocationPenaltyCharge) \
    THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]*'b' [CompRentalCharge*Amount])
    THEN INSERT INTO rentalBasicCharge[RentalCase]
    SELECTFROM 'a' [RentalCase]*'b' [Amount]

    (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge) \
    PICK a,b FROM rentalBasicCharge~;'a' [RentalCase]*'b' [CompRentalCharge*Amount]
    THEN INSERT INTO arg1[CompRentalCharge*Amount]
    SELECTFROM 'b' [CompRentalCharge]*'a' [RentalCase]

```

```

        (TO MAINTAIN -(rentalLocationPenaltyCharge
(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{dety=RentalCase}
      SELECTFROM  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyC
(MAINTAINING  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /
(MAINTAINING  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTAINING  -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(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;distb
ONE OF DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
      SELECTFROM (-((rentalLocationPenaltyCharge /\ -Delta);computedLocation

(TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distb
DELETE FROM distbranch[DistanceBetweenLocations*Branch]
      SELECTFROM -(computedLocationPenaltyCharge;(rentalLocationPenaltyChar

(TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distb
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM (-((rentalLocationPenaltyCharge /\ -Delta);computedLocation

(TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distb
DELETE FROM distbranch[DistanceBetweenLocations*Branch]
      SELECTFROM -(computedLocationPenaltyCharge;(rentalLocationPenaltyChar

(TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distb
(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{dety=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{dety=RentalCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase] \/ (Delta~;Delta /\

```

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

```

INSERT INTO Isn{dety=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[Rent
DELETE FROM rentalIsPaidQ[RentalCase*YesNoAnswer]
SELECTFROM ((-paymentHasBeenRequested~ /\ rentalIsPaidQ;'Yes'[YesNoAnswer]

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[Rent

```

```

DELETE FROM Isn{dety=RentCase}
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];rent

(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{dety=RentCase}
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{dety=Amount}
SELECTFROM ((rentalCharge \/ Delta)~;(rentalBasicCharge;arg1~ /\ rentalP

(TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
(TO MAINTAIN -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalC
INSERT INTO Isn{dety=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{dety=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{dety=RentalCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

```



```

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

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<-----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[Renta
INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
SELECTFROM (rentalIsPaidQ;'Yes'[YesNoAnswer];(rentalIsPaidQ \/ Delta)~ /\

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarH
INSERT INTO Isn{dety=RentCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

INSERT INTO Isn{dety=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[RentalCase]
      INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
      SELECTFROM (rentalIsPaidQ;'Yes'[YesNoAnswer];(rentalIsPaidQ /\ Delta)~ /\ rcCarHasBeenDroppedOff[RentalCase*Car])
      /\ rcCarHasBeenDroppedOff[RentalCase*Car])

      (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDroppedOff[RentalCase*Car])
      INSERT INTO Isn{dety=RentCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

      (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase]) /\ p
      (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDroppedOff[RentalCase*Car])

<-----End Derivation --

```

```

ON DELETE Delta FROM rentalIsPaidQ[RentalCase*YesNoAnswer] EXECUTE      -- (ECA rule)
ALL of DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
      SELECTFROM -((rentalIsPaidQ /\ -Delta);'Yes'[YesNoAnswer];(rentalIsPaidQ /\ rcCarHasBeenDroppedOff[RentalCase*Car])
      /\ rcCarHasBeenDroppedOff[RentalCase*Car])

      (TO MAINTAIN  -rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDroppedOff[RentalCase*Car])
      ONE OF DELETE FROM sessionDroppedoffCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];(-(V[SESSION*RentalCase];(I[RentalCase] /\ rcCarHasBeenDroppedOff[RentalCase*Car])
      /\ rcCarHasBeenDroppedOff[RentalCase*Car])

      (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar)
      DELETE FROM rcAssignedCar[RentalCase*Car]
      SELECTFROM (I[RentalCase] /\ rcCarHasBeenDroppedOff /\ -rentalHasBeenEnded[RentalCase*Car])

      (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar)
      DELETE FROM Isn{dety=RentCase}
      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[RentalCase] /\ rcCarHasBeenDroppedOff[RentalCase*Car])
      (MAINTAINING -rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDroppedOff[RentalCase*Car])
      (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase] /\ rcCarHasBeenDroppedOff[RentalCase*Car])

```

----- 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;'Yes'[YesNoAnswer];
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'[Yes

```

```

THEN INSERT INTO rentalIsPaidQ[RentalCase]
SELECTFROM 'b'[RentalCase]*'a'[Yes]

(TO MAINTAIN -rentalHasBeenEnded \
(MAINTAINING -rentalHasBeenEnded \ / rentalIsPaidQ;
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer] FROM
INSERT INTO rentalIsPaidQ[RentalCase*YesNoAnswer]
SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

(TO MAINTAIN -rentalHasBeenEnded \ / rentalIsPaidQ;
(MAINTAINING -rentalHasBeenEnded \ / rentalIsPaidQ;
(MAINTAINING -rentalHasBeenEnded \ / rentalIsPaidQ;
(MAINTAINING -rentalHasBeenEnded \ / rentalIsPaidQ;'Yes'
(MAINTAINING -rentalHasBeenEnded \ / rentalIsPaidQ;'Yes'[YesNoAnswer]
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'[YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Ended
PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]
THEN INSERT INTO rentalIsPaidQ[RentalCase*YesNoAnswer]
SELECTFROM 'b'[RentalCase]*'a'[YesNoAnswer]

(TO MAINTAIN -rentalHasBeenEnded \ / rentalIsPaidQ;'Yes'[
(MAINTAINING -rentalHasBeenEnded \ / rentalIsPaidQ;'Yes'[YesNoAnswer]
(MAINTAINING -rentalHasBeenEnded \ / rentalIsPaidQ;'Yes'[YesNoAnswer]
(MAINTAINING -rentalHasBeenEnded \ / rentalIsPaidQ;'Yes'[YesNoAnswer]
(MAINTAINING -rentalHasBeenEnded \ / rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionDroppedoffC
THEN BLOCK
(CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handling
PICK a,b FROM V[RentalCase*SESSION];('_SESSION'[SESSION];sessionDroppedoffC
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'[RentalCase]
THEN INSERT INTO rentalIsPaidQ[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[Yes]

(TO MAINTAIN -('_SESSION'[SESSION]
PICK a,b FROM rentalIsPaidQ~;('a'[RentalCase]
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 -(
(MAINAINING -('_SESSION' [SE
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes
INSERT INTO rentalI
SELECTFROM 'b' [Ren

(TO MAINTAIN -('_S
(MAINAINING -('_SESSION' [SE
(MAINAINING -('_SESSION' [SE
(MAINAINING -('_SESSION' [SESSION];
(MAINAINING -('_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 PICK
THEN BLOCK
(CANNOT CHANGE 'Yes
PICK a,b FROM 'Yes' [YesN
THEN INSERT INTO rentalI
SELECTFROM 'b' [Ren

(TO MAINTAIN -('_S
(MAINAINING -('_SESSION' [SESSI
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [Y
INSERT INTO rentalIsPa
SELECTFROM 'b' [Rental

(TO MAINTAIN -('_SESS
(MAINAINING -('_SESSION' [SESS
(MAINAINING -('_SESSION' [SESSI
(MAINAINING -('_SESSION' [SESSION];ses
(MAINAINING -('_SESSION' [SESSION];sessionDrope
(MAINAINING -('_SESSION' [SESSION];sessionDrope
(MAINAINING -('_SESSION' [SESSION];sessionDropeoffCar;rcAss
(MAINAINING -('_SESSION' [SESSION];sessionDropeoffCar;rcAssignedCar~;(I
(MAINAINING -rentalHasBeenEnded \ / rcCarHasBeenDroppedOff FROM Ended Rentals)
(MAINAINING -rentalHasBeenEnded \ / rentalIsPaidQ;'Yes' [YesNoAnswer];rentalIsPaid
(MAINAINING -('_SESSION' [SESSION];sessionDropeoffCar;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
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

```

```

(MAINTEINING -( '_SESSION' [SESSION];s
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [YesNoA
INSERT INTO rentalIsPaidQ[R
SELECTFROM 'b' [RentalCase]

(TO MAINTAIN -( '_SESSION' [
(MAINTEINING -( '_SESSION' [SESSION]
(MAINTEINING -( '_SESSION' [SESSION];s
(MAINTEINING -( '_SESSION' [SESSION];sessionD
(MAINTEINING -( '_SESSION' [SESSION];sessionDroppedo
(MAINTEINING -( '_SESSION' [SESSION];sessionDroppedoff
(MAINTEINING -( '_SESSION' [SESSION];sessionDroppedoffCar;rcA
(MAINTEINING -( '_SESSION' [SESSION];sessionDroppedoffCar;rcAssigned
(MAINTEINING -( '_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar~; (I [Rent
(MAINTEINING -rentalHasBeenEnded \ / rcCarHasBeenDroppedOff FROM Ended Rentals)
(MAINTEINING -rentalHasBeenEnded \ / rentalIsPaidQ; 'Yes' [YesNoAnswer]; rentalIsPaidQ~ F
(MAINTEINING -( '_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar~; (I [RentalCase]

```

<-----End Derivation --

```

ON DELETE Delta FROM rentalHasBeenEnded[RentalCase*RentalCase] EXECUTE -- (EC
ALL of DELETE FROM Isn{dety=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' [YesNoAnsw

(TO MAINTAIN -(rentalIsPaidQ; 'Yes' [YesNoAnswer]; rentalIsPaidQ~ /\
DELETE FROM Isn{dety=RentalCase}
SELECTFROM (-rentalHasBeenEnded /\ rentalIsPaidQ; 'Yes' [YesNoAnsw

(TO MAINTAIN -(rentalIsPaidQ; 'Yes' [YesNoAnswer]; rentalIsPaidQ~ /\
(MAINTEINING -(rentalIsPaidQ; 'Yes' [YesNoAnswer]; rentalIsPaidQ~ /\ rcCarHas
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] /\

      (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~;(rental
      (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDr
      (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
      (MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar

```

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

```

ALL of DELETE FROM Isn{dety=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{dety=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];sessionDrope
      DELETE FROM sessionDroppedoffCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessi

```

```

        (TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar~)
        (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 rule)
ALL of INSERT INTO Isn{dety=Integer}
    SELECTFROM ((rcMaxRentalDuration \/ Delta)~;contractedPickupBranch;branchOf;maxRentalDuration)

(TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRentalDuration)
(TO MAINTAIN  -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[Integer] FROM Isn{dety=Integer}
INSERT INTO dateIntervalCompTrigger[Date*Date]
    SELECTFROM (contractedStartDate~;rcMaxRentalDuration;(rcMaxRentalDuration/rcMaxRentalDuration)

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration/rcMaxRentalDuration)
INSERT INTO Isn{dety=RentalCase}
    SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRentalDuration)
    THEN INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[Date]

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration/rcMaxRentalDuration)
        PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRentalDuration/rcMaxRentalDuration)
        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]*'b'[Date])
            THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
                SELECTFROM 'a'[Date]*'b'[Date]

                (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration/rcMaxRentalDuration)
                PICK a,b FROM dateIntervalCompTrigger~;((rcMaxRentalDuration;rcMaxRentalDuration/rcMaxRentalDuration)
                THEN INSERT INTO contractedEndDate[RentalCase*Date]
                    SELECTFROM 'b'[RentalCase]*'a'[Date]

                    (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration/rcMaxRentalDuration)
                    (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration/rcMaxRentalDuration)
                    NEW x:Date;
                    ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
                        SELECTFROM 'a'[Date]*'b'[RentalCase]*'c'[Date]

                        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration/rcMaxRentalDuration)
                        INSERT INTO contractedEndDate[RentalCase*Date]
                            SELECTFROM 'b'[RentalCase]*'a'[Date]*'c'[Date]

                            (TO MAINTAIN  -(rcMaxRentalDuration;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;rcMaxRenta
        (MAINTAINING  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuri
        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;rcMaxRentalDuration;
        PICK a,b FROM  contractedStartDate~;((rcMaxRentalDuration;(r
        THEN INSERT INTO  dateIntervalCompTrigger[Date*Date]
        SELECTFROM  'a' [Date]*'b' [Date]

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration;
        (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) \ / rcMaxRental
        (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{dety=RentCase}
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*Date]
SELECTFROM 'a' [Date]*'b' [Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
PICK a,b FROM dateIntervalCompTrigger~;('a' [Date]
THEN INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'b' [RentalCase]*'a' [Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
NEW x:Date;
ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
SELECTFROM 'a' [Date]*'b' [RentalCase]*'x' [Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'b' [RentalCase]*'a' [Date]*'x' [Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(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*Date]
SELECTFROM 'a' [Date]*'b' [Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
PICK a,b FROM dateIntervalCompTrigger~;('x' [Date]
THEN INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'b' [RentalCase]*'a' [Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(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;maxR

      (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) /\ rcMaxRental

----- 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{dety=Date}
  SELECTFROM (Delta;Delta~ /\ I[Date]) - I[Date] \/ (Delta~;Delta /\ I[Date]) - I

```

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

```

INSERT INTO Isn{dety=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 81
ALL of ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
  SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Del

      (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 /\ -Del

      (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 /\ -Del

      (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM contractedStartDate[RentalCase*Date]
  SELECTFROM (-(contractedEndDate;(dateIntervalCompTrigger~ /\ -Del

      (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM Isn{dety=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;rcMaxRent
DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
SELECTFROM contractedStartDate;(-(dateIntervalCompTrigger /\ -Del

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
SELECTFROM -(contractedEndDate;(dateIntervalCompTrigger~ /\ -Del

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedEndDate;contractedEndDate~;(-(contractedEndD

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedStartDate;(-(dateIntervalCompTrigger /\ -Del

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM -(contractedEndDate;(dateIntervalCompTrigger~ /\ -Del

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedStartDate;contractedStartDate~;(-(contracted

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedStartDate;(-(dateIntervalCompTrigger /\ -Del

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM -(contractedEndDate;(dateIntervalCompTrigger~ /\ -Del

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM -(contractedEndDate;(dateIntervalCompTrigger~ /\ -Delt

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurati
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM rcMaxRentalDuration[RentalCase*Integer]

```

```

SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ contr

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
SELECTFROM contractedEndDate;((-dateIntervalCompTrigger~ /\ contr

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;contractedSta

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedEndDate;contractedEndDate~;contractedEndDate

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ contr

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedEndDate;((-dateIntervalCompTrigger~ /\ contr

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedEndDate;contractedEndDate~;contractedStartDate

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedStartDate;contractedStartDate~;contractedEnd

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ contr

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedEndDate;((-dateIntervalCompTrigger~ /\ contr

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedStartDate;contractedStartDate~;contractedSta

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedEndDate;((-dateIntervalCompTrigger~ /\ contr

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ contr

```

```

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
(MAINAINING  -(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
(MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate
(MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\  contractedEndDate;con
(MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\  contractedEndDate;con
(MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\  contractedEndDate;con
(MAINAINING  -(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{dety=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 /\ contracted

(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;ar

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ :
INSERT INTO Isn{dety=Amount}
      SELECTFROM  rentalCharge~;(rentalBasicCharge;(arg1 \/ Delta)~ /\ rentalPe

      (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
INSERT INTO Isn{dety=CompRentalCharge}
      SELECTFROM  (arg3;arg3~ /\ arg2;arg2~ /\ arg1;(arg1 \/ Delta)~ /\ -I[Comp

      (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCh
INSERT INTO Isn{dety=Amount}
      SELECTFROM  ((arg1 \/ Delta)~;arg1 /\ -I[Amount]) \/ ((arg1 \/ Delta)~;De

      (TO MAINTAIN  -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*
INSERT INTO Isn{dety=CompRentalCharge}
      SELECTFROM  (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

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

```

```

(MAINAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FR
(MAINAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINAINING -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*Amount
    INSERT INTO Isn{detyp=CompRentalCharge}
    SELECTFROM (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

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

(MAINAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FROM Un
(MAINAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*Amount

```

<-----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)~ /\ rentalPenaltyCharge;arg1~) /\ I[CompRentalCharge])

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM  -(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBasicCharge;arg1~) /\ I[CompRentalCharge])

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM rentalBasicCharge[RentalCase*Amount]
      SELECTFROM  -((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg1~) /\ I[CompRentalCharge])

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM rentalBasicCharge[RentalCase*Amount]
      SELECTFROM  -(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBasicCharge;arg1~) /\ I[CompRentalCharge])

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM  -((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg1~) /\ I[CompRentalCharge])

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM Isn{dety=CompRentalCharge}
      SELECTFROM  -((arg1 /\ -Delta);(arg1 /\ -Delta)~) /\ I[CompRentalCharge])

      (TO MAINTAIN  -I[CompRentalCharge] \/ arg1;I[Amount];arg1~ FROM UNI arg1:
(MAINTAINING  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;arg1~) /\ I[CompRentalCharge])
(MAINTAINING  -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING  -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*Amount)

```

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

```

ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
      SELECTFROM  -((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg1~) /\ I[CompRentalCharge])

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;arg1~) /\ I[CompRentalCharge])
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
      SELECTFROM  -(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBasicCharge;arg1~) /\ I[CompRentalCharge])

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;arg1~) /\ I[CompRentalCharge])
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM  -((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg1~) /\ I[CompRentalCharge])

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;arg1~) /\ I[CompRentalCharge])
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM  -(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBasicCharge;arg1~) /\ I[CompRentalCharge])

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;arg1~) /\ I[CompRentalCharge])
DELETE FROM rentalBasicCharge[RentalCase*Amount]

```

```

SELECTFROM (-(rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalLocationPenaltyCharge)
DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM (-(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBasicCharge;arg2~ /\ rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalLocationPenaltyCharge)
DELETE FROM Isn{dety=RentalCase}
SELECTFROM (-(rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalLocationPenaltyCharge)
DELETE FROM Isn{dety=CompRentalCharge}
SELECTFROM (-(arg1 /\ -Delta);(arg1 /\ -Delta)~) /\ I[CompRentalCharge]

(TO MAINTAIN -I[CompRentalCharge] \/ arg1;I[Amount];arg1~ FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalLocationPenaltyCharge)
(MAINTAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*Amount)

<-----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)~ /\ rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalLocationPenaltyCharge)
INSERT INTO Isn{dety=Amount}
SELECTFROM rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 \/ Delta)~ /\ rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalLocationPenaltyCharge)
INSERT INTO Isn{dety=CompRentalCharge}
SELECTFROM (arg3;arg3~ /\ arg2;(arg2 \/ Delta)~ /\ arg1;arg1~ /\ -I[CompRentalCharge])
INSERT INTO Isn{dety=Amount}
SELECTFROM ((arg2 \/ Delta)~;arg2 /\ -I[Amount]) \/ ((arg2 \/ Delta)~;Delta)
INSERT INTO Isn{dety=Amount}
SELECTFROM (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

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

(MAINTAINING -(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalLocationPenaltyCharge)
(MAINTAINING -(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalLocationPenaltyCharge)
(MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*Amount)

```

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

```
ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
      SELECTFROM (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 \/ Delta)~ /\
      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\
      INSERT INTO Isn{detyp=Amount}
      SELECTFROM rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 \/ Delta)~ /\
      (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 \/ Delta)~ /\
      INSERT INTO Isn{detyp=CompRentalCharge}
      SELECTFROM (arg3;arg3~ /\ arg2;(arg2 \/ Delta)~ /\ arg1;arg1~ /\ -I[CompRentalCharge]
      (TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge]
      INSERT INTO Isn{detyp=Amount}
      SELECTFROM ((arg2 \/ Delta)~;arg2 /\ -I[Amount]) \/ ((arg2 \/ Delta)~;Delta /\ -I[Amount])
      (TO MAINTAIN  -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount
      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~ /\ rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\
      (MAINTAINING  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\
      (MAINTAINING  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FROM UNI arg2::CompRentalCharge*Amount
      (MAINTAINING  -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount
      (MAINTAINING  -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*Amount
```

<-----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 /\ Delta)~ /\
      (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 /\ Delta)~ /\
      (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 /\ -Delta)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM rentalBasicCharge[RentalCase*Amount]
      SELECTFROM  -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ (arg2 /\ -Delta)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -Delta)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM Isn{dety=CompRentalCharge}
      SELECTFROM  -((arg2 /\ -Delta);(arg2 /\ -Delta)~) /\ I[CompRentalCharge]

      (TO MAINTAIN  -I[CompRentalCharge] \/ arg2;I[Amount];arg2~ FROM UNI arg2:
(MAINTAINING  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;
(MAINTAINING  -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINTAINING  -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*Amount)

```

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

```

ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
      SELECTFROM  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -Delta)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
      SELECTFROM  -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ (arg2 /\ -Delta)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -Delta)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM  -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ (arg2 /\ -Delta)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;
DELETE FROM rentalBasicCharge[RentalCase*Amount]
      SELECTFROM  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -Delta)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;
DELETE FROM rentalBasicCharge[RentalCase*Amount]
      SELECTFROM  -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ (arg2 /\ -Delta)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;
DELETE FROM rentalBasicCharge[RentalCase*Amount]
      SELECTFROM  -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ (arg2 /\ -Delta)

```

```

DELETE FROM Isn{dety=RentCase}
SELECTFROM -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -Delta)

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM Isn{dety=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*Amount

<-----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~ /\ rent

(TO MAINTAIN -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ :
INSERT INTO Isn{dety=Amount}
SELECTFROM rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge

(TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
INSERT INTO Isn{dety=CompRentalCharge}
SELECTFROM (arg3;(arg3 \/ Delta)~ /\ arg2;arg2~ /\ arg1;arg1~ /\ -I[Comp

(TO MAINTAIN -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCh
INSERT INTO Isn{dety=Amount}
SELECTFROM ((arg3 \/ Delta)~;arg3 /\ -I[Amount]) \/ ((arg3 \/ Delta)~;De

(TO MAINTAIN -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*
INSERT INTO Isn{dety=CompRentalCharge}
SELECTFROM (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

INSERT INTO Isn{dety=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 -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*

```

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

```

ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
SELECTFROM (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLoc

```



```

(TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;arg3~ /\ rentalCase*Amount)
INSERT INTO Isn{detyp=Amount}
SELECTFROM rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;arg3~ /\ rentalCase*Amount)

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;arg3~ /\ rentalCase*Amount)
INSERT INTO Isn{detyp=CompRentalCharge}
SELECTFROM (arg3;(arg3 \/ Delta)~ /\ arg2;arg2~ /\ arg1;arg1~ /\ -I[CompRentalCharge])

(TO MAINTAIN  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge]
INSERT INTO Isn{detyp=Amount}
SELECTFROM ((arg3 \/ Delta)~;arg3 /\ -I[Amount]) \/ ((arg3 \/ Delta)~;Delta /\ -I[Amount])

(TO MAINTAIN  -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount
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~ /\ rentalLocationPenaltyCharge;arg3~ /\ rentalCase*Amount)
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;arg3~ /\ rentalCase*Amount)
(MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FROM UNI arg3::CompRentalCharge*Amount)
(MAINTAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*Amount)

<-----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~ /\ rentalLocationPenaltyCharge;arg3~ /\ rentalCase*Amount)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalCase*Amount)
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
      SELECTFROM -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;arg3~ /\ rentalCase*Amount)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalCase*Amount)
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;arg3~ /\ rentalCase*Amount)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalCase*Amount)
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;arg3~ /\ rentalCase*Amount)

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalCase*Amount)
DELETE FROM rentalBasicCharge[RentalCase*Amount]
      SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;arg3~ /\ rentalCase*Amount)

```

```

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM rentalBasicCharge[RentalCase*Amount]
      SELECTFROM  -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM Isn{dety=RentCase}
      SELECTFROM  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ re

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM Isn{dety=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{dety=RentCase}
      SELECTFROM  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalL

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM Isn{dety=CompRentalCharge}

```

```

SELECTFROM -((arg3 /\ -Delta);(arg3 /\ -Delta)~) /\ I[CompRentalCharge]

(TO MAINTAIN -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FROM UNI arg3::Comp
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPen
(MAINTAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*Amount

<-----End Derivation --

```

```

ON INSERT Delta IN computedRentalCharge[CompRentalCharge*Amount] EXECUTE -- (
ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
    SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo

(TO MAINTAIN -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
INSERT INTO Isn{detyp=Amount}
    SELECTFROM (rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo

(TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
INSERT INTO Isn{detyp=Amount}
    SELECTFROM ((computedRentalCharge \/ Delta)~;computedRentalCharge /\ -I[Amount]

(TO MAINTAIN -(computedRentalCharge~;I[CompRentalCharge];computedRentalCharge~;I[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 -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~;I[CompRentalCharge]
(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~ /\ rentalLo
INSERT INTO Isn{detyp=Amount}
    SELECTFROM (rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo

(TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
INSERT INTO Isn{detyp=Amount}
    SELECTFROM ((computedRentalCharge \/ Delta)~;computedRentalCharge /\ -I[Amount]

(TO MAINTAIN -(computedRentalCharge~;I[CompRentalCharge];computedRentalCharge~;I[CompRentalCharge]

```

```

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

INSERT INTO Isn{dety=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{dety=CompRentalCharge}
  SELECTFROM -((computedRentalCharge /\ -Delta);(computedRentalCharge /\ -Delta)~

(TO MAINTAIN -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~ FROM

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

DELETE FROM Isn{dety=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)~ /\ rcDroppedOfff

(TO MAINTAIN -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;la
INSERT INTO Isn{dety=Integer}
  SELECTFROM rentalPeriod~;(contractedStartDate;(earliestDate \/ Delta)~ /\

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
INSERT INTO Isn{dety=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{dety=Integer}
  SELECTFROM projectedRentalPeriod~;(contractedStartDate;(earliestDate \

(TO MAINTAIN -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
INSERT INTO Isn{dety=Date}
  SELECTFROM ((earliestDate \ Delta)~;earliestDate /\ -I[Date])) \ (earl

(TO MAINTAIN -(earliestDate~;earliestDate) \ I[Date] FROM UNI earliestD
INSERT INTO Isn{dety=DateDifferencePlusOne}
  SELECTFROM (Delta;Delta~ /\ I[DateDifferencePlusOne]) - I[DateDifference

INSERT INTO Isn{dety=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;latestDate
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate
(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{dety=Integer}
  SELECTFROM rentalPeriod~;(contractedStartDate;(earliestDate \ Delta)~ /\ rcD

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
INSERT INTO Isn{dety=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{dety=Integer}
  SELECTFROM projectedRentalPeriod~;(contractedStartDate;(earliestDate \ Delta

(TO MAINTAIN -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
INSERT INTO Isn{dety=Date}
  SELECTFROM ((earliestDate \ Delta)~;earliestDate /\ -I[Date])) \ (earliestD

(TO MAINTAIN -(earliestDate~;earliestDate) \ I[Date] FROM UNI earliestDate::

```

```

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

INSERT INTO Isn{dety=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 earliest

<-----End Derivation --

```

```

ON DELETE Delta FROM earliestDate[DateDifferencePlusOne*Date] EXECUTE -- (ECA
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
  SELECTFROM -((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffDate;latestDate~);co

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;latestDate~);co
DELETE FROM rcDroppedOffDate[RentalCase*Date]
  SELECTFROM -(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Delta)~ /\ rcDroppedOffDate;latestDate~);co

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;latestDate~);co
DELETE FROM contractedStartDate[RentalCase*Date]
  SELECTFROM -((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffDate;latestDate~);co

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;latestDate~);co
DELETE FROM contractedStartDate[RentalCase*Date]
  SELECTFROM -(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Delta)~ /\ rcDroppedOffDate;latestDate~);co

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;latestDate~);co
DELETE FROM Isn{dety=RentalCase}
  SELECTFROM -((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffDate;latestDate~);co

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;latestDate~);co
DELETE FROM contractedEndDate[RentalCase*Date]
  SELECTFROM -((contractedStartDate;(earliestDate /\ -Delta)~ /\ contractedStartDate;latestDate~);co

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;latestDate~);co
DELETE FROM contractedEndDate[RentalCase*Date]
  SELECTFROM -(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Delta)~ /\ contractedStartDate;latestDate~);co

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;latestDate~);co
DELETE FROM contractedStartDate[RentalCase*Date]
  SELECTFROM -((contractedStartDate;(earliestDate /\ -Delta)~ /\ contractedStartDate;latestDate~);co

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```

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM  -(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Delta)~ /\ contractedStartDate)

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
DELETE FROM Isn{detyp=RentalCase}
      SELECTFROM  -((contractedStartDate;(earliestDate /\ -Delta)~ /\ contractedStartDate)

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
DELETE FROM Isn{detyp=DateDifferencePlusOne}
      SELECTFROM  -((earliestDate /\ -Delta);(earliestDate /\ -Delta)~) /\ I[DateDifferencePlusOne]

      (TO MAINTAIN  -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate
(MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate)
(MAINTAINING  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate)
(MAINTAINING  -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::Date
(MAINTAINING  -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT earliestDate

```

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

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ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM  -((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffDate)

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate)
DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM  -(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Delta);contractedStartDate)

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate)
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM  -((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffDate)

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate)
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM  -(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Delta);contractedStartDate)

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate)
DELETE FROM Isn{detyp=RentalCase}
      SELECTFROM  -((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffDate)

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate)
DELETE FROM contractedEndDate[RentalCase*Date]
      SELECTFROM  -((contractedStartDate;(earliestDate /\ -Delta)~ /\ contractedEndDate)

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate)
DELETE FROM contractedEndDate[RentalCase*Date]
      SELECTFROM  -(V[RentalCase*DateDifferencePlusOne];((earliestDate /\ -Delta);contractedStartDate)

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate)

```

```

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::DateDif
(MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT earlies

```

<-----End Derivation --

```

ON INSERT Delta IN latestDate[DateDifferencePlusOne*Date] EXECUTE -- (ECA rule
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[DateDifferencePlusOne]

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

(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~) /\ I[DateDifferencePlusOne])
(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~) /\ I[DateDifferencePlusOne])
(MAINAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) /\ I[DateDifferencePlusOne])
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~) /\ I[DateDifferencePlusOne])
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~) /\ I[DateDifferencePlusOne])
(MAINAINING -(latestDate~;latestDate) /\ I[Date] FROM UNI latestDate::DateDifferencePlusOne
(MAINAINING -I[DateDifferencePlusOne] /\ latestDate;latestDate~ FROM TOT latestDate

```

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

```

ONE OF INSERT INTO rentalPeriod[RentalCase*Integer]
  SELECTFROM (contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(latestDate~;latestDate) /\ I[DateDifferencePlusOne])

(TO MAINTAIN -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~) /\ I[DateDifferencePlusOne])
INSERT INTO Isn{detyp=Integer}
  SELECTFROM rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~) /\ I[DateDifferencePlusOne]

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~) /\ I[DateDifferencePlusOne])
INSERT INTO Isn{detyp=DateDifferencePlusOne}
  SELECTFROM (earliestDate;earliestDate~ /\ latestDate;(latestDate /\ Delta)~ /\ I[DateDifferencePlusOne])

(TO MAINTAIN -(earliestDate;earliestDate~ /\ latestDate;latestDate~) /\ I[DateDifferencePlusOne])
INSERT INTO projectedRentalPeriod[RentalCase*Integer]
  SELECTFROM (contractedStartDate;earliestDate~ /\ contractedEndDate;(latestDate~;latestDate) /\ I[DateDifferencePlusOne])

(TO MAINTAIN -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~) /\ I[DateDifferencePlusOne])
INSERT INTO Isn{detyp=Integer}
  SELECTFROM projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~) /\ I[DateDifferencePlusOne]

(TO MAINTAIN -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~) /\ I[DateDifferencePlusOne])
INSERT INTO Isn{detyp=Date}
  SELECTFROM ((latestDate /\ Delta)~;latestDate /\ -I[Date]) /\ ((latestDate /\ Delta)~;latestDate /\ -I[Date])

(TO MAINTAIN -(latestDate~;latestDate) /\ I[Date] FROM UNI latestDate::DateDifferencePlusOne
INSERT INTO Isn{detyp=DateDifferencePlusOne}
  SELECTFROM (Delta;Delta~ /\ I[DateDifferencePlusOne]) - I[DateDifferencePlusOne]

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

(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co

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(MAINAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[DateDifferencePlusOne]
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDifference
(MAINAINING -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;(lat

      (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;(lat

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM -(V[RentalCase*DateDifferencePlusOne];(earliestDate;contract

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate
DELETE FROM Isn{dety=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{dety=RentalCase}
      SELECTFROM -((contractedStartDate;earliestDate~ /\ contractedEndDate;(lat

```

```

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate~)
DELETE FROM Isn{dety=DateDifferencePlusOne}
      SELECTFROM  -((latestDate /\ -Delta);(latestDate /\ -Delta)~) /\ I[DateDifferencePlusOne]

      (TO MAINTAIN  -I[DateDifferencePlusOne] /\ latestDate;I[Date];latestDate~
(MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate~)
(MAINTAINING  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate~)
(MAINTAINING  -(latestDate~;latestDate) /\ I[Date] FROM UNI latestDate::DateDifferencePlusOne
(MAINTAINING  -I[DateDifferencePlusOne] /\ latestDate;latestDate~ FROM TOT latestDate;latestDate~)

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

```

ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(latestDate;latestDate~)

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate~)
DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM  -(V[RentalCase*DateDifferencePlusOne];(earliestDate;contractedStartDate;contractedStartDate~)

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate~)
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(latestDate;latestDate~)

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate~)
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM  -(V[RentalCase*DateDifferencePlusOne];(earliestDate;contractedStartDate;contractedStartDate~)

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate~)
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(latestDate;latestDate~)

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate~)
DELETE FROM contractedEndDate[RentalCase*Date]
      SELECTFROM  -((contractedStartDate;earliestDate~ /\ contractedEndDate;(latestDate;latestDate~)

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate~)
DELETE FROM contractedEndDate[RentalCase*Date]
      SELECTFROM  -(V[RentalCase*DateDifferencePlusOne];(earliestDate;contractedStartDate;contractedStartDate~)

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate~)
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM  -((contractedStartDate;earliestDate~ /\ contractedEndDate;(latestDate;latestDate~)

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate~)
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM  -(V[RentalCase*DateDifferencePlusOne];(earliestDate;contractedStartDate;contractedStartDate~)

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate~)

```

```

DELETE FROM Isn{dety=RentCase}
SELECTFROM -((contractedStartDate;earliestDate~ /\ contractedEndDate;(latestDate~

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
DELETE FROM Isn{dety=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{dety=Integer}
SELECTFROM (rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDropped

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
INSERT INTO Isn{dety=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;l
INSERT INTO Isn{dety=Integer}
SELECTFROM (projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\

(TO MAINTAIN -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
INSERT INTO Isn{dety=DateDifferencePlusOne}
SELECTFROM (Delta;Delta~ /\ I[DateDifferencePlusOne]) - I[DateDifference]

INSERT INTO Isn{dety=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;latestDate
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate
(MAINTAINING -(computedRentalPeriod~;computedRentalPeriod) \/ I[Integer] FROM UNI

```

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

```
ONE OF INSERT INTO rentalPeriod[RentalCase*Integer]
      SELECTFROM ((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)
      /\ rcDroppedOffDate;latestDate~)

      (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)
      /\ rcDroppedOffDate;latestDate~)
      INSERT INTO Isn{detyp=Integer}
      SELECTFROM (rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)
      /\ rcDroppedOffDate;latestDate~)

      (TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)
      /\ rcDroppedOffDate;latestDate~)
      INSERT INTO Isn{detyp=Integer}
      SELECTFROM ((computedRentalPeriod /\ Delta)~;computedRentalPeriod /\ -I[Integer])

      (TO MAINTAIN  -(computedRentalPeriod~;I[DateDifferencePlusOne];computedRentalPeriod /\ -I[Integer])
      INSERT INTO projectedRentalPeriod[RentalCase*Integer]
      SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~)
      /\ contractedEndDate;latestDate~)

      (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~)
      /\ contractedEndDate;latestDate~)
      INSERT INTO Isn{detyp=Integer}
      SELECTFROM (projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~)
      /\ contractedEndDate;latestDate~)

      (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~)
      /\ contractedEndDate;latestDate~)
      INSERT INTO Isn{detyp=DateDifferencePlusOne}
      SELECTFROM (Delta;Delta~ /\ I[DateDifferencePlusOne]) - I[DateDifferencePlusOne]

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

      (MAINTAINING  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);computedRentalPeriod)
      (MAINTAINING  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);computedRentalPeriod /\ -Delta)
      (MAINTAINING  -I[DateDifferencePlusOne] /\ computedRentalPeriod;computedRentalPeriod /\ -Delta)
      (MAINTAINING  -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);computedRentalPeriod)
      (MAINTAINING  -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);computedRentalPeriod /\ -Delta)
      (MAINTAINING  -(computedRentalPeriod~;computedRentalPeriod) /\ I[Integer] FROM UNI computedRentalPeriod
```

<-----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;computedRentalPeriod /\ -Delta)
```

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

```

DELETE FROM Isn{dety=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;carType

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rental
INSERT INTO Isn{dety=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{dety=Amount}
SELECTFROM rentalPenaltyCharge~;(rentalExcessPeriod;(ctcNrOfDays \/ Delt

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ 
INSERT INTO Isn{dety=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{dety=Amount}
SELECTFROM projectedBasicCharge~;(projectedRentalPeriod;(ctcNrOfDays \/ 

(TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
INSERT INTO Isn{dety=Integer}
SELECTFROM ((ctcNrOfDays \/ Delta)~;ctcNrOfDays /\ -I[Integer]) \/ ((ctc

(TO MAINTAIN -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfD
INSERT INTO Isn{dety=CompTariffedCharge}
SELECTFROM (Delta;Delta~ /\ I[CompTariffedCharge]) - I[CompTariffedCharg

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

(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP

```

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(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) \/ I[
(MAINAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::Com
(MAINAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOf

```

----- 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]

```

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(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) \/ I[CompT
(MAINAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::CompTari
(MAINAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOfDays:

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<-----End Derivation --

```

ON DELETE Delta FROM ctcNrOfDays[CompTariffedCharge*Integer] EXECUTE      -- (ECA :
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
      SELECTFROM -((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedCar;car

      (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;car

      (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{dety=RentalCase}
      SELECTFROM -((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedCar;car

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

      (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{dety=RentalCase}
      SELECTFROM -((rentalExcessPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedC

      (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])
DELETE FROM contractedCarType[RentalCase*CarType]
      SELECTFROM -((projectedRentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ contrac

```



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

      (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPer
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
      SELECTFROM  -((projectedRentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ contrac

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

      (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPer
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM  -((projectedRentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ contrac

      (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPer
DELETE FROM Isn{dety=CompTariffedCharge}
      SELECTFROM  -((ctcNrOfDays /\ -Delta);(ctcNrOfDays /\ -Delta)~) /\ I[Comp

      (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays
(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::Comp
(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{dety=RentalCase}
      SELECTFROM  -((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcAssignedCar;carType;

```

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(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{dety=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{dety=RentalCase}
SELECTFROM -(projectedRentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ contractedCar

(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM Isn{dety=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:

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<-----End Derivation --

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ON INSERT Delta IN ctcDailyAmount[CompTariffedCharge*Amount] EXECUTE    -- (ECA :
ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
SELECTFROM (rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTar

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ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
      SELECTFROM (rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay)
      (TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay)
INSERT INTO Isn{detyp=Amount}
      SELECTFROM rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay)
      (TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay)
INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM (rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariffPerDay)
      (TO MAINTAIN -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariffPerDay)
INSERT INTO Isn{detyp=Amount}
      SELECTFROM rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariffPerDay)
      (TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariffPerDay)
INSERT INTO Isn{detyp=CompTariffedCharge}
      SELECTFROM (ctcDailyAmount;(ctcDailyAmount /\ Delta)~ /\ ctcNrOfDays;ctcNrOfDays~) /\ I[CompTariffedCharge]
      (TO MAINTAIN -(ctcDailyAmount;(ctcDailyAmount /\ Delta)~ /\ ctcNrOfDays;ctcNrOfDays~) /\ I[CompTariffedCharge]
INSERT INTO projectedBasicCharge[RentalCase*Amount]
      SELECTFROM (projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay)
      (TO MAINTAIN -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay)
INSERT INTO Isn{detyp=Amount}
      SELECTFROM projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay)
      (TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay)
INSERT INTO Isn{detyp=Amount}
      SELECTFROM ((ctcDailyAmount /\ Delta)~;ctcDailyAmount /\ -I[Amount]) /\ ((ctcDailyAmount /\ Delta)~;ctcDailyAmount /\ I[Amount])
      (TO MAINTAIN -(ctcDailyAmount~;ctcDailyAmount) /\ I[Amount] FROM UNI ctcDailyAmount
INSERT INTO Isn{detyp=CompTariffedCharge}
      SELECTFROM (Delta;Delta~ /\ I[CompTariffedCharge]) - I[CompTariffedCharge]
      (TO MAINTAIN -(Delta;Delta~ /\ I[CompTariffedCharge]) - I[CompTariffedCharge]
INSERT INTO Isn{detyp=Amount}
      SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]
      (TO MAINTAIN -(Delta~;Delta /\ I[Amount]) - I[Amount]
      (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay)
      (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay)
      (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariffPerDay)
      (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariffPerDay)
      (MAINTAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) /\ I[CompTariffedCharge]
      (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay)
      (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay)
      (MAINTAINING -(ctcDailyAmount~;ctcDailyAmount) /\ I[Amount] FROM UNI ctcDailyAmount::
      (MAINTAINING -I[CompTariffedCharge] /\ ctcDailyAmount;ctcDailyAmount~ FROM TOT ctcDailyAmount

```

<-----End Derivation --

```

ON DELETE Delta FROM ctcDailyAmount[CompTariffedCharge*Amount] EXECUTE -- (EC.
ONE OF DELETE FROM rcAssignedCar[RentalCase*Car]
      SELECTFROM (-(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalP

      (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;rentalP

      (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{dety=RentalCase}
      SELECTFROM (-(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalP

      (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{dety=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

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DELETE FROM Isn{detypr=RentalCase}
SELECTFROM -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;re

(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ projectedRentalPe
DELETE FROM Isn{detypr=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

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

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

(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;rentalTariff

(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{detypr=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{detypr=RentalCase}
SELECTFROM -(rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excess

(TO MAINTAIN -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r

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```

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{dety=RentalCase}
SELECTFROM (-(projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalT

(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;
DELETE FROM Isn{dety=CompTariffedCharge}
SELECTFROM (-(ctcDailyAmount /\ -Delta);(ctcDailyAmount /\ -Delta)~) /\ I[Com

(TO MAINTAIN -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amount];ctcDailyAmount
(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

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<-----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;rental
INSERT INTO Isn{dety=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{dety=Amount}
SELECTFROM (rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcA

```

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(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ :
INSERT INTO Isn{dety=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;
INSERT INTO Isn{dety=Amount}
      SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
INSERT INTO Isn{dety=CompTariffedCharge}
      SELECTFROM (Delta;Delta~ /\ I[CompTariffedCharge]) - I[CompTariffedCharg

INSERT INTO Isn{dety=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

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

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

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

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcAss
INSERT INTO Isn{dety=Amount}
      SELECTFROM ((computedTariffedCharge /\ Delta)~;computedTariffedCharge /\ -I[A

```



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      (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{dety=Amount}
      SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ cont

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

INSERT INTO Isn{dety=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{dety=CompTariffedCharge}
      SELECTFROM -((computedTariffedCharge /\ -Delta);(computedTariffedCharge /\ -Del

      (TO MAINTAIN  -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedC

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

      DELETE FROM Isn{dety=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;firstDate~)
INSERT INTO Isn{detyp=Integer}
SELECTFROM rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEnd

(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::Date
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 -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifferen
(MAINTAINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::Date

```

----- 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]

(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference] FROM
(MAINAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifference*Da
(MAINAINING -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)~ /\ rcDroppedOffDate;1

      (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)~ /\ rcDroppedOffDate;1

      (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)~ /\ rcDroppedOffDate;1

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
DELETE FROM Isn{detyp=DateDifference}
      SELECTFROM -((firstDate /\ -Delta);(firstDate /\ -Delta)~) /\ I[DateDiffe

      (TO MAINTAIN  -I[DateDifference] \/ firstDate;I[Date];firstDate~ FROM UNI
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
(MAINAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifferen
(MAINAINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::DateD

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

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```

ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM (-((contractedEndDate;(firstDate /\ -Delta)~ /\ rcDroppedOffDate;1

      (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{dety=RentalCase}
      SELECTFROM  -((contractedEndDate;(firstDate /\ -Delta)~ /\ rcDroppedOffDate;la

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
DELETE FROM Isn{dety=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;firstDate~)
INSERT INTO Isn{dety=Integer}
      SELECTFROM  rentalExcessPeriod~;(rcDroppedOffDate;(lastDate \/ Delta)~ /\

      (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
INSERT INTO Isn{dety=DateDifference}
      SELECTFROM  (lastDate;(lastDate \/ Delta)~ /\ firstDate;firstDate~ /\ -I[

      (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifff
INSERT INTO Isn{dety=Date}
      SELECTFROM  ((lastDate \/ Delta)~;lastDate /\ -I[Date]) \/ ((lastDate \/

      (TO MAINTAIN  -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDif
INSERT INTO Isn{dety=DateDifference}
      SELECTFROM  (Delta;Delta~ /\ I[DateDifference]) - I[DateDifference]

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

(MAINTAINING  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp

```

```

(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
(MAINAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference]
(MAINAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*
(MAINAINING -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[DateDifference]
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]

(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference] FROM
(MAINAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*Date)
(MAINAINING -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;(lastDate~

      (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;(lastDate /\
(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{dety=RentalCase}
SELECTFROM -((contractedEndDate;firstDate~ /\ rcDroppedOffDate;(lastDate

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
DELETE FROM Isn{dety=DateDifference}
SELECTFROM -((lastDate /\ -Delta);(lastDate /\ -Delta)~) /\ I[DateDiffer

(TO MAINTAIN -I[DateDifference] \/ lastDate;I[Date];lastDate~ FROM UNI 1
(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{dety=RentalCase}
SELECTFROM -((contractedEndDate;firstDate~ /\ rcDroppedOffDate;(lastDate /\ -

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
DELETE FROM Isn{dety=DateDifference}
SELECTFROM -((lastDate /\ -Delta);(lastDate /\ -Delta)~) /\ I[DateDifference]

(TO MAINTAIN -I[DateDifference] \/ lastDate;I[Date];lastDate~ FROM UNI lastDa
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracteD
(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;firstDate~)
INSERT INTO Isn{detyp=Integer}
      SELECTFROM (rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE

      (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] FROM

```

----- 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

```

```

(MAINTEINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINTEINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDays~ FRO
(MAINTEINING -(computedNrOfExcessDays~;computedNrOfExcessDays) \/ I[Integer] FROM UNI

```

<-----End Derivation --

```

ON DELETE Delta FROM computedNrOfExcessDays[DateDifference*Integer] EXECUTE --
DELETE FROM Isn{dety=DateDifference}
SELECTFROM -((computedNrOfExcessDays /\ -Delta);(computedNrOfExcessDays /\ -Del
(TO MAINTAIN -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDay

```

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

```

DELETE FROM Isn{dety=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~ /\ contractedDropoffBranch
INSERT INTO Isn{dety=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
(MAINTEINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoff
NEW x:Amount;
ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
SELECTFROM (rcDroppedOffBranch;(distbranch \/ Delta)~ /\

```



```

        (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contrac
INSERT INTO computedLocationPenaltyCharge[DistanceBetween
        SELECTFROM ((distbranch \/ Delta);rcDroppedOffBranch~ /\

        (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contrac
        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropo
        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoff
        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
INSERT INTO Isn{dety=DistanceBetweenLocations}
        SELECTFROM (Delta;Delta~ /\ I[DistanceBetweenLocations]) - I[DistanceBet

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

(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr

```

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

```

ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
        SELECTFROM (rcDroppedOffBranch;(distbranch \/ Delta)~ /\ contractedDropoffBra

        (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;dis
INSERT INTO Isn{dety=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

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```

        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
INSERT INTO Isn{detyp=DistanceBetweenLocations}
        SELECTFROM (Delta;Delta~ /\ I[DistanceBetweenLocations]) - I[DistanceBetweenLocations]

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 --

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```

        ON DELETE Delta FROM distbranch[DistanceBetweenLocations*Branch] EXECUTE      -- (EC
        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::DistanceBet
                INSERT INTO Isn{detyp=DistanceBetweenLocations}
                SELECTFROM (Delta;Delta~ /\ I[DistanceBetweenLocations]) - I[DistanceBetweenLocations]

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

        (MAINTAINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBetweenLocations
        (MAINTAINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distanceBetweenLocations

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

```

```

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

```

```

        (TO MAINTAIN  -(distance~;distance) \/ I[Distance] FROM UNI distance::Distance
INSERT INTO Isn{dety=DistanceBetweenLocations}
        SELECTFROM (Delta;Delta~ /\ I[DistanceBetweenLocations]) - I[DistanceBetweenL

INSERT INTO Isn{dety=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{dety=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{dety=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{dety=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{dety=Amount}
        SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\

(TO MAINTAIN  -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~
INSERT INTO Isn{dety=RentalCase}

```

```
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]
```

```
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedCarType;contractedCarType~ /\ I[RentalCase]) - I[RentalCase])
```

```
THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase])
```

```
THEN INSERT INTO projectedRentalPeriod[RentalCase] (a,b)
```

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

```
(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ I[RentalCase])
```

```
PICK a,b FROM projectedRentalPeriod~;('a'[RentalCase])
```

```
THEN INSERT INTO ctcNrOfDays[CompTariffedCharge] (a,b)
```

```
SELECTFROM 'b'[CompTariffedCharge]
```

```
(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ I[RentalCase])
```

```
(MAINTAINING -(contractedCarType;contractedCarType~ /\ I[RentalCase])
```

```
NEW x:Integer;
```

```
ALL of INSERT INTO projectedRentalPeriod[RentalCase] (a,b)
```

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

```
(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ I[RentalCase])
```

```
INSERT INTO ctcNrOfDays[CompTariffedCharge] (a,b)
```

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

```
(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ I[RentalCase])
```

```
(MAINTAINING -(contractedCarType;contractedCarType~ /\ I[RentalCase])
```

```
(MAINTAINING -(contractedCarType;contractedCarType~ /\ I[RentalCase])
```

```
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase])
```

```
THEN INSERT INTO contractedCarType[RentalCase] (a,b)
```

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

```
(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ I[RentalCase])
```

```
PICK a,b FROM contractedCarType~;('a'[RentalCase])
```

```
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase])
```

```
THEN INSERT INTO rentalPeriod[RentalCase] (a,b)
```

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

```
(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ I[RentalCase])
```

```
PICK a,b FROM rentalPeriod~;('a'[RentalCase])
```

```
THEN INSERT INTO ctcDail[RentalCase] (a,b)
```

```
SELECTFROM 'b'[RentalPeriod]
```

```
(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ I[RentalCase])
```

```
(MAINTAINING -(contractedCarType;contractedCarType~ /\ I[RentalCase])
```

```
NEW x:Amount;
```

```
ALL of INSERT INTO rentalPeriod[RentalCase] (a,b)
```

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

```
(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ I[RentalCase])
```

```
INSERT INTO ctcDail[RentalCase] (a,b)
```

```
SELECTFROM 'b'[RentalPeriod]
```



```

ALL of INSERT INTO Isn{dety=Integer}
    SELECTFROM ((projectedRentalPeriod \ / Delta)~;(contractedStartDate;earliestDate~
    (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{dety=Amount}
    SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ cont
    (TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
    INSERT INTO Isn{dety=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'[Ren
                (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
(MAINAINING -(contractedCarType;
NEW x:Amount;
    ALL of INSERT INTO rentalTariff
                                SELECTFROM 'a'[CarType]

                                (TO MAINTAIN -(contract
INSERT INTO ctcDailyAmou
                                SELECTFROM 'b'[CompTari

                                (TO MAINTAIN -(contract
                                (MAINAINING -(contractedCarTyp
                                (MAINAINING -(contractedCarType;
                                (MAINAINING -(contractedCarType;contracte
(MAINAINING -(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
(MAINAINING -(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
                                (MAINAINING -(contractedCarType;c
                                (MAINAINING -(contractedCarType;con
                                (MAINAINING -(contractedCarType;contracted
(MAINAINING -(contractedCarType;contractedCarType

```

```

(MAINAINING -(contractedCarType;contractedCarType~
(MAINAINING -(contractedCarType;contractedCarType~ /\ proj
(MAINAINING -(contractedCarType;contractedCarType~ /\ projectedRe
PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount;ren
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger proje
(MAINAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;p
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
(MAINAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINAINING -(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
(MAINAINING -((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{dety=RentalCase}
      SELECTFROM  -(((projectedRentalPeriod /\ -Delta);ctcNrOfDays~ /\ c

      (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedR
      (MAINTAINING  -(contractedCarType;contractedCarType~ /\ projectedRentalPer
      (MAINTAINING  -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate
      (MAINTAINING  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;proj

```

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

```

ALL of ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM  ((-projectedRentalPeriod /\ (contractedStartDate;earliestDate

      (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;earliestDate

      (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{dety=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{dety=Amount}
SELECTFROM ((projectedBasicCharge \/ Delta)~;(projectedRentalPeriod;ctcNrOfDays~

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

(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTAINING -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] FROM UNI

```

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

```

ALL of INSERT INTO Isn{dety=Amount}
SELECTFROM ((projectedBasicCharge \/ Delta)~;(projectedRentalPeriod;ctcNrOfDays~

(TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
(TO MAINTAIN -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] FROM
INSERT INTO Isn{dety=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 /\ (projectedRenta

      (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;rentalTariffP
(MAINTEINING  -((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 sessionUser
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{dety=Date}
  SELECTFROM (rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;

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

INSERT INTO Isn{dety=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{dety=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];rcBranch
INSERT INTO Isn{dety=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{dety=Date}
  SELECTFROM (rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAv

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

INSERT INTO Isn{dety=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

```

```

(MAINTEINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINTEINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINTEINING -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionToday::SESSION*

```

<-----End Derivation --

```

ON DELETE Delta FROM sessionToday[SESSION*Date] EXECUTE      -- (ECA rule 120)
DELETE FROM Isn{dety=SESSION}
  SELECTFROM -((sessionToday /\ -Delta);(sessionToday /\ -Delta)~) /\ I[SESSION]

(TO MAINTAIN  -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize today's c

```

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

```

DELETE FROM Isn{dety=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{dety=SESSION}
  SELECTFROM (sessionNewUserRC;(sessionNewUserRC \/ Delta)~ /\ -I[SESSION]

(TO MAINTAIN  -(sessionNewUserRC;sessionNewUserRC~) \/ I[SESSION] FROM IN
INSERT INTO Isn{dety=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 '

```









```

(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[YesNoAnsw
(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

```



```

(CANNOT CHANGE V[YesNoAnswer*RentalCase] FR
(MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION]
(MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION]
(MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessio
(MAINAINING -(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
(MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNe
(MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC
(MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
(MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) /\ rcUs
(MAINAINING -(('_SESSION'[SESSION];sessionNewUserRC) /\ sessionNewUserRC;rcUserReques
(MAINAINING -(('_SESSION'[SESSION];sessionNewUserRC) /\ sessionNewUserRC;rcUserReques
(MAINAINING -(sessionNewUserRC;sessionNewUserRC~) /\ I[SESSION] FROM INJ sessionNewU
(MAINAINING -(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;rcUser

```

----- 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];rcBranch
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 rule)
ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
      SELECTFROM ((sessionNewBranchRC /\ Delta)~;sessionNewBranchRC;(I[RentalCase] /\ Delta)~)

      (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ Delta)~)
      INSERT INTO contractedPickupBranch[RentalCase*Branch]
      SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~)

      (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~)
      INSERT INTO Isn{dety=Branch}
      SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~)

      (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~)
      INSERT INTO contractedStartDate[RentalCase*Date]
      SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~)

      (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~)
      INSERT INTO Isn{dety=Date}
      SELECTFROM contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~)

      (TO MAINTAIN  -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~)
      INSERT INTO Isn{dety=RentalCase}
      SELECTFROM ((sessionNewBranchRC /\ Delta)~;sessionNewBranchRC /\ -I[RentalCase])

      (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC) /\ I[RentalCase]
      INSERT INTO Isn{dety=SESSION}
      SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((' _SESSION' [SESSION];sessionNewBranchRC)
      THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
      SELECTFROM 'a' [SESSION]*'b' [RentalCase]

      (TO MAINTAIN  -((' _SESSION' [SESSION];sessionNewBranchRC)
      PICK a,b FROM sessionNewBranchRC~;((' _SESSION' [SESSION];sessionNewBranchRC)
      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [SESSION]*'b' [RentalCase])
      THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
      SELECTFROM 'a' [RentalCase]*'b' [YesNoAnswer]

      (TO MAINTAIN  -((' _SESSION' [SESSION]
      PICK a,b FROM rcBranchRequestedQ~;('a' [RentalCase]*'b' [YesNoAnswer])
      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [SESSION]*'b' [RentalCase])
      THEN BLOCK
      (CANNOT CHANGE 'a' [SESSION]*'b' [RentalCase])
      PICK a,b FROM 'Yes' [YesNoAnswer]
      THEN BLOCK
      (CANNOT CHANGE 'a' [SESSION]*'b' [RentalCase])
      (MAINTAINING -((' _SESSION' [SESSION]
      NEW x:YesNoAnswer;
      ALL of BLOCK

```

```

(CANNOT CHANGE 'Yes
BLOCK
(CANNOT CHANGE V[Yes
(MAINAINING -(' _SESSION' [SE
(MAINAINING -(' _SESSION' [SE
(MAINAINING -(' _SESSION' [SESSION];
(MAINAINING -(' _SESSION' [SESSION];sessionNewBr
NEW x:YesNoAnswer;
ALL of INSERT INTO rcBranchRequestedQ[RentalC
SELECTFROM 'a' [RentalCase]*'b' [RentalC

(TO MAINTAIN -(' _SESSION' [SESSION];se
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN BLOCK
(CANNOT CHANGE 'Yes
PICK a,b FROM 'Yes' [YesN
THEN BLOCK
(CANNOT CHANGE V[Yes
(MAINAINING -(' _SESSION' [SESSI
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [Y
BLOCK
(CANNOT CHANGE V[YesNo.
(MAINAINING -(' _SESSION' [SES
(MAINAINING -(' _SESSION' [SESSI
(MAINAINING -(' _SESSION' [SESSION];ses
(MAINAINING -(' _SESSION' [SESSION];sessionNew
(MAINAINING -(' _SESSION' [SESSION];sessionNewBr
(MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC)
(MAINAINING -(' _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 PICK
THEN BLOCK
(CANNOT CHANGE 'Yes
PICK a,b FROM 'Yes' [YesN
THEN BLOCK
(CANNOT CHANGE V[Yes
(MAINAINING -(' _SESSION' [SESSI
NEW x:YesNoAnswer;

```





```

SELECTFROM ((sessionNewBranchRC \ / Delta~; '_SESSION' [SESSION];se
(TO MAINTAIN -(sessionNewBranchRC~; '_SESSION' [SESSION];se
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [YesNoAnswer]
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];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' [Re
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' [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];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 PICK
THEN BLOCK
(CANNOT CHANGE 'Yes
PICK a,b FROM 'Yes' [YesNoAnswer]

```



```

PICK a,b FROM 'Yes' [YesNoAnswer]; (
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer*
(MAINAINING -('_SESSION' [SESSION];session
(MAINAINING -('_SESSION' [SESSION];sessionNewBra
(MAINAINING -('_SESSION' [SESSION];sessionNewBranch
(MAINAINING -('_SESSION' [SESSION];sessionNewBranchRC; (re
(MAINAINING -('_SESSION' [SESSION];sessionNewBranchRC; (rentalHas
(MAINAINING -('_SESSION' [SESSION];sessionNewBranchRC; (rentalHasBe
(MAINAINING -('_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 \ / Delta)~;'_SESSION' [SESSION]
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer] FROM Hand t
PICK a,b FROM 'Yes' [YesNoAnswer]; ('a' [YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Hand t
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranchRC~;'_SESSION' [SESSION]
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer] FROM Hand t
BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Hand t
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranchRC~;'_SESSION' [SESSION]
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranchRC~;'_SESSION' [SESSION]
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranchRC~;'_SESSION' [SESSION]
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranchRC~;'_SESSION' [SESSION]
NEW x:YesNoAnswer;
ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
SELECTFROM (((sessionNewBranchRC \ / Delta)~;'_SESSION' [SESSION];sessionNewBranchRC~;'_SESSION' [SESSION]

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranchRC~;'_SESSION' [SESSION]
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [YesNoAnswer]
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 Hand t
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranchRC~;'_SESSION' [SESSION]
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranchRC~;'_SESSION' [SESSION]
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranchRC~;'_SESSION' [SESSION]
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranchRC~;'_SESSION' [SESSION]
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] /\ rcAssi

        (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] /\ rcAssignedCar;
        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssign
(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];rcBranch
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];rcBranchRequestedQ;
INSERT INTO Isn{detyp=Date}
SELECTFROM contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;

(TO MAINTAIN -(contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;
INSERT INTO Isn{detyp=RentalCase}
SELECTFROM ((sessionNewBranchRC \/ Delta)~;sessionNewBranchRC /\ -I[RentalCase]

(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];sessionNewBranchRC[SESSION*RentalCase]
THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM 'a' [SESSION]*'b' [RentalCase]

(TO MAINTAIN -(' _SESSION' [SESSION];sessionNewBranchRC) \/
PICK a,b FROM sessionNewBranchRC~;((' _SESSION' [SESSION];sessionNewBranchRC[SESSION*RentalCase]
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]
THEN INSERT INTO rcBranchRequestedQ[RentalCase]
SELECTFROM 'a' [RentalCase]*'b' [YesNoAnswer]

(TO MAINTAIN -(' _SESSION' [SESSION];sessionNewBranchRC)
PICK a,b FROM rcBranchRequestedQ~;('a' [RentalCase]
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]
THEN BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer])
PICK a,b FROM 'Yes'[YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer])
(MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC[SESSION*RentalCase]
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer])
BLOCK
(CANNOT CHANGE V[YesNoAnswer])
(MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC[SESSION*RentalCase]
(MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC[SESSION*RentalCase]
(MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC[SESSION*RentalCase]
(MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC[SESSION*RentalCase]
NEW x:YesNoAnswer;
ALL of INSERT INTO rcBranchRequestedQ[RentalCase]
SELECTFROM 'a' [RentalCase]*'b' [RentalCase]

(TO MAINTAIN -(' _SESSION' [SESSION];sessionNewBranchRC[SESSION*RentalCase]
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]
THEN BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer])
PICK a,b FROM 'Yes'[YesNoAnswer]

```

```

THEN BLOCK
    (CANNOT CHANGE V[YesNoAn
(MAINTAINING -('_SESSION' [SESSION];s
NEW x:YesNoAnswer;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes' [YesNoA
        BLOCK
        (CANNOT CHANGE V[YesNoAnsw
        (MAINTAINING -('_SESSION' [SESSION]
        (MAINTAINING -('_SESSION' [SESSION];s
        (MAINTAINING -('_SESSION' [SESSION];sessionN
        (MAINTAINING -('_SESSION' [SESSION];sessionNewBranch
        (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[YesNoAnsw
            (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
(MAINAINING -('_SESSION'[SESSION];sessionNewB
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC)
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC) \ sessionNewB
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC) \ sessionNewB
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC) \ sessionNewBra
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC) \ sessionNewBranchRC;r
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((sessionNewBranchRC \ Delta
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]
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSIO
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Comp
BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase] FR
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESS
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSIO
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sess
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
NEW x:YesNoAnswer;
ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
SELECTFROM (((sessionNewBranchRC \ Delta)~;'_SESSION'[SESSIO

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];session
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
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];session
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
(MAINAINING -(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]

```





```

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*YesNoAnswer]
            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' [YesNoAnswer]
            PICK a,b FROM 'Yes' [YesNoAnswer]
            THEN BLOCK
            (CANNOT CHANGE V[YesNoAnswer]
            (MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
            NEW x:YesNoAnswer;
            ALL of BLOCK
            (CANNOT CHANGE 'Yes' [YesNoAnswer]
            BLOCK
            (CANNOT CHANGE V[YesNoAnswer]
            (MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
            (MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
            (MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
            (MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
            NEW x:YesNoAnswer;
            ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
            SELECTFROM 'x' [RentalCase]*((' _SESSION' [SESSION];sessionNewBranchRC;
            (TO MAINTAIN -(' _SESSION' [SESSION];sessionNewBranchRC;
            ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [RentalCase]
            THEN BLOCK
            (CANNOT CHANGE 'Yes' [YesNoAnswer]
            PICK a,b FROM 'Yes' [YesNoAnswer];('x' [RentalCase]
            THEN BLOCK
            (CANNOT CHANGE V[YesNoAnswer*RentalCase]
            (MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
            (MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
            (MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC;
            (MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
            (MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
            (MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
            ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((sessionNewBranchRC \ / Delta)
            THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
            SELECTFROM 'a' [RentalCase]*'b' [YesNoAnswer]

            (TO MAINTAIN -((sessionNewBranchRC~;' _SESSION' [SESSION];sessionNewBranchRC;
            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 Hand
        PICK a,b FROM 'Yes'[YesNoAnswer];('a'[YesNoAnswer]
    THEN BLOCK
        (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Hand
    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;
    NEW x:YesNoAnswer;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand
        BLOCK
        (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Hand
    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;
    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;
    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;
    NEW x:YesNoAnswer;
    ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
        SELECTFROM (((sessionNewBranchRC /\ Delta)~;'_SESSION'[SESSION];
        (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;
    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]*((
        THEN BLOCK
            (CANNOT CHANGE 'Yes'[YesNoAnswer] FROM Hand the car
            PICK a,b FROM 'Yes'[YesNoAnswer];('x'[YesNoAnswer]*((
        THEN BLOCK
            (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Hand the car
        (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;
        (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;
        (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;
        (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;
    ONE OF 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;rcAssignedCar;
    PICK a,b FROM sessionNewBranchRC~;((sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar;
    THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

        (TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar;
    (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar;
    NEW x:RentalCase;
    ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM ((sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar;
        (TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar;
    INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
        SELECTFROM 'x'[RentalCase]*((sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar;

```

```

        (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar)
        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar)
        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar)
        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar)
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar)
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar)
        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcKeys
        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcKeys
        (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ)
        (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ)
        (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ)
        (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ)
        (MAINTAINING -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] FROM UNI sessionNewBranchRC

```

<-----End Derivation --

```

ON DELETE Delta FROM sessionNewBranchRC[SESSION*RentalCase] EXECUTE  -- (ECA rule)
ALL of DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC /\ -Delta);rcBranchRequestedQ)

        (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranchRequestedQ)
ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC /\ -Delta);rcBranchRequestedQ)

        (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar)
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-(sessionNewBranchRC /\ -Delta);rcBranchRequestedQ)

        (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar)
DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-(sessionNewBranchRC /\ -Delta);rcBranchRequestedQ)

        (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar)
DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM -(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];rcKeys)

        (TO MAINTAIN  -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar)
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar)
ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
        SELECTFROM -(sessionNewBranchRC /\ -Delta);rcBranchRequestedQ)

        (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar)
DELETE FROM Isn{dety=RentalCase}
        SELECTFROM sessionNewBranchRC~;(-(sessionNewBranchRC /\ -Delta);rcBranchRequestedQ)

        (TO MAINTAIN  -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;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~);session

(TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssign
(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];(-(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 -(sessionNewBranchRC /\ -Delta);rcBranchRequestedQ) /\ se

(TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAs
DELETE FROM Isn{detypr=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{dety=Person}
SELECTFROM ((sessionPickupPerson \/ Delta)~;sessionPickupPerson /\ -I[Pe

(TO MAINTAIN -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FR
INSERT INTO Isn{dety=SESSION}
SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

(MAINTAINING -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FROM UNI s

```

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

```

ALL of INSERT INTO Isn{dety=Person}
SELECTFROM ((sessionPickupPerson \/ Delta)~;sessionPickupPerson /\ -I[Person]

(TO MAINTAIN -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FROM UNI
INSERT INTO Isn{dety=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{dety=Car}
SELECTFROM ((sessionDroppedoffCar \/ Delta)~;'_SESSION'[SESSION];session

```

```

(TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar)
(TO MAINTAIN  -(sessionDroppedoffCar~;sessionDroppedoffCar) \ / I[Car] FROM
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));(
(TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
INSERT INTO Isn{dety=Branch}
SELECTFROM rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt
(TO MAINTAIN  -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailable
INSERT INTO rcDroppedOffDate[RentalCase*Date]
SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));(
(TO MAINTAIN  -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
INSERT INTO Isn{dety=Date}
SELECTFROM rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;c
(TO MAINTAIN  -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailable
INSERT INTO Isn{dety=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{dety=Car}
SELECTFROM 'a' [Car]*'b' [Car]

(TO MAINTAIN  -('_SESSION' [SESSION];sessionDrop
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
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

```

```

SELECTFROM

      (TO MAINT.
(MAINTEINING -('_SESS
NEW x:RentalCase;
      ALL of ALL of INSERT
      SELE

      (TO M.
DELET
SELE

      (TO M.
(MAINTEINING
INSERT INTO :
SELECTFROM

      (TO MAINTAIN
      (MAINTAINING -('_SE
      (MAINTAINING -('_SESS
      (MAINTAINING -('_SESSION'[SE
(MAINTEINING -('_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 INSERT
      SELE

      (TO M.
DELET
SELE

      (TO M.
(MAINTEINING
PICK a,b FROM (re
THEN INSERT INTO :
SELECTFROM

      (TO MAINTAIN
(MAINTEINING -('_SESSION
NEW x:RentalCase;
      ALL of ALL of INSERT I
      SELECTF

      (TO MAIN
DELETE F
SELECTF

```





```

      (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'[SESSI
      (MAINTAINING -('_SESSION'[SESSION]

```



```

(TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION'[SESSION]
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Ren
      THEN ALL of INSERT INTO rentalHasBeenStarted
      SELECTFROM 'a'[RentalCase]*'b'

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION'[SESSION]
      DELETE FROM rentalHasBeenEnded[RentalCase*SESSION]
      SELECTFROM 'a'[RentalCase]*'b'

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION'[SESSION]
      (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION]
      PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenEnded
      THEN INSERT INTO rcAssignedCar[RentalCase*Car]
      SELECTFROM 'a'[RentalCase]*'b'[Car]

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION'[SESSION]
      (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION]
      NEW x:RentalCase;
      ALL of INSERT INTO rentalHasBeenStarted[RentalCase*SESSION]
      SELECTFROM 'x'[RentalCase]*((sessionDroppedoffCar~;'_SESSION'[SESSION]

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION'[SESSION]
      DELETE FROM rentalHasBeenEnded[RentalCase*SESSION]
      SELECTFROM 'x'[RentalCase]*((sessionDroppedoffCar~;'_SESSION'[SESSION]

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION'[SESSION]
      INSERT INTO rcAssignedCar[RentalCase*Car]
      SELECTFROM 'x'[RentalCase]*'x'[RentalCase]

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION'[SESSION]
      (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION]
      (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION]
      (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar~;'_SESSION'[SESSION]
      (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar~;'_SESSION'[SESSION]
      (MAINTAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar~;'_SESSION'[SESSION]
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];sessionDroppedoffCar~;'_SESSION'[SESSION]
      THEN BLOCK
      (CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handling
      PICK a,b FROM V[RentalCase*SESSION];(('_SESSION'[SESSION];sessionDroppedoffCar~;'_SESSION'[SESSION]
      THEN ALL of INSERT INTO Isn{dety=RentalCase}
      SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

      (TO MAINTAIN -(('_SESSION'[SESSION];sessionDroppedoffCar~;'_SESSION'[SESSION]
      ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]
      THEN INSERT INTO rentalIsPaidQ[RentalCase*SESSION]
      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 -(
(MAINAINING -('_SESSION'[SE
NEW x:YesNoAnswer;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes
INSERT INTO rentalI
    SELECTFROM 'b'[Ren

        (TO MAINTAIN -('_S
        (MAINAINING -('_SESSION'[
        (MAINAINING -('_SESSION'[SE
        (MAINAINING -('_SESSION'[SESSION];
(MAINAINING -('_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 PICK
    THEN BLOCK
        (CANNOT CHANGE 'Yes
PICK a,b FROM 'Yes'[YesN
THEN INSERT INTO rentalI
    SELECTFROM 'b'[Ren

        (TO MAINTAIN -('_S
(MAINAINING -('_SESSION'[SESSI
NEW x:YesNoAnswer;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes'[Y
INSERT INTO rentalIsPa
    SELECTFROM 'b'[Rental

        (TO MAINTAIN -('_SESS
        (MAINAINING -('_SESSION'[SE
        (MAINAINING -('_SESSION'[SESSI
        (MAINAINING -('_SESSION'[SESSION];ses
        (MAINAINING -('_SESSION'[SESSION];sessionDro
        (MAINAINING -('_SESSION'[SESSION];sessionDropp
        (MAINAINING -('_SESSION'[SESSION];sessionDroppedoffCar
(MAINAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAss
(MAINAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I

```

```

(MAINAINING -( '_SESSION' [SESSION];sessionDroppedoffCar) \ / sessionDroppedoffCar
(MAINAINING -( '_SESSION' [SESSION];sessionDroppedoffCar) \ / sessionDroppedoffCar
(MAINAINING -( '_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rental
(MAINAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINAINING -(sessionDroppedoffCar~;sessionDroppedoffCar) \ / I[Car] FROM UNI se

```

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

```

ALL of INSERT INTO Isn{dety=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{dety=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{dety=Date}
    SELECTFROM rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAva

(TO MAINTAIN -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;ca
INSERT INTO Isn{dety=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{dety=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' [SESSION]
PICK a,b FROM rcAssignedCar; ('a' [Car]*
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF P
        THEN ALL of INSERT INTO rcAssignedCar
        SELECTFROM 'a' [RentalCase]*'b' [Car]

        (TO MAINTAIN -( '_SESSION' [SESSION];
DELETE FROM rcAssignedCar;
        SELECTFROM 'a' [RentalCase]*'b' [Car]

        (TO MAINTAIN -( '_SESSION' [SESSION];
        (MAINTAINING -( '_SESSION' [SESSION]
PICK a,b FROM (rentalCase);
THEN INSERT INTO rcAssignedCar;
        SELECTFROM 'a' [RentalCase]*'b' [Car]

        (TO MAINTAIN -( '_SESSION' [SESSION];
        (MAINTAINING -( '_SESSION' [SESSION]
NEW x:RentalCase;
        ALL of ALL of INSERT INTO rcAssignedCar;
        SELECTFROM 'a' [RentalCase]*'b' [Car]

        (TO MAINTAIN -( '_SESSION' [SESSION];
DELETE FROM rcAssignedCar;
        SELECTFROM 'a' [RentalCase]*'b' [Car]

        (TO MAINTAIN -( '_SESSION' [SESSION];
        (MAINTAINING -( '_SESSION' [SESSION]
INSERT INTO rcAssignedCar;
        SELECTFROM 'x' [RentalCase]*'b' [Car]

        (TO MAINTAIN -( '_SESSION' [SESSION];
        (MAINTAINING -( '_SESSION' [SESSION]
        (MAINTAINING -( '_SESSION' [SESSION]
        (MAINTAINING -( '_SESSION' [SESSION]
        (MAINTAINING -( '_SESSION' [SESSION];sessionDrop
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 INTO rcAssignedCar
        SELECTFROM 'a' [RentalCase]*'b' [Car]

        (TO MAINTAIN -( '_SESSION' [SESSION];
DELETE FROM rcAssignedCar;
        SELECTFROM 'a' [RentalCase]*'b' [Car]

```



```

DELETE FROM rentalHasBeenStar
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -( '_SESSION' [SESSION];sessionDroppedoffCar
(MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar
PICK a,b FROM (rentalHasBeenStar
THEN INSERT INTO rcAssignedCar[RentalCase*Car]
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -( '_SESSION' [SESSION];sessionDroppedoffCar
(MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar
NEW x:RentalCase;
ALL of ALL of INSERT INTO rentalHasBeenStar
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -( '_SESSION' [SESSION];sessionDroppedoffCar
DELETE FROM rentalHasBeenStar
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -( '_SESSION' [SESSION];sessionDroppedoffCar
(MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar
INSERT INTO rcAssignedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]

(TO MAINTAIN -( '_SESSION' [SESSION];sessionDroppedoffCar
(MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar
(MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar
(MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar
(MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar
NEW x:RentalCase;
ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*((sessionDroppedoffCar

(TO MAINTAIN -( '_SESSION' [SESSION];sessionDroppedoffCar
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rentalHasBeenStar
THEN ALL of INSERT INTO rentalHasBeenStar
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -( '_SESSION' [SESSION];sessionDroppedoffCar
DELETE FROM rentalHasBeenStar
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -( '_SESSION' [SESSION];sessionDroppedoffCar
(MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar
PICK a,b FROM (rentalHasBeenStar
THEN INSERT INTO rcAssignedCar[RentalCase*Car]
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -( '_SESSION' [SESSION];sessionDroppedoffCar
(MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar

```



```

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~;'_SESS
      (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~;'_SESS
      DELETE FROM rentalHasBeenEnded[Renta
      SELECTFROM 'a' [RentalCase]*'b' [Rent

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESS
      (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

```

```

(MAINAINING -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDropped
(MAINAINING -(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];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
(MAINAINING -('_SESSION'[SESSION
NEW x:YesNoAnswer;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes'[Yes
        INSERT INTO rentalIsPaid
        SELECTFROM 'b'[RentalCa

    (TO MAINTAIN -('_SESSIO
    (MAINAINING -('_SESSION'[SESSI
    (MAINAINING -('_SESSION'[SESSION
    (MAINAINING -('_SESSION'[SESSION];sessi
(MAINAINING -('_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
(MAINAINING -('_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) \ / sessionDroppedoffCar

```

----- 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{dety=Person}
SELECTFROM ((sessionDroppedoffPerson \ / Delta)~; sessionDroppedoffPerson .

```

```

        (TO MAINTAIN  -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person]
INSERT INTO Isn{dety=SESSION}
        SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

(MAINTAINING -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person] FROM UN

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

ALL of INSERT INTO Isn{dety=Person}
        SELECTFROM ((sessionDroppedoffPerson \/ Delta)~;sessionDroppedoffPerson /\ -I

        (TO MAINTAIN  -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person]
INSERT INTO Isn{dety=SESSION}
        SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

(MAINTAINING -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person] FROM UN

<-----End Derivation --

ON INSERT Delta IN Isn{dety=Branch} EXECUTE      -- (ECA rule 133)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Branch] /\ -(branchOf;'EU-Rent'
        THEN INSERT INTO branchOf[Branch*CarRentalCompany]
        SELECTFROM 'a'[Branch]*'b'[CarRentalCompany]

        (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany]
PICK a,b FROM branchOf~;(I[Branch] /\ -(branchOf;'EU-Rent'[CarRentalCompany]
        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[CarRentalCompany]
        THEN BLOCK
                (CANNOT CHANGE 'EU-Rent'[CarRentalCompany] FROM
                PICK a,b FROM 'EU-Rent'[CarRentalCompany];('a'[CarRentalCompany]
        THEN INSERT INTO branchOf[Branch*CarRentalCompany]
                SELECTFROM 'b'[Branch]*'a'[CarRentalCompany]

        (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany]
(MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany]
NEW x:CarRentalCompany;
        ALL of BLOCK
                (CANNOT CHANGE 'EU-Rent'[CarRentalCompany] FROM
                INSERT INTO branchOf[Branch*CarRentalCompany]
                SELECTFROM 'b'[Branch]*'a'[CarRentalCompany]

        (TO MAINTAIN  -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany]
        (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany]
        (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany]
        (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany]
        (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 EURent
          PICK a,b FROM 'EU-Rent'[CarRentalCompany];('x'[CarRentalCompany]
          THEN INSERT INTO branchOf[Branch*CarRentalCompany]
              SELECTFROM 'b'[Branch]*'a'[CarRentalCompany]

          (TO MAINTAIN -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany]
          (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];
          (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branchOf~
          (MAINTAINING -I[Branch] \/ branchOf;'EU-Rent'[CarRentalCompany];branchOf~
          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
          ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Branch] /\ -(branchLocation;branchLocation~
          THEN INSERT INTO branchLocation[Branch*Location]
              SELECTFROM 'a'[Branch]*'b'[Location]

          (TO MAINTAIN -I[Branch] \/ branchLocation;I[Location];branchLocation~
          PICK a,b FROM branchLocation~;(I[Branch] /\ -(branchLocation;branchLocation~))
          THEN INSERT INTO branchLocation[Branch*Location]
              SELECTFROM 'b'[Branch]*'a'[Location]

          (TO MAINTAIN -I[Branch] \/ branchLocation;I[Location];branchLocation~
          (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~
          (MAINTAINING -I[Branch] \/ branchLocation;I[Location];branchLocation~ FROM UNI
          (MAINTAINING -branchOf \/ branchOf;'EU-Rent'[CarRentalCompany] FROM EURent branchOf
          (MAINTAINING -(branchOf~;branchOf) \/ I[CarRentalCompany] FROM UNI branchOf::BranchOf
          (MAINTAINING -I[Branch] \/ branchOf;branchOf~ FROM TOT branchOf::Branch*CarRentalCompany
          (MAINTAINING -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLocation
          (MAINTAINING -I[Branch] \/ branchLocation;branchLocation~ FROM TOT branchLocation

```

----- 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 EU
      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'[C
(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'[C

      (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];bran
      (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~
(MAINAINING -I[Branch] \/ branchOf;I[CarRentalCompany];branchOf~ FROM UNI bra
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Branch] /\ -(branchLocation;branch
      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
(MAINAINING -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
      (MAINAINING -I[Branch] \/ branchLocation;I[Location];branchLocation~ FROM UNI
(MAINAINING -branchOf \/ branchOf;'EU-Rent' [CarRentalCompany] FROM EURent branches)
(MAINAINING -(branchOf~;branchOf) \/ I[CarRentalCompany] FROM UNI branchOf::Branch*C
(MAINAINING -I[Branch] \/ branchOf;branchOf~ FROM TOT branchOf::Branch*CarRentalComp
(MAINAINING -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLocation
(MAINAINING -I[Branch] \/ branchLocation;branchLocation~ FROM TOT branchLocation::Br

<-----End Derivation --

```

```

ON DELETE Delta FROM Isn{dety=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{dety=CarRentalCompany} EXECUTE      -- (ECA rule 135)
ONE OF INSERT INTO Isn{dety=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[CarRentalCompany]

(TO MAINTAIN -(branchOf~;branchOf;'EU-Rent'[CarRentalCompany])) /\ I[CarRentalCompany]
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)

```

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

```

ONE OF INSERT INTO Isn{detyp=CarRentalCompany}
  SELECTFROM 'EU-Rent'[CarRentalCompany];branchOf~;branchOf /\ -I[CarRentalCompany]

(TO MAINTAIN -('EU-Rent'[CarRentalCompany];branchOf~;branchOf) /\ I[CarRentalCompany]
INSERT INTO Isn{detyp=CarRentalCompany}
  SELECTFROM branchOf~;branchOf;'EU-Rent'[CarRentalCompany] /\ -I[CarRentalCompany]

(TO MAINTAIN -(branchOf~;branchOf;'EU-Rent'[CarRentalCompany])) /\ I[CarRentalCompany]
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 EURent
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'[CarRentalCompany])

(TO MAINTAIN -('EU-Rent'[CarRentalCompany];branchOf~;branchOf) /\ I[CarRentalCompany]

```

```

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{dety=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 branch
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*CarRenta

```

----- 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{dety=Branch}
SELECTFROM -(branchOf; 'EU-Rent' [CarRentalCompany];branchOf~) /\ I[Branch]

(TO MAINTAIN  -I[Branch] \ / branchOf; 'EU-Rent' [CarRentalCompany];branchOf~ FROM
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{dety=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;carAvaila
      THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'b' [Car]*'a' [Branch]

```

```

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar;
(MAINAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;
NEW x:Branch;
    INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM (I[Car] /\ -(carAvailableAt;carAvailableAt~) /\ -(rcAssignedCar;carAvailableAt~)
        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar;
(MAINAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Car] /\ -(carAvailableAt;carAvailableAt~)
    THEN INSERT INTO rcAssignedCar[RentalCase*Car]
        SELECTFROM 'b'[RentalCase]*'a'[Car]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar;
PICK a,b FROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)
    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]*'b'[RentalCase]
        THEN ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
            SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
        DELETE FROM rentalHasBeenEnded[RentalCase*Car]
            SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
        (MAINAINING -I[Car] \/ carAvailableAt;carAvailableAt~
PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenEnded~)
    THEN INSERT INTO rcAssignedCar[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
        (MAINAINING -I[Car] \/ carAvailableAt;carAvailableAt~
NEW x:RentalCase;
    ALL of ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]*'b'[RentalCase]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
        DELETE FROM rentalHasBeenEnded[RentalCase*Car]
            SELECTFROM 'a'[RentalCase]*'b'[Car]*'b'[RentalCase]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
        (MAINAINING -I[Car] \/ carAvailableAt;carAvailableAt~
INSERT INTO rcAssignedCar[RentalCase*Car]
        SELECTFROM 'x'[RentalCase]*'a'[RentalCase]*'b'[RentalCase]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
        (MAINAINING -I[Car] \/ carAvailableAt;carAvailableAt~
        (MAINAINING -I[Car] \/ carAvailableAt;carAvailableAt~
        (MAINAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar;
(MAINAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;
NEW x:RentalCase;
    ALL of INSERT INTO rcAssignedCar[RentalCase*Car]

```

```

SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailabl

(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[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[RentalCase*Car]

(TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAss
DELETE FROM rentalHasBeenEnded[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[RentalCase*Car]

(TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAss
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAss
PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenEnded[RentalCase*Car]
THEN INSERT INTO rcAssignedCar[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAss
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAss
NEW x:RentalCase;
ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailabl

(TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAss
DELETE FROM rentalHasBeenEnded[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailabl

(TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAss
INSERT INTO rcAssignedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailabl

(TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAss
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAss
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAss
(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{dety=Branch}
SELECTFROM rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailabl

(TO MAINTAIN -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailabl
INSERT INTO rcDroppedOffDate[RentalCase*Date]
SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));s

(TO MAINTAIN -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
INSERT INTO Isn{dety=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~;(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 -(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~ \/ rcAssignedCar;
    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[RentalCase*Car]
            SELECTFROM 'a'[RentalCase]*'b'[RentalCase*Car]

            (TO MAINTAIN -I[Car] \/ carAvailableAt;
            DELETE FROM rentalHasBeenEnded[RentalCase*Car]
            SELECTFROM 'a'[RentalCase]*'b'[RentalCase*Car]

            (TO MAINTAIN -I[Car] \/ carAvailableAt;
            (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~
            PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenEnded;
            THEN INSERT INTO rcAssignedCar[RentalCase*Car]
                SELECTFROM 'a'[RentalCase]*'b'[Car]

            (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
            (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar;
            NEW x:RentalCase;
            ALL of ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
                SELECTFROM 'a'[RentalCase]*'b'[Car]*'x'[RentalCase*Car]

            (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
            DELETE FROM rentalHasBeenEnded[RentalCase*Car]
            SELECTFROM 'a'[RentalCase]*'b'[Car]*'x'[RentalCase*Car]

            (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
            (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~
            INSERT INTO rcAssignedCar[RentalCase*Car]
                SELECTFROM 'x'[RentalCase]*'a'[RentalCase]*'b'[Car]

            (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
            (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~
            (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ /\ rcAssignedCar;
            (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ /\ rcAssignedCar;
            NEW x:RentalCase;
            ALL of INSERT INTO rcAssignedCar[RentalCase*Car]
                SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailableAt~

            (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ /\ rcAssignedCar;
            ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCase]*(I[Car] /\
            THEN ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
                SELECTFROM 'a'[RentalCase]*'b'[RentalCase*Car]

            (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
            DELETE FROM rentalHasBeenEnded[RentalCase*Car]

```

```

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

      (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
      (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~
PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenEnded)
THEN INSERT INTO rcAssignedCar[RentalCase*Car]
      SELECTFROM 'a'[RentalCase]*'b'[Car]

      (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
      (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ /\ rcAssignedCar
NEW x:RentalCase;
      ALL of INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
      SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailableAt~))

      (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
      DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
      SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailableAt~))

      (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
      INSERT INTO rcAssignedCar[RentalCase*Car]
      SELECTFROM 'x'[RentalCase]*'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailableAt~))

      (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
      (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ /\ rcAssignedCar
      (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ /\ rcAssignedCar
      (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ /\ rcAssignedCar;
      (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ /\ rcAssignedCar;
      (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ /\ rcAssignedCar;
      INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
      SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session

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

      (TO MAINTAIN -(rcDroppedOffBranch~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
      INSERT INTO rcDroppedOffDate[RentalCase*Date]
      SELECTFROM rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session

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

      (TO MAINTAIN -(rcDroppedOffDate~;rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Car] /\ -(carType;carType~));carType
      THEN INSERT INTO carType[Car*CarType]
      SELECTFROM 'a'[Car]*'b'[CarType]

      (TO MAINTAIN -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType
      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
(MAINAINING -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
(MAINAINING -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::Car*CarT
(MAINAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcAssignedCar~;(rentalHasBe
(MAINAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDro
(MAINAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
(MAINAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)

```

<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=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] /\ rcDroppedO

        (TO MAINTAIN -(rcDroppedOffCar~;rcCarHasBeenDroppedOff;rcDroppedOffCar)
DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
        SELECTFROM rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCar~;rcCarHasBeenDrope

        (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-off
DELETE FROM rcDroppedOffCar[RentalCase*Car]
SELECTFROM rcAssignedCar;(-I[Car] /\ rcAssignedCar~;rcDroppedOffCar)

(TO MAINTAIN  -(rcAssignedCar~;rcDroppedOffCar) \ / I[Car] FROM Dropped-off
DELETE FROM sessionDroppedoffCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];(-(sessionDroppedoffCar;(I[Car] /\ rcAssignedCar~;rcDroppedOffCar)

(TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar) \ / sessionDroppedoffCar
DELETE FROM sessionDroppedoffCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessionDroppedoffCar~;rcDroppedOffCar)

(TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar) \ / sessionDroppedoffCar
DELETE FROM sessionDroppedoffCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionDroppedoffCar;((-I[Car] /\ sessionDroppedoffCar~;rcDroppedOffCar)

(TO MAINTAIN  -(sessionDroppedoffCar~;'_SESSION'[SESSION];sessionDroppedoffCar) \ / 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 rcDroppedOffCar
DELETE FROM sessionDroppedoffCar[SESSION*Car]
SELECTFROM sessionDroppedoffCar;(-I[Car] /\ sessionDroppedoffCar~;sessionDroppedoffCar)

(TO MAINTAIN  -(sessionDroppedoffCar~;sessionDroppedoffCar) \ / I[Car] FROM UNI sessionDroppedoffCar
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 Dropped-off
(MAINTAINING -rcCarHasBeenDroppedOff \ / rcDroppedOffCar;rcDroppedOffCar~ FROM Dropped-off
(MAINTAINING -rcDroppedOffCar \ / rcAssignedCar FROM Dropped-off car type integrity

```

```

(MAINAINING -( '_SESSION' [SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
(MAINAINING -( '_SESSION' [SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar
(MAINAINING -(rcAssignedCar~;rcAssignedCar) \/ I[Car] FROM UNI rcAssignedCar::R
(MAINAINING -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDroppedOff
(MAINAINING -(sessionDroppedoffCar~;sessionDroppedoffCar) \/ I[Car] FROM UNI se

```

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

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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~;sessionDropp

(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{dety=RentalCase} EXECUTE -- (ECA rule 139)
ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType

```

```

(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~ /\ rcDroppedOffDate;rc
INSERT INTO paymentHasBeenRequested[RentalCase*RentalCase]
      SELECTFROM rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase]

(TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase]
INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
      SELECTFROM rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeen

(TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeen
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];rcBranch

(TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranch
INSERT INTO Isn{dety=Branch}
      SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;

(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];rcBranch
INSERT INTO Isn{dety=Date}
      SELECTFROM contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes

(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[RentalCase]
            THEN INSERT INTO carType[Car*CarType]
            SELECTFROM 'a'[Car]*'b'[CarType]

            (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase]
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
NEW x:Car;

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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[RentalCase] /\

      (TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\
      (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
      (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
      (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenProm
      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'[YesNoAnswer]
      THEN INSERT INTO rcDriver[RentalCase*Person]
      SELECTFROM 'b'[RentalCase]*'a'[Person]

      (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
      (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
      NEW x:Person;
      INSERT INTO rcDriver[RentalCase*Person]
      SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ

      (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
      (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
      (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'[YesNoAnswer]
      THEN INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM 'b'[RentalCase]*'a'[Person]

      (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
      (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
      NEW x:Person;
      INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ

      (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
      (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
      (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]

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        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~
PICK a,b FROM contractedStartDate~;(rcMaxRentalDuration;rcMaxRentalDuration~
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Date]
        THEN INSERT INTO dateIntervalCompTrigger
        SELECTFROM 'a'[Date]*'b'[Date]

        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~
PICK a,b FROM dateIntervalCompTrigger~;(rcMaxRentalDuration;rcMaxRentalDuration~
THEN INSERT INTO contractedEndDate[RentalCase*Date]
        SELECTFROM 'b'[RentalCase]*'a'[Date]

        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~
NEW x:Date;
        ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
        SELECTFROM 'a'[Date]*'b'[RentalCase]*'a'[Date]

        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~
INSERT INTO contractedEndDate[RentalCase*Date]
        SELECTFROM 'b'[RentalCase]*'a'[Date]

        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedStartDate~
NEW x:Date;
        ALL of INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM (rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedStartDate~

        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Date]
        THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
        SELECTFROM 'a'[Date]*'b'[Date]

        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~
PICK a,b FROM dateIntervalCompTrigger~;('x'[Date]
        THEN INSERT INTO contractedEndDate[RentalCase*Date]
        SELECTFROM 'b'[RentalCase]*'a'[Date]

        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~
NEW x:Date;
        ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
        SELECTFROM 'x'[Date]*(rcMaxRentalDuration;rcMaxRentalDuration~

        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~
INSERT INTO contractedEndDate[RentalCase*Date]
        SELECTFROM (rcMaxRentalDuration;rcMaxRentalDuration~

```

```

        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration)
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration)
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration)
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contr
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contrac
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndD
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rentalLocationPenaltyCharge;rentalLocat
        THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]
        THEN INSERT INTO rentalBasicCharge[RentalCase]
        SELECTFROM 'a'[RentalCase]*'b'[CompRentalCharge]*'a'[CompRentalCharge]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
        PICK a,b FROM rentalBasicCharge~;'a'[RentalCase]
        THEN INSERT INTO arg1[CompRentalCharge*Amount]
        SELECTFROM 'b'[CompRentalCharge]*'a'[CompRentalCharge]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
        NEW x:Amount;
        ALL of INSERT INTO rentalBasicCharge[RentalCase]
        SELECTFROM 'a'[RentalCase]*'b'[CompRentalCharge]*'a'[CompRentalCharge]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
        INSERT INTO arg1[CompRentalCharge*Amount]
        SELECTFROM 'b'[CompRentalCharge]*'a'[CompRentalCharge]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]
        THEN INSERT INTO rentalPenaltyCharge[RentalCase]
        SELECTFROM 'a'[RentalCase]*'b'[CompRentalCharge]*'a'[CompRentalCharge]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
        PICK a,b FROM rentalPenaltyCharge~;'a'[RentalCase]
        THEN INSERT INTO arg2[CompRentalCharge*Amount]
        SELECTFROM 'b'[CompRentalCharge]*'a'[CompRentalCharge]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
        NEW x:Amount;
        ALL of INSERT INTO rentalPenaltyCharge[RentalCase]
        SELECTFROM 'a'[RentalCase]*'b'[CompRentalCharge]*'a'[CompRentalCharge]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
        INSERT INTO arg2[CompRentalCharge*Amount]
        SELECTFROM 'b'[CompRentalCharge]*'a'[CompRentalCharge]

```





```

INSERT INTO earliestDate[DateDifferencePlusOne]
SELECTFROM 'b'[DateDifferencePlusOne]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
THEN INSERT INTO rcDroppedOffDate[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[DateDifferencePlusOne]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
PICK a,b FROM rcDroppedOffDate~;('a'[RentalCase]
THEN INSERT INTO latestDate[DateDifferencePlusOne]
SELECTFROM 'b'[DateDifferencePlusOne]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
NEW x:Date;
ALL of INSERT INTO rcDroppedOffDate[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[DateDifferencePlusOne]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
INSERT INTO latestDate[DateDifferencePlusOne]
SELECTFROM 'b'[DateDifferencePlusOne]

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
(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'[DateDifferencePlusOne]

(TO MAINTAIN -(rcAssignedCar;rcAssignedCar)
PICK a,b FROM rentalPeriod~;('a'[RentalCase]
THEN INSERT INTO ctcNrOfDays[CompTariffedCharge]
SELECTFROM 'b'[CompTariffedCharge]

(TO MAINTAIN -(rcAssignedCar;rcAssignedCar)
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
NEW x:Integer;
ALL of INSERT INTO rentalPeriod[RentalCase*Integer]
SELECTFROM 'a'[RentalCase]*'b'[CompTariffedCharge]

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ONE OF ONE NONEMPTY
THEN

PICK
THEN

(MAINTAINING
NEW x:Amount
ALL of INS
SE

(TO
INS
SE

(TO
(MAINTAINING
(MAINTAINING
(MAINTAINING -(rcAssignedCar
(MAINTAINING -(rcAssignedCar
(MAINTAINING -(rcAssignedCar;rcAssignedCar
(MAINTAINING -(rcAssignedCar;rcAssignedCar~ /\
NEW x:Car;
ALL of INSERT INTO rcAssignedCar[RentalCase*CarType]
SELECTFROM 'a'[RentalCase]*'b'[CompType]

(TO MAINTAIN -(rcAssignedCar;rcAssignedCarType
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN INSERT INTO carType
SELECTFROM 'a'[CarType]

(TO MAINTAIN -(rcAssignedCar;rcAssignedCarType
PICK a,b FROM carType~;
THEN ONE OF ONE NONEMPTY
THEN

PICK
THEN

(MAINTAINING
NEW x:Amount

```

```

ALL of INS
SE

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INS
SE

(TO
(MAINAINI
(MAINAINING
(MAINAINING -(rcAss
(MAINAINING -(rcAssignedCar;rc
NEW x:CarType;
ALL of INSERT INTO carType[Car
SELECTFROM 'x'[Car]*'.

(TO MAINTAIN -(rcAssi
ONE OF ONE NONEMPTY AL
THEN INS
SE

(TO
PICK a,b
THEN INS
SE

(TO
(MAINAINING -(
NEW x:Amount;
ALL of INSERT
SELEC

(TO MA
INSERT
SELEC

(TO MA
(MAINAINING
(MAINAINING -(
(MAINAINING -(rcAssig
(MAINAINING -(rcAssignedCar;
(MAINAINING -(rcAssignedCar;rc
(MAINAINING -(rcAssignedCar;rcAssigned
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ :
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalP
(MAINAINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;r
PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalT
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger :

```

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(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[Rent
            SELECTFROM 'a'[RentalCase]*'b'[Int
```

```

      (TO MAINTAIN -(rentalExcessPeriod;
(MAINTAINING -(rentalExcessPeriod;rentalExcessP
NEW x:Integer;
      ALL of INSERT INTO rentalExcessPeriod[RentalC
      SELECTFROM 'a' [RentalCase]*'b' [CompTa

```

```

      (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod)
      (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod)
      (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod)
      (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
      THEN INSERT INTO rcAssignedCar[RentalCase]
      SELECTFROM 'a'[RentalCase]*'b'[Car]

```

```

      (TO MAINTAIN  -(
PICK a,b FROM carType
THEN ONE OF ONE NONEM
      TH

```

(MAINTAINING)  
NEW x: Amount  
ALL of



```

SELECTFROM 'a' [Car]

      (TO MAINTAIN -(rent
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
      (MAINTAINING
      (MAINTAINING
      (MAINTAINING -(rent
      (MAINTAINING -(rentalExcessPeri
NEW x:CarType;
      ALL of INSERT INTO carType[Car]
      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

```







```

SELECTFROM 'b' [DateDifferencePlusOne]

(TO MAINTAIN -(contractedEndDate;cont
(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~ /\
PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;cont
THEN BLOCK
(CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigg
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedCarType;contractedCar
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[CompTariffed
SELECTFROM 'b' [CompTariffedCharge]

(TO MAINTAIN -(contractedCarType;c
(MAINTAINING -(contractedCarType;contractedCarT
NEW x:Integer;
ALL of INSERT INTO projectedRentalPeriod[Rent
SELECTFROM 'a' [RentalCase]*'b' [CompTar

(TO MAINTAIN -(contractedCarType;cont
INSERT INTO ctcNrOfDays[CompTariffedCh
SELECTFROM 'b' [CompTariffedCharge]*'a

(TO MAINTAIN -(contractedCarType;cont
(MAINTAINING -(contractedCarType;contractedCar
(MAINTAINING -(contractedCarType;contractedCarT
(MAINTAINING -(contractedCarType;contractedCarType~ /\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [
THEN INSERT INTO contractedCarType[Renta
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' [Comp

      (TO MAINTAIN -(con
      (MAINTAINING -(contractedC
      (MAINTAINING -(contractedCar'
      (MAINTAINING -(contractedCarType;co
(MAINTAINING -(contractedCarType;contractedCarT
NEW x:CarType;
      ALL of INSERT INTO contractedCarType[RentalCar
      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' [Comp

      (TO MAINTAIN -(con
(MAINTAINING -(contractedCarType
NEW x:Amount;
      ALL of INSERT INTO rentalTari
      SELECTFROM 'x' [CarType

      (TO MAINTAIN -(contra
INSERT INTO ctcDailyAm
      SELECTFROM 'b' [CompTa

      (TO MAINTAIN -(contra

```

```

(MAINAINING -(contractedCarType;contractedCarType~ /\
(MAINAINING -(contractedCarType;contractedCarType~ /\
(MAINAINING -(contractedCarType;contractedCarType~ /\
(MAINAINING -(contractedCarType;contractedCarType~ /\
(MAINAINING -(contractedCarType;contractedCarType~ /\
(MAINAINING -(contractedCarType;contractedCarType~ /\ project
PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
(MAINAINING -(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
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ
NEW x:Person;
INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM (rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ
(MAINAINING -(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
(MAINAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
NEW x:RentalCase;
ALL of INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM (sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar

(TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
SELECTFROM 'x'[RentalCase]*(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar

(TO MAINTAIN -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar
(MAINAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar

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(MAINTEINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
(MAINTEINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssign
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
(MAINTEINING -(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
      (MAINTEINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes' [YesN
(MAINTEINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes' [YesNoAnswer
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION' [SESSION];sessionDrop
      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[RentalCase]
        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 -(
(MAINTEINING -('_SESSION' [SE
NEW x:YesNoAnswer;
      ALL of BLOCK
        (CANNOT CHANGE 'Yes
      INSERT INTO rentalI
        SELECTFROM 'b' [Ren

      (TO MAINTAIN -('_S

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(MAINTEINING -( '_SESSION' [SESSION]);
(MAINTEINING -( '_SESSION' [SESSION]);
(MAINTEINING -( '_SESSION' [SESSION]);
(MAINTEINING -( '_SESSION' [SESSION];sessionDropped;
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 PICK
THEN BLOCK
(CANNOT CHANGE 'Yes
PICK a,b FROM 'Yes' [YesN
THEN INSERT INTO rentalI
SELECTFROM 'b' [Ren

(TO MAINTAIN -( '_S
(MAINTEINING -( '_SESSION' [SESSI
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [Y
INSERT INTO rentalIsPa
SELECTFROM 'b' [Rental

(TO MAINTAIN -( '_SESS
(MAINTEINING -( '_SESSION' [SES
(MAINTEINING -( '_SESSION' [SESSI
(MAINTEINING -( '_SESSION' [SESSION];ses
(MAINTEINING -( '_SESSION' [SESSION];sessionDro
(MAINTEINING -( '_SESSION' [SESSION];sessionDro
(MAINTEINING -( '_SESSION' [SESSION];sessionDroppedoffCar;rcAss
(MAINTEINING -( '_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar~; (I
(MAINTEINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTEINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;con
(MAINTEINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssi
(MAINTEINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\
(MAINTEINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\ I[Rent
(MAINTEINING -(rcKeysHandedOverQ;'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\ I[Rent
(MAINTEINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDrop
(MAINTEINING -(rentalIsPaidQ;'Yes' [YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase])
(MAINTEINING -(rentalIsPaidQ;'Yes' [YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDr
(MAINTEINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTEINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
(MAINTEINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
(MAINTEINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[R
(MAINTEINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) /\ (rent
(MAINTEINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
(MAINTEINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contr
(MAINTEINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;pro

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(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase]
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ
(MAINTAINING -('SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]
```

```

ALL of INSERT INTO rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM (rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;com

(TO MAINTAIN -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
(TO MAINTAIN -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
      SELECTFROM rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssign

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssign
INSERT INTO rcCarHasBeenDroppedOff[RentalCase*RentalCase]
      SELECTFROM rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDroppedOffDate~ /\ rcDroppedOffBranch

(TO MAINTAIN -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDroppedOffDate~ /\ rcDroppedOffBranch
INSERT INTO paymentHasBeenRequested[RentalCase*RentalCase]
      SELECTFROM rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase] /\ rcCarHasBeenDroppedOff

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase] /\ rcCarHasBeenDroppedOff
INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
      SELECTFROM rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDroppedOff

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDroppedOff
INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
      SELECTFROM sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcCarHasBeenDroppedOff

(TO MAINTAIN -(sessionNewBranchRC~;sessionNewBranchRC;(I[RentalCase] /\ rcCarHasBeenDroppedOff
INSERT INTO contractedPickupBranch[RentalCase*Branch]
      SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\ I[RentalCase] /\ rcBranchRequestedQ

(TO MAINTAIN -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\ I[RentalCase] /\ rcBranchRequestedQ
INSERT INTO Isn{dety=Branch}
      SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\ I[RentalCase] /\ rcBranchRequestedQ

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\ I[RentalCase] /\ rcBranchRequestedQ
INSERT INTO contractedStartDate[RentalCase*Date]
      SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~ /\ I[RentalCase] /\ rcBranchRequestedQ

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(TO MAINTAIN -(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;
INSERT INTO Isn{detyp=Date}
SELECTFROM contractedStartDate~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ;

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

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'YesNoAnswer';rcBranchRequestedQ;
PICK a,b FROM carAvailableAt;(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'YesNoAnswer';rcBranchRequestedQ;
THEN INSERT INTO carType[Car*CarType]
SELECTFROM 'a'[Car]*'b'[CarType]

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'YesNoAnswer';rcBranchRequestedQ;
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'YesNoAnswer';rcBranchRequestedQ;
NEW x:Car;
ALL of INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'x'[Car]*(contractedCarType~;(I[RentalCase] /\ rcBranchRequestedQ;'YesNoAnswer';rcBranchRequestedQ;

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'YesNoAnswer';rcBranchRequestedQ;
INSERT INTO carType[Car*CarType]
SELECTFROM 'x'[Car]*(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'YesNoAnswer';rcBranchRequestedQ;

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

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ;
PICK a,b FROM rcDriver~;(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ;
THEN INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM 'b'[RentalCase]*'a'[Person]

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ;
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ;
NEW x:Person;
INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ;

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ;
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ;
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ; /\ I[RentalCase] /\ rcBranchRequestedQ;'YesNoAnswer';rcBranchRequestedQ;
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ;
THEN INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM 'a'[RentalCase]*'b'[Person]

```

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        (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

```

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THEN INSERT INTO rentalPenaltyCharge[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[Amount]

(TO MAINTAIN -(rentalLocationPenaltyCharge;
PICK a,b FROM rentalPenaltyCharge~;('a'[RentalCase]
THEN INSERT INTO arg2[CompRentalCharge*Amount]
SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

(TO MAINTAIN -(rentalLocationPenaltyCharge;
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
NEW x:Amount;
ALL of INSERT INTO rentalPenaltyCharge[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[CompRentalCharge]

(TO MAINTAIN -(rentalLocationPenaltyCharge;
INSERT INTO arg2[CompRentalCharge*Amount]
SELECTFROM 'b'[CompRentalCharge]*'a'[RentalCase]

(TO MAINTAIN -(rentalLocationPenaltyCharge;
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]
THEN INSERT INTO rentalLocationPenaltyCharge[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[Amount]

(TO MAINTAIN -(rentalLocationPenaltyCharge;
PICK a,b FROM rentalLocationPenaltyCharge~;('a'[RentalCase]
THEN INSERT INTO arg3[CompRentalCharge*Amount]
SELECTFROM 'b'[CompRentalCharge]*'a'[RentalCase]

(TO MAINTAIN -(rentalLocationPenaltyCharge;
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
NEW x:Amount;
ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[CompRentalCharge]

(TO MAINTAIN -(rentalLocationPenaltyCharge;
INSERT INTO arg3[CompRentalCharge*Amount]
SELECTFROM 'b'[CompRentalCharge]*'a'[RentalCase]

(TO MAINTAIN -(rentalLocationPenaltyCharge;
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\
THEN BLOCK
(CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger rental
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalLocationPenaltyCharge

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ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDroppedOffDate;rcDroppedOffDate~
    THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCa
        THEN INSERT INTO contractedStartDate[RentalCase*
            SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
                PICK a,b FROM contractedStartDate~;'a'[RentalCase*
                THEN INSERT INTO earliestDate[DateDifferencePlusOne]
                    SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

            (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                NEW x:Date;
                ALL of INSERT INTO contractedStartDate[RentalCase*
                    SELECTFROM 'a'[RentalCase]*'b'[DateDifferencePlusOne]

            (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
                INSERT INTO earliestDate[DateDifferencePlusOne]
                    SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

            (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase*
                THEN INSERT INTO rcDroppedOffDate[RentalCase*
                    SELECTFROM 'a'[RentalCase]*'b'[Date]

            (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
                PICK a,b FROM rcDroppedOffDate~;'a'[RentalCase*
                THEN INSERT INTO latestDate[DateDifferencePlusOne]
                    SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

            (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                NEW x:Date;
                ALL of INSERT INTO rcDroppedOffDate[RentalCase*Date]
                    SELECTFROM 'a'[RentalCase]*'b'[DateDifferencePlusOne]

            (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
                INSERT INTO latestDate[DateDifferencePlusOne]
                    SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

            (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
                PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;rcDroppedOffDate~
                THEN BLOCK

```

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(CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigger re
(MAINTEINING -(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'[Ren

(TO MAINTAIN -(rcAssignedCar;rcAssigned
(MAINTEINING -(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
(MAINTEINING -(rcAssignedCar;rcAssignedCar~ /\ ren
(MAINTEINING -(rcAssignedCar;rcAssignedCar~ /\ renta
(MAINTEINING -(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
(MAINTEINING -
NEW x:Amount;

```



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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 INSE
      SELE

      (TO M
PICK a,b F
THEN INSE
      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

```





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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 INSERT
SELE

(TO M
INSERT
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 INSERT
SELE

(TO M
PICK a,b F
THEN INSERT
SELE

(TO M
(MAINTAINING -(re
NEW x:Amount;
ALL of INSERT I
SELECTF

(TO MAIN
INSERT I

```

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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 INSERT
      SELE

      (TO M
      PICK a,b F
      THEN INSERT
      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

```



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        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
INSERT INTO firstDate[DateDifference*Date]
        SELECTFROM 'b'[DateDifference]*'a'[RentalCase]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]
        THEN INSERT INTO rcDroppedOffDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[Date]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
        PICK a,b FROM rcDroppedOffDate~;'a'[RentalCase]
        THEN INSERT INTO lastDate[DateDifference*Date]
        SELECTFROM 'b'[DateDifference]*'a'[Date]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
        NEW x:Date;
        ALL of INSERT INTO rcDroppedOffDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[DateDifference]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
        INSERT INTO lastDate[DateDifference*Date]
        SELECTFROM 'b'[DateDifference]*'a'[RentalCase]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
        PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedOffDate]
        THEN BLOCK
        (CANNOT CHANGE V[DateDifference*RentalCase] FROM Trigger excess period
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate]
        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedEndDate;contractedEndDate]
        THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]
        THEN INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[Date]

        (TO MAINTAIN -(contractedEndDate;contractedEndDate~
        PICK a,b FROM contractedStartDate~;'a'[RentalCase]
        THEN INSERT INTO earliestDate[DateDifferencePlusOne*Date]
        SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

        (TO MAINTAIN -(contractedEndDate;contractedEndDate~
        (MAINTAINING -(contractedEndDate;contractedEndDate~
        NEW x:Date;
        ALL of INSERT INTO contractedStartDate[RentalCase*Date]

```

```

SELECTFROM 'a' [RentalCase]*'b' [DateDifferencePlusOne]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
INSERT INTO earliestDate[DateDifferencePlusOne]
SELECTFROM 'b' [DateDifferencePlusOne]*'a' [RentalCase]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate /\ contractedStartDate)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]
THEN INSERT INTO contractedEndDate[RentalCase]
SELECTFROM 'a' [RentalCase]*'b' [DateDifferencePlusOne]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
PICK a,b FROM contractedEndDate~;'a' [RentalCase]
THEN INSERT INTO latestDate[DateDifferencePlusOne]
SELECTFROM 'b' [DateDifferencePlusOne]*'a' [RentalCase]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
NEW x:Date;
ALL of INSERT INTO contractedEndDate[RentalCase*DateDifferencePlusOne]
SELECTFROM 'a' [RentalCase]*'b' [DateDifferencePlusOne]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
INSERT INTO latestDate[DateDifferencePlusOne]
SELECTFROM 'b' [DateDifferencePlusOne]*'a' [RentalCase]

(TO MAINTAIN -(contractedEndDate;contractedStartDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate /\ contractedStartDate)
PICK a,b FROM (earliestDate;contractedStartDate /\ latestDate;contractedStartDate)
THEN BLOCK
(CANNOT CHANGE V[DateDifferencePlusOne*RentalCase] FROM Trigger pr
(MAINTAINING -(contractedEndDate;contractedEndDate /\ contractedStartDate;contractedStartDate)
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedCarType;contractedCarType)
THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]
THEN INSERT INTO projectedRentalPeriod[RentalCase]
SELECTFROM 'a' [RentalCase]*'b' [Integer]

(TO MAINTAIN -(contractedCarType;contractedStartDate)
PICK a,b FROM projectedRentalPeriod~;'a' [RentalCase]
THEN INSERT INTO ctcNrOfDays[CompTariffedCharge]
SELECTFROM 'b' [CompTariffedCharge]*'a' [RentalCase]

(TO MAINTAIN -(contractedCarType;contractedStartDate)
(MAINTAINING -(contractedCarType;contractedCarType)

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NEW x:Integer;
  ALL of INSERT INTO projectedRentalPeriod[RentalCase]
    SELECTFROM 'a'[RentalCase]*'b'[CompTariffedCharge]

    (TO MAINTAIN -(contractedCarType;contractedCarType;
    INSERT INTO ctcNrOfDays[CompTariffedCharge]*
    SELECTFROM 'b'[CompTariffedCharge]*'a'[RentalCase]

    (TO MAINTAIN -(contractedCarType;contractedCarType;
    (MAINTAINING -(contractedCarType;contractedCarType;
    (MAINTAINING -(contractedCarType;contractedCarType~
    (MAINTAINING -(contractedCarType;contractedCarType~ /\ proj
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]
  THEN INSERT INTO contractedCarType[RentalCase]
    SELECTFROM 'a'[RentalCase]*'b'[CarType]

    (TO MAINTAIN -(contractedCarType;contractedCarType;
    PICK a,b FROM contractedCarType~;'a'[RentalCase]
    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
      THEN INSERT INTO rentalTariff
        SELECTFROM 'a'[CarType]

        (TO MAINTAIN -(contractedCarType;contractedCarType;
        PICK a,b FROM rentalTariff
        THEN INSERT INTO ctcDailyAmount
          SELECTFROM 'b'[CompTariffedCharge]

          (TO MAINTAIN -(contractedCarType;contractedCarType;
          (MAINTAINING -(contractedCarType;contractedCarType;
NEW x:Amount;
  ALL of INSERT INTO rentalTariff
    SELECTFROM 'a'[CarType]

    (TO MAINTAIN -(contractedCarType;contractedCarType;
    INSERT INTO ctcDailyAmount
    SELECTFROM 'b'[CompTariffedCharge]

    (TO MAINTAIN -(contractedCarType;contractedCarType;
    (MAINTAINING -(contractedCarType;contractedCarType;
    (MAINTAINING -(contractedCarType;contractedCarType;
    (MAINTAINING -(contractedCarType;contractedCarType;
    (MAINTAINING -(contractedCarType;contractedCarType~
    (MAINTAINING -(contractedCarType;contractedCarType~
NEW x:CarType;
  ALL of INSERT INTO contractedCarType[RentalCase*CarType]
    SELECTFROM 'a'[RentalCase]*'b'[CompTariffedCharge]

    (TO MAINTAIN -(contractedCarType;contractedCarType;
    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
      THEN INSERT INTO rentalTariff
        SELECTFROM 'a'[CarType]

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                                (TO MAINTAIN -(contract
PICK a,b FROM rentalTariffPer
THEN INSERT INTO ctcDailyAmou
                                SELECTFROM 'b' [CompTari

                                (TO MAINTAIN -(contract
(MAINAINING -(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
                                (MAINAINING -(contractedCarType;c
                                (MAINAINING -(contractedCarType;con
                                (MAINAINING -(contractedCarType;contracted
                                (MAINAINING -(contractedCarType;contractedCarType~
                                (MAINAINING -(contractedCarType;contractedCarType~ /\ proj
                                (MAINAINING -(contractedCarType;contractedCarType~ /\ projectedRe
PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount;ren
THEN BLOCK
    (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger proje
(MAINAINING -(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
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
NEW x:Person;
    INSERT INTO rcRenter[RentalCase*Person]
    SELECTFROM (rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\

                                (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~
                                (MAINAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC;(I[Rental
    THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
    SELECTFROM 'a' [SESSION]*'b' [RentalCase]

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        (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{dety=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

```



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(MAINTEINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTEINING -(rcRenter;rcRenter~ /\ rcDriver;rcDriver~ /\ contractedCarType;contract
(MAINTEINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ rcAssignedC
(MAINTEINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /\ -(r
(MAINTEINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINTEINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCas
(MAINTEINING -(rcDroppedOffBranch;rcDroppedOffBranch~ /\ rcDroppedOffDate;rcDroppedOf
(MAINTEINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase]) \ / p
(MAINTEINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDropped
(MAINTEINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINTEINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
(MAINTEINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINTEINING -(rcAssignedCar;rcAssignedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Rental
(MAINTEINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \ / (rentalExc
(MAINTEINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINTEINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted
(MAINTEINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
(MAINTEINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase]
(MAINTEINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
(MAINTEINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~);rcK
(MAINTEINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTEINING -( '_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]

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<-----End Derivation --

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ON DELETE Delta FROM Isn{detypr=RentalCase} EXECUTE      -- (ECA rule 140)
ALL of DELETE FROM sessionNewUserRC[SESSION*RentalCase]
      SELECTFROM sessionNewUserRC;(-I[RentalCase] /\ sessionNewUserRC~;sessionNewUserRC)

      (TO MAINTAIN  -(sessionNewUserRC~;sessionNewUserRC) \ / I[RentalCase] FROM sessionNewUserRC
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
      SELECTFROM sessionNewBranchRC;(-I[RentalCase] /\ sessionNewBranchRC~;sessionNewBranchRC)

      (TO MAINTAIN  -(sessionNewBranchRC~;sessionNewBranchRC) \ / I[RentalCase] FROM sessionNewBranchRC
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]

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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]

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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[RentalCase]

(TO MAINTAIN -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar;rcAssignedCar]
DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM (I[RentalCase] /\ rcCarHasBeenDroppedOff /\ -rentalHas

(TO MAINTAIN -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar;rcAssignedCar]
DELETE FROM Isn{dety=RentalCase}
SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION]

(TO MAINTAIN -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar;rcAssignedCar]
DELETE FROM rcCarHasBeenDroppedOff[RentalCase*RentalCase]
SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION]

(TO MAINTAIN -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar;rcAssignedCar]
INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
SELECTFROM rcAssignedCar;sessionDroppedoffCar~;'_SESSION'[SESSION]

(TO MAINTAIN -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar;rcAssignedCar]

```

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(MAINAINING -( '_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar~;(I
(MAINAINING -( '_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[Rental
(MAINAINING -(sessionNewUserRC~;sessionNewUserRC) \ / I[RentalCase] FROM UNI ses
(MAINAINING -(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]

```

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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]

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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{dety=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

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<-----End Derivation --

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ON DELETE Delta FROM Isn{dety=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]

```



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SELECTFROM rentalHasBeenPromised;contractedEndDate;(-I[Date] /\ contract
(TO MAINTAIN -(contractedEndDate~;rentalHasBeenPromised;contractedEndDa
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rentalHasBe

(TO MAINTAIN -(contractedEndDate~;rentalHasBeenPromised;contractedEndDa
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM rentalHasBeenPromised~;contractedEndDate;(-I[Date] /\ contrac

(TO MAINTAIN -(contractedEndDate~;rentalHasBeenPromised;contractedEndDa
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM rcCarHasBeenDroppedOff;rcDroppedOffDate;(-I[Date] /\ rcDropp

(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{dety=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] /\ rcDroppedOffD

      (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~;rcDroppedOffD

(TO MAINTAIN  -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI r

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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::Date)
DELETE FROM firstDate[DateDifference*Date]
SELECTFROM firstDate;(-I[Date] /\ firstDate~;firstDate)

(TO MAINTAIN -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::Date)
DELETE FROM lastDate[DateDifference*Date]
SELECTFROM lastDate;(-I[Date] /\ lastDate~;lastDate)

(TO MAINTAIN -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference)
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

(MAINTEINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(MAINTEINING -rentalHasBeenPromised \/ contractedStartDate;contractedStartDate~
(MAINTEINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
(MAINTEINING -rentalHasBeenPromised \/ contractedEndDate;contractedEndDate~ FROM
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
(MAINTEINING -rcCarHasBeenDroppedOff \/ rcDroppedOffDate;rcDroppedOffDate~ FROM
(MAINTEINING -I[SESSION] \/ sessionToday;sessionToday~ FROM Initialize today's d
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINTEINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTEINING -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI con
(MAINTEINING -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI contrac
(MAINTEINING -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI rcDropped
(MAINTEINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::Dat
(MAINTEINING -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT ea
(MAINTEINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDiffe
(MAINTEINING -I[DateDifferencePlusOne] \/ latestDate;latestDate~ FROM TOT latest
(MAINTEINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifferen
(MAINTEINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::Date
(MAINTEINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*
(MAINTEINING -I[DateDifference] \/ lastDate;lastDate~ FROM TOT lastDate::DateDif
(MAINTEINING -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionToday::SES

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

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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

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(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{dety=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{dety=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]

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```

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 dateIntervalsWithinMaxRentalDuration[Date*Date]
SELECTFROM Delta;V[Date*Date]

DELETE FROM dateIntervalsWithinMaxRentalDuration[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)

```

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(MAINAINING -(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequest
(MAINAINING -(rcAssignedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionDrop
(MAINAINING -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI contract
(MAINAINING -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI contractedEn
(MAINAINING -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI rcDroppedOffDa
(MAINAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::DateDiff
(MAINAINING -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT earlies
(MAINAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDifference
(MAINAINING -I[DateDifferencePlusOne] \/ latestDate;latestDate~ FROM TOT latestDate:
(MAINAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifference*Da
(MAINAINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::DateDiffe
(MAINAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*Date)
(MAINAINING -I[DateDifference] \/ lastDate;lastDate~ FROM TOT lastDate::DateDifferen
(MAINAINING -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionToday::SESSION*

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<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=Location} EXECUTE -- (ECA rule 144)
ONE OF DELETE FROM branchLocation[Branch*Location]
      SELECTFROM branchLocation;(-I[Location] /\ branchLocation~;branchLocation)

      (TO MAINTAIN -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLoca
      DELETE FROM branchLocation[Branch*Location]
      SELECTFROM V[Branch*Location];Delta

(MAINAINING -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLoca
(MAINAINING -I[Branch] \/ branchLocation;branchLocation~ FROM TOT branchLocation

```

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

```

ONE OF DELETE FROM branchLocation[Branch*Location]
      SELECTFROM branchLocation;(-I[Location] /\ branchLocation~;branchLocation)

      (TO MAINTAIN -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branchLoca
      DELETE FROM branchLocation[Branch*Location]
      SELECTFROM V[Branch*Location];Delta

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

```

<-----End Derivation --

```

ON INSERT Delta IN Isn{dety=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] /\ -(rentalTariffPer
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] /\ -(excessTariffPer

```

```

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];excessTariffPerD
(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 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

```

----- 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:

```

```

(MAINAINING -I[CarType] \/ model;I[Model];model~ FROM UNI model::CarType*Model
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*Model
(MAINAINING -I[CarType] \/ model;I[Model];model~ FROM UNI model::CarType*Model
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];rentalTariffPerDay~
PICK a,b FROM rentalTariffPerDay~;(I[CarType] /\ -(rentalTariffPerDay;rentalTariffPerDay~
THEN INSERT INTO rentalTariffPerDay[CarType*Amount]
SELECTFROM 'b'[CarType]*'a'[Amount]

(TO MAINTAIN -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerDay~
(MAINAINING -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerDay~
NEW x:Amount;
INSERT INTO rentalTariffPerDay[CarType*Amount]
SELECTFROM (I[CarType] /\ -(rentalTariffPerDay;rentalTariffPerDay~))*'x'[Amount]

(TO MAINTAIN -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerDay~
(MAINAINING -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerDay~
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];excessTariffPerDay~
PICK a,b FROM excessTariffPerDay~;(I[CarType] /\ -(excessTariffPerDay;excessTariffPerDay~
THEN INSERT INTO excessTariffPerDay[CarType*Amount]
SELECTFROM 'b'[CarType]*'a'[Amount]

(TO MAINTAIN -I[CarType] \/ excessTariffPerDay;I[Amount];excessTariffPerDay~
(MAINAINING -I[CarType] \/ excessTariffPerDay;I[Amount];excessTariffPerDay~
(MAINAINING -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
(MAINAINING -I[CarType] \/ brand;brand~ FROM TOT brand::CarType*Brand)
(MAINAINING -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
(MAINAINING -I[CarType] \/ model;model~ FROM TOT model::CarType*Model)
(MAINAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI rentalTariffPerDay~
(MAINAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rentalTariffPerDay~
(MAINAINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI excessTariffPerDay~
(MAINAINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT excessTariffPerDay~

<-----End Derivation --

ON DELETE Delta FROM Isn{dety=CarType} EXECUTE -- (ECA rule 146)
ONE OF DELETE FROM contractedCarType[RentalCase*CarType]

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```

SELECTFROM rcAssignedCar;carType;(-I[CarType] /\ carType~;rcAssignedCar~

(TO MAINTAIN -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] F
DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcAssign

(TO MAINTAIN -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] F
DELETE FROM carType[Car*CarType]
SELECTFROM rcAssignedCar~;contractedCarType;(-I[CarType] /\ contractedCar

(TO MAINTAIN -(contractedCarType~;rcAssignedCar;carType) \/ I[CarType] F
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM rentalHasBeenPromised;contractedCarType;(-I[CarType] /\ contr

(TO MAINTAIN -(contractedCarType~;rentalHasBeenPromised;contractedCarType
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rentalHa

(TO MAINTAIN -(contractedCarType~;rentalHasBeenPromised;contractedCarType
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM rentalHasBeenPromised~;contractedCarType;(-I[CarType] /\ contr

(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~;contract

(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

```

```

(MAINAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type i
(MAINAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM
(MAINAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
(MAINAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)
(MAINAINING -(contractedCarType~;contractedCarType) \/ I[CarType] FROM UNI cont

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

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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

(MAINAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
(MAINAINING -rcAssignedCar \/ contractedCarType;carType~ FROM Rented car type integr
(MAINAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
(MAINAINING -rentalHasBeenPromised \/ contractedCarType;contractedCarType~ FROM Prom
(MAINAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
(MAINAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)
(MAINAINING -(contractedCarType~;contractedCarType) \/ I[CarType] FROM UNI contracte

<-----End Derivation --

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```

ON DELETE Delta FROM Isn{dety=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

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

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

<-----End Derivation --

```

```

ON DELETE Delta FROM Isn{dety=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{dety=Amount} EXECUTE      -- (ECA rule 152)
ONE OF DELETE FROM rentalBasicCharge[RentalCase*Amount]
      SELECTFROM (rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff;Amount)

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

      (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff;Amount))
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
      SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff;Amount))

      (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff;Amount))
DELETE FROM rcAssignedCar[RentalCase*Car]
      SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff;Amount))

      (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff;Amount))
DELETE FROM carType[Car*CarType]
      SELECTFROM rcAssignedCar~;rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff;Amount))

      (TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariff;Amount))

```

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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

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(TO MAINTAIN  -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
DELETE FROM distbranch[DistanceBetweenLocations*Branch]
SELECTFROM computedLocationPenaltyCharge;(-I[Amount] /\ computedLocation

(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] /\ computedLocation

(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~ /\ rent

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;(rentalBasicCharge;

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
DELETE FROM arg1[CompRentalCharge*Amount]
SELECTFROM computedRentalCharge;(-I[Amount] /\ computedRentalCharge~;(ar

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;(rentalBasicCharge;

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
DELETE FROM arg2[CompRentalCharge*Amount]
SELECTFROM computedRentalCharge;(-I[Amount] /\ computedRentalCharge~;(ar

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;(rentalBasicCharge;

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
DELETE FROM arg3[CompRentalCharge*Amount]
SELECTFROM computedRentalCharge;(-I[Amount] /\ computedRentalCharge~;(ar

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
SELECTFROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\ arg3

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh

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DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
SELECTFROM computedRentalCharge;(-I[Amount] /\ computedRentalCharge~;comp

(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

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(TO MAINTAIN  -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FROM UNI rentalPenaltyCharge*
DELETE FROM computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
SELECTFROM computedLocationPenaltyCharge;(-I[Amount] /\ computedLocationPenaltyCharge)

(TO MAINTAIN  -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/ I[Amount] FROM UNI computedLocationPenaltyCharge*
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
SELECTFROM rentalLocationPenaltyCharge;(-I[Amount] /\ rentalLocationPenaltyCharge)

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) \/ I[Amount] FROM UNI rentalLocationPenaltyCharge*
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*
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 ctcDailyAmount*
DELETE FROM projectedBasicCharge[RentalCase*Amount]
SELECTFROM projectedBasicCharge;(-I[Amount] /\ projectedBasicCharge~;projectedBasicCharge)

(TO MAINTAIN  -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] FROM UNI projectedBasicCharge*
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]

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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

(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffP
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessT
(MAINAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~
(MAINAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCh
(MAINAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI ren
(MAINAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rent
(MAINAINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI exc
(MAINAINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT exce
(MAINAINING -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM UNI renta
(MAINAINING -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FROM UNI r
(MAINAINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/
(MAINAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;compu
(MAINAINING -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) \/ I[Am
(MAINAINING -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalCharge::~R
(MAINAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*
(MAINAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*
(MAINAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
(MAINAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*
(MAINAINING -(computedRentalCharge~;computedRentalCharge) \/ I[Amount] FROM UNI

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(MAINAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmo
(MAINAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT c
(MAINAINING -(computedTariffedCharge~;computedTariffedCharge) \/ I[Amount] FROM
(MAINAINING -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] FROM UNI

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

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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~;

      (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]

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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*Amount
DELETE FROM arg2[CompRentalCharge*Amount]
SELECTFROM arg2;(-I[Amount] /\ arg2~;arg2)

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(TO MAINTAIN -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount
DELETE FROM arg3[CompRentalCharge*Amount]
SELECTFROM arg3;(-I[Amount] /\ arg3~;arg3)

(TO MAINTAIN -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount
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]

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SELECTFROM V[CompTariffedCharge*Amount];Delta

DELETE FROM projectedBasicCharge[RentalCase*Amount]
SELECTFROM V[RentalCase*Amount];Delta

(MAINTEINING -((rentalPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;rentalTariffPerDay
(MAINTEINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcAssignedCar;carType;excessTariff
(MAINTEINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTEINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTEINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~ FROM
(MAINTEINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCharge~
(MAINTEINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTEINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI rentalTa
(MAINTEINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rentalTar
(MAINTEINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI excessTa
(MAINTEINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT excessTar
(MAINTEINING -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM UNI rentalBasi
(MAINTEINING -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FROM UNI rental
(MAINTEINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/ I[Amo
(MAINTEINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;computedLo
(MAINTEINING -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) \/ I[Amount]
(MAINTEINING -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalCharge::Rental
(MAINTEINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTEINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*Amount
(MAINTEINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINTEINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*Amount
(MAINTEINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
(MAINTEINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*Amount
(MAINTEINING -(computedRentalCharge~;computedRentalCharge) \/ I[Amount] FROM UNI comp
(MAINTEINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmount::
(MAINTEINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT ctcDai
(MAINTEINING -(computedTariffedCharge~;computedTariffedCharge) \/ I[Amount] FROM UNI
(MAINTEINING -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount] FROM UNI proj

<-----End Derivation --

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ON DELETE Delta FROM Isn{dety=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

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(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;latest

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM rentalPeriod;(-I[Integer] /\ rentalPeriod~;(contractedStartDa

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
DELETE FROM earliestDate[DateDifferencePlusOne*Date]
SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(e

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM rentalPeriod;(-I[Integer] /\ rentalPeriod~;(contractedStartDa

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
DELETE FROM latestDate[DateDifferencePlusOne*Date]
SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(e

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
SELECTFROM (earliestDate;contractedStartDate~ /\ latestDate;rcDroppedOff

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
SELECTFROM (rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);

(TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM rentalExcessPeriod;(-I[Integer] /\ rentalExcessPeriod~;(rcDro

(TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
DELETE FROM lastDate[DateDifference*Date]
SELECTFROM computedNrOfExcessDays;(-I[Integer] /\ computedNrOfExcessDays

(TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM rentalExcessPeriod;(-I[Integer] /\ rentalExcessPeriod~;(rcDro

(TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
DELETE FROM firstDate[DateDifference*Date]
SELECTFROM computedNrOfExcessDays;(-I[Integer] /\ computedNrOfExcessDays

(TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
DELETE FROM computedNrOfExcessDays[DateDifference*Integer]

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SELECTFROM (lastDate;rcDroppedOffDate~ /\ firstDate;contractedEndDate~);

(TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
DELETE FROM computedRentalPeriod[DateDifferencePlusOne*Integer]
SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;con

(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 rental
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
SELECTFROM rentalExcessPeriod;(-I[Integer] /\ rentalExcessPeriod~;rental

(TO MAINTAIN -(rentalExcessPeriod~;rentalExcessPeriod) \/ I[Integer] FROM
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)

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(TO MAINTAIN -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays)
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
SELECTFROM projectedRentalPeriod;(-I[Integer] /\ projectedRentalPeriod~;

(TO MAINTAIN -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Integer]
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) \/ rcMaxRentalDuration)
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate)
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedRentalPeriod)
(MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod)
(MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDays)
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate)
(MAINTAINING -(rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rentalPeriod:::
(MAINTAINING -(rentalExcessPeriod~;rentalExcessPeriod) \/ I[Integer] FROM UNI rentalExcessPeriod:::
(MAINTAINING -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[Integer] FROM UNI rcMaxRentalDuration:::
(MAINTAINING -(computedRentalPeriod~;computedRentalPeriod) \/ I[Integer] FROM UNI computedRentalPeriod:::
(MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays:::CompTariffedCharge
(MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOfDays:::CompTariffedCharge
(MAINTAINING -(computedNrOfExcessDays~;computedNrOfExcessDays) \/ I[Integer] FROM UNI computedNrOfExcessDays:::
(MAINTAINING -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Integer] FROM UNI projectedRentalPeriod:::

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

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ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*Integer]
SELECTFROM contractedPickupBranch;branchOf;maxRentalDuration;(-I[Integer] /\

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(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~ FR
(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:

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(MAINTEINING -(computedNrOfExcessDays~;computedNrOfExcessDays) \/ I[Integer] FROM UNI
(MAINTEINING -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Integer] FROM UNI p

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<-----End Derivation --

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ON DELETE Delta FROM Isn{dety=Person} EXECUTE      -- (ECA rule 156)
ONE OF DELETE FROM rcDriver[RentalCase*Person]
      SELECTFROM -(rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLicen

      (TO MAINTAIN  -(rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;val
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

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(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

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DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~;rcRenter

(TO MAINTAIN -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~;rcRenter
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer]

(TO MAINTAIN -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~;rcRenter
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer]

(TO MAINTAIN -(rcRenter~;rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~;rcRenter
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcDriver;rcDriver~;rcRenter;(-I[Person] /\ rcRenter~;rcDriver

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcRenter
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcRenter
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcRenter
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcDriver;rcDriver~;rcRenter;(-I[Person] /\ rcRenter~;rcDriver

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcRenter
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcRenter

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcRenter
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcRenter
DELETE FROM rcBranchRequestedQ[RentalCase*YesNoAnswer]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcRenter
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcRenter

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRequestedQ~;rcRenter
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

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(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchRequestedQ; 'Yes' [YesNoAnswer];rcBranchRequestedQ)
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcRenter)

(TO MAINTAIN  -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::RentalCase*Person
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcDriver)

(TO MAINTAIN  -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase*Person
DELETE FROM sessionUser[SESSION*Person]
SELECTFROM sessionUser;(-I[Person] /\ sessionUser~;sessionUser)

(TO MAINTAIN  -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUser::RentalCase*Person
DELETE FROM sessionPickupPerson[SESSION*Person]
SELECTFROM sessionPickupPerson;(-I[Person] /\ sessionPickupPerson~;sessionPickupPerson)

(TO MAINTAIN  -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FROM UNI sessionPickupPerson::RentalCase*Person
DELETE FROM sessionDroppedoffPerson[SESSION*Person]
SELECTFROM sessionDroppedoffPerson;(-I[Person] /\ sessionDroppedoffPerson~;sessionDroppedoffPerson)

(TO MAINTAIN  -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person] FROM UNI sessionDroppedoffPerson::RentalCase*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;validDrivingLicense)
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLicense)
(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[RentalCase*Person]
(MAINTAINING -(rcKeysHandedOverQ; 'Yes' [YesNoAnswer];rcKeysHandedOverQ~ /\ I[RentalCase*Person]
(MAINTAINING -(rcUserRequestedQ; 'Yes' [YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase*Person]
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ; 'Yes' [YesNoAnswer];rcBranchRequestedQ)

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(MAINAINING -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::RentalCase*Pe
(MAINAINING -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase*Pe
(MAINAINING -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUser::SESS
(MAINAINING -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FROM UNI s
(MAINAINING -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person] FR

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

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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

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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

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(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

```



```

(MAINAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[RentalCase]
(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchRe
(MAINAINING -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::RentalCase*Person)
(MAINAINING -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase*Person)
(MAINAINING -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUser::SESSION*P
(MAINAINING -(sessionPickupPerson~;sessionPickupPerson) \/ I[Person] FROM UNI sessio
(MAINAINING -(sessionDroppedoffPerson~;sessionDroppedoffPerson) \/ I[Person] FROM UN

```

<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=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{dety=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{dety=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]

```

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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{dety=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{dety=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]

```

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        (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
        PICK a,b FROM rcDriver~;(rcKeysHandedOverQ;'Yes'[YesNoAnswer]
        THEN INSERT INTO rcDriver[RentalCase*Person]
            SELECTFROM 'b'[RentalCase]*'a'[Person]

        (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
        (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
        NEW x:Person;
        INSERT INTO rcDriver[RentalCase*Person]
            SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
        (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
        (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
        (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'[YesNoAnswer]
        THEN INSERT INTO rcRenter[RentalCase*Person]
            SELECTFROM 'b'[RentalCase]*'a'[Person]

        (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];r
        (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
        NEW x:Person;
        INSERT INTO rcRenter[RentalCase*Person]
            SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
        (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
        (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ
        (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];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

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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] /\ rcAssign

        (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] /\ rcAssignedCar
        (MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;
(MAINTAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssign
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~ /\ rcAssi
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised /
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Rent
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Rent
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Rent
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~ /\ I[Rent
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ I[RentalCase])

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(MAINAINING -(rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ~ /\ rcCarHasBeenDr
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\ I[Rental
(MAINAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
(MAINAINING -(sessionNewBranchRC;(I[RentalCase] /\ rcAssignedCar;rcAssignedCar~
(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBra
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchR

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

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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];rcBranch
INSERT INTO Isn{detyp=Branch}
      SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'

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(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];rcBranch
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~

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(MAINAINING -(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
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
NEW x:Person;
      INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~

      (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOver
      (MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ~
(MAINAINING -(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
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
NEW x:Person;
      INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM (rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\

      (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~
      (MAINAINING -(rcUserRequestedQ;'Yes'[YesNoAnswer];rcUserRequestedQ~ /\
(MAINAINING -(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
(MAINAINING -(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

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<-----End Derivation --



```

ON DELETE Delta FROM Isn{dety=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'[YesNoAnswer
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) \/ sessionNewBranch
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];rcKeys

        (TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasB
(MAINAINING -('_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;(-(rcKeysHanded

        (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
        SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch

        (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch

        (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
DELETE FROM rcAssignedCar[RentalCase*Car]
        SELECTFROM -(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];rcKeys

        (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNew
(MAINAINING -(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 /\ -rentalHas

        (TO MAINTAIN -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssigned
DELETE FROM Isn{dety=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
(MAINAINING -('_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];rcB
(MAINTAINING -rentalHasBeenStarted \/ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKey
(MAINTAINING -rentalHasBeenEnded \/ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPai
(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 -('_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];rc
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)

```

```

(MAINAINING -(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*YesM

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcBranchRequested

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcBranchRequested

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
(MAINAINING -(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];(-(sessionNewBranchRC

(TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];(-(sessionNewBranchRC

(TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM -(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];rcKeysHande

(TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPr
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /
ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromis

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcKeysHandedOverQ

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
DELETE FROM rcAssignedCar[RentalCase*Car]
SELECTFROM -(V[RentalCase*YesNoAnswer];'Yes'[YesNoAnswer];rcKeysHande

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```

        (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;
(MAINTEINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
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 /\ -rentalHasBeenEnded

        (TO MAINTAIN  -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~
DELETE FROM Isn{dety=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~
(MAINTEINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]
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];rcBranchRequestedQ;
(MAINTAINING -rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNoAnswer];rcKeysHandedOverQ;
(MAINTAINING -rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNoAnswer];rentalIsPaidQ;
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) /\ sessionNewUserRC;rcUserRequestedQ;
(MAINTAINING -('_SESSION'[SESSION];sessionNewUserRC) /\ sessionNewUserRC;rcUserRequestedQ;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) /\ sessionNewBranchRC;rcBranchRequestedQ;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) /\ sessionNewBranchRC;rcBranchRequestedQ;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar~;
(MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAssignedCar~;
(MAINTAINING -('_SESSION'[SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]

```

<-----End Derivation --

```

ON INSERT Delta IN Isn{dety=DateDifferencePlusOne} EXECUTE      -- (ECA rule 161)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifferencePlusOne] /\ -(
    THEN INSERT INTO computedRentalPeriod[DateDifferencePlusOne*Integer]
        SELECTFROM 'a'[DateDifferencePlusOne]*'b'[Integer]

        (TO MAINTAIN -I[DateDifferencePlusOne] \/ computedRentalPeriod;
        PICK a,b FROM computedRentalPeriod~;(I[DateDifferencePlusOne] /\ -
        THEN INSERT INTO computedRentalPeriod[DateDifferencePlusOne*Integer]
            SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Integer]

        (TO MAINTAIN -I[DateDifferencePlusOne] \/ computedRentalPeriod;
        (MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod;
        NEW x:Integer;
        INSERT INTO computedRentalPeriod[DateDifferencePlusOne*Integer]
            SELECTFROM (I[DateDifferencePlusOne] /\ -(computedRentalPeriod;computedRentalPeriod;
        (TO MAINTAIN -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod;
        (MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod;
        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[Date];
        PICK a,b FROM earliestDate~;(I[DateDifferencePlusOne] /\ -(earliestDate;earliestDate~);
        THEN INSERT INTO earliestDate[DateDifferencePlusOne*Date]
            SELECTFROM 'b'[DateDifferencePlusOne]*'a'[Date]

        (TO MAINTAIN -I[DateDifferencePlusOne] \/ earliestDate;I[Date];
        (MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate;earliestDate~);
        NEW x:Date;
        INSERT INTO earliestDate[DateDifferencePlusOne*Date]
            SELECTFROM (I[DateDifferencePlusOne] /\ -(earliestDate;earliestDate~));
        (TO MAINTAIN -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate;earliestDate~);
        (MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate;earliestDate~);
        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] /\ -(latestDate;latestDate~);
        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;latestDate~);
        (MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod;
        (MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::DateDifferencePlusOne;
        (MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;earliestDate~ FROM TOT earliestDate;
        (MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDifferencePlusOne;

```

(MAINTAINING -I[DateDifferencePlusOne] \/ latestDate;latestDate~ FROM TOT latestDate;

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

```

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifferencePlusOne] /\ -(computedRentalPeriod;computedRentalPeriod)
    THEN INSERT INTO computedRentalPeriod[DateDifferencePlusOne*Integer]
        SELECTFROM 'a' [DateDifferencePlusOne]*'b' [Integer]

    (TO MAINTAIN -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod)
    PICK a,b FROM computedRentalPeriod~;(I[DateDifferencePlusOne] /\ -(computedRentalPeriod;computedRentalPeriod)
    THEN INSERT INTO computedRentalPeriod[DateDifferencePlusOne*Integer]
        SELECTFROM 'b' [DateDifferencePlusOne]*'a' [Integer]

    (TO MAINTAIN -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod)
    (MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod)
    NEW x:Integer;
    INSERT INTO computedRentalPeriod[DateDifferencePlusOne*Integer]
        SELECTFROM (I[DateDifferencePlusOne] /\ -(computedRentalPeriod;computedRentalPeriod))
        *'x' [Integer]

    (TO MAINTAIN -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod)
    (MAINTAINING -I[DateDifferencePlusOne] \/ computedRentalPeriod;computedRentalPeriod)
    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifferencePlusOne] /\ -(earliestDate;earliestDate~)
    THEN INSERT INTO earliestDate[DateDifferencePlusOne*Date]
        SELECTFROM 'a' [DateDifferencePlusOne]*'b' [Date]

    (TO MAINTAIN -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate~)
    PICK a,b FROM earliestDate~;(I[DateDifferencePlusOne] /\ -(earliestDate;earliestDate~)
    THEN INSERT INTO earliestDate[DateDifferencePlusOne*Date]
        SELECTFROM 'b' [DateDifferencePlusOne]*'a' [Date]

    (TO MAINTAIN -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate~)
    (MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate~)
    NEW x:Date;
    INSERT INTO earliestDate[DateDifferencePlusOne*Date]
        SELECTFROM (I[DateDifferencePlusOne] /\ -(earliestDate;earliestDate~))*'x' [Date]

    (TO MAINTAIN -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate~)
    (MAINTAINING -I[DateDifferencePlusOne] \/ earliestDate;I[Date];earliestDate~)
    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifferencePlusOne] /\ -(latestDate;latestDate~)
    THEN INSERT INTO latestDate[DateDifferencePlusOne*Date]
        SELECTFROM 'a' [DateDifferencePlusOne]*'b' [Date]

    (TO MAINTAIN -I[DateDifferencePlusOne] \/ latestDate;I[Date];latestDate~)
    PICK a,b FROM latestDate~;(I[DateDifferencePlusOne] /\ -(latestDate;latestDate~)
    THEN INSERT INTO latestDate[DateDifferencePlusOne*Date]
        SELECTFROM 'b' [DateDifferencePlusOne]*'a' [Date]

    (TO MAINTAIN -I[DateDifferencePlusOne] \/ latestDate;I[Date];latestDate~)

```

```

      (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 earliest
(MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::DateDifference
(MAINTAINING -I[DateDifferencePlusOne] \/ latestDate;latestDate~ FROM TOT latestDate:

```

<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=DateDifferencePlusOne} EXECUTE      -- (ECA rule 16)
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
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]

(MAINTEINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[DateDiffere

<-----End Derivation --

ON INSERT Delta IN Isn{dety=CompTariffedCharge} EXECUTE    -- (ECA rule 163)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(comp
    THEN INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
        SELECTFROM 'a'[CompTariffedCharge]*'b'[Amount]

        (TO MAINTAIN -I[CompTariffedCharge] \/ computedTariffedCharge
PICK a,b FROM computedTariffedCharge~;(I[CompTariffedCharge] /\ -(
    THEN INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
        SELECTFROM 'b'[CompTariffedCharge]*'a'[Amount]

        (TO MAINTAIN -I[CompTariffedCharge] \/ computedTariffedCharge
(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[Amount]
(MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amount];ctcDailyAmount
(MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCharge
(MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::Computed
(MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOfDays
(MAINTAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmount
(MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT ctcDailyAmount

```

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

```

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(computedTariffedCharge
THEN INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
SELECTFROM 'a'[CompTariffedCharge]*'b'[Amount]

(TO MAINTAIN -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCharge
PICK a,b FROM computedTariffedCharge~;(I[CompTariffedCharge] /\ -(computedTariffedCharge
THEN INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
SELECTFROM 'b'[CompTariffedCharge]*'a'[Amount]

(TO MAINTAIN -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCharge
(MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCharge
NEW x:Amount;
INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
SELECTFROM (I[CompTariffedCharge] /\ -(computedTariffedCharge;computedTariffedCharge

(TO MAINTAIN -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCharge
(MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCharge
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(ctcNrOfDays
THEN INSERT INTO ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM 'a'[CompTariffedCharge]*'b'[Integer]

(TO MAINTAIN -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays
PICK a,b FROM ctcNrOfDays~;(I[CompTariffedCharge] /\ -(ctcNrOfDays;ctcNrOfDays
THEN INSERT INTO ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM 'b'[CompTariffedCharge]*'a'[Integer]

(TO MAINTAIN -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays
(MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays~ FROM TOT
NEW x:Integer;
INSERT INTO ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM (I[CompTariffedCharge] /\ -(ctcNrOfDays;ctcNrOfDays~))*'x'[Integer]

(TO MAINTAIN -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays~ FROM TOT
(MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays~ FROM TOT
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(ctcDailyAmount

```

```

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] /\ -(ctcDailyAmount
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 --

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ON DELETE Delta FROM Isn{detyp=CompTariffedCharge} EXECUTE -- (ECA rule 164)
ALL of ONE OF DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
SELECTFROM (-I[CompTariffedCharge] /\ ctcDailyAmount;ctcDailyAmount~

      (TO MAINTAIN -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM (-I[CompTariffedCharge] /\ ctcDailyAmount;ctcDailyAmount~

      (TO MAINTAIN -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays
(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 ----->

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```

ALL of ONE OF DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
SELECTFROM (-I[CompTariffedCharge] /\ ctcDailyAmount;ctcDailyAmount~ /

      (TO MAINTAIN -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays
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 --

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ON INSERT Delta IN Isn{dety=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] /\ -(comp
    THEN INSERT INTO computedNrOfExcessDays[DateDifference*Integer]
        SELECTFROM 'b'[DateDifference]*'a'[Integer]

        (TO MAINTAIN  -I[DateDifference] \/ computedNrOfExcessDays;com
(MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExc
NEW x:Integer;
    INSERT INTO computedNrOfExcessDays[DateDifference*Integer]
        SELECTFROM (I[DateDifference] /\ -(computedNrOfExcessDays;computedNrOf

    (TO MAINTAIN  -I[DateDifference] \/ computedNrOfExcessDays;computedNrOf
(MAINTAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExc
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifference] /\ -(firstDa
    THEN INSERT INTO firstDate[DateDifference*Date]
        SELECTFROM 'a'[DateDifference]*'b'[Date]

        (TO MAINTAIN  -I[DateDifference] \/ firstDate;I[Date];firstDa
PICK a,b FROM firstDate~;(I[DateDifference] /\ -(firstDate;firstDa
    THEN INSERT INTO firstDate[DateDifference*Date]
        SELECTFROM 'b'[DateDifference]*'a'[Date]

        (TO MAINTAIN  -I[DateDifference] \/ firstDate;I[Date];firstDa
(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 UNI
      (MAINTAINING -I[DateDifference] \/ firstDate;I[Date];firstDate~ FROM UNI
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DateDifference] /\ -(lastDate~
      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

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----- 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] /\ -(computedNrOf
      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]

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        (TO MAINTAIN  -I[DateDifference] \/ firstDate;I[Date];firstDate~ F
(MAINAINING -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
(MAINAINING -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~ FROM
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~ FROM
(MAINAINING -I[DateDifference] \/ lastDate;I[Date];lastDate~ FROM UNI lastDat
(MAINAINING -I[DateDifference] \/ computedNrOfExcessDays;computedNrOfExcessDays~ FROM
(MAINAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::DateDifference*Da
(MAINAINING -I[DateDifference] \/ firstDate;firstDate~ FROM TOT firstDate::DateDiffe
(MAINAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::DateDifference*Date)
(MAINAINING -I[DateDifference] \/ lastDate;lastDate~ FROM TOT lastDate::DateDifferen

<-----End Derivation --

ON DELETE Delta FROM Isn{dety=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
(MAINAINING -(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]

(MAINAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference] I
----- Derivation ----->

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```

ALL of ONE OF DELETE FROM lastDate[DateDifference*Date]
      SELECTFROM (-I[DateDifference] /\ lastDate;lastDate~ /\ firstDate;firstDate)
      (TO MAINTAIN -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference])
DELETE FROM firstDate[DateDifference*Date]
      SELECTFROM (-I[DateDifference] /\ lastDate;lastDate~ /\ firstDate;firstDate)
      (TO MAINTAIN -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[DateDifference])
(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{dety=DistanceBetweenLocations} EXECUTE -- (ECA rule 1)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DistanceBetweenLocations] /\
      THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
      SELECTFROM 'a'[DistanceBetweenLocations]*'b'[Amount]

      (TO MAINTAIN -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge)
PICK a,b FROM computedLocationPenaltyCharge~;(I[DistanceBetweenLocations] /\
      THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
      SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

      (TO MAINTAIN -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge)
(MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge)
NEW x:Amount;
INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
      SELECTFROM (I[DistanceBetweenLocations] /\ -(computedLocationPenaltyCharge))

      (TO MAINTAIN -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge)
(MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge)
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;distbranch)
PICK a,b FROM distbranch~;(I[DistanceBetweenLocations] /\ -(distbranch))
THEN INSERT INTO distbranch[DistanceBetweenLocations*Branch]

```

```

SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Branch]

      (TO MAINTAIN -I[DistanceBetweenLocations] \/ distbranch;dist
(MAINAINING -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
(MAINAINING -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
(MAINAINING -I[DistanceBetweenLocations] \/ distance;I[Distance];distance
NEW x:Distance;
      INSERT INTO distance[DistanceBetweenLocations*Distance]
      SELECTFROM (I[DistanceBetweenLocations] /\ -(distance;distance~))*'x'[

      (TO MAINTAIN -I[DistanceBetweenLocations] \/ distance;I[Distance];dist
(MAINAINING -I[DistanceBetweenLocations] \/ distance;I[Distance];distance
(MAINAINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/
(MAINAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;compu
(MAINAINING -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FROM TOT dist
(MAINAINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBet
(MAINAINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distance

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

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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
(MAINAINING -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;distbranch
      PICK a,b FROM distbranch~;(I[DistanceBetweenLocations] /\ -(distbranch;
      THEN INSERT INTO distbranch[DistanceBetweenLocations*Branch]
      SELECTFROM 'b' [DistanceBetweenLocations]*'a' [Branch]

      (TO MAINTAIN -I[DistanceBetweenLocations] \/ distbranch;distbranch
      (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' [Distanc

      (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{dety=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{dety=CompRentalCharge} EXECUTE    -- (ECA rule 169)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(computedRentalCharge;computedRentalCharge)
    THEN INSERT INTO computedRentalCharge[CompRentalCharge*Amount]
        SELECTFROM 'a'[CompRentalCharge]*'b'[Amount]

        (TO MAINTAIN -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge)
PICK a,b FROM computedRentalCharge~;(I[CompRentalCharge] /\ -(computedRentalCharge;computedRentalCharge)
    THEN INSERT INTO computedRentalCharge[CompRentalCharge*Amount]
        SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

        (TO MAINTAIN -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge)
(MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge)
NEW x:Amount;
INSERT INTO computedRentalCharge[CompRentalCharge*Amount]
    SELECTFROM (I[CompRentalCharge] /\ -(computedRentalCharge;computedRentalCharge))

    (TO MAINTAIN -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge)
(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~ FR
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
(MAINAINING -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~ FROM
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
(MAINAINING -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~ FROM
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
(MAINAINING -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FROM UNI arg3::
(MAINAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~
(MAINAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*
(MAINAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*
(MAINAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
(MAINAINING -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
(MAINAINING -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*Amount
                      (MAINTAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
                      (MAINTAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*Amount
                      (MAINTAINING -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
                      (MAINTAINING -I[CompRentalCharge] \/ arg3;arg3~ FROM TOT arg3::CompRentalCharge*Amount

```

<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=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]

(MAINTEINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FROM Un

<-----End Derivation --

```

```

ON DELETE Delta FROM Isn{dety=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

(MAINTEINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBet
(MAINTEINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distance

----- 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

(MAINTEINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBetweenL
(MAINTEINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distance::Di

<-----End Derivation --

```

```

ON INSERT Delta IN Isn{dety=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
(MAINTEINING -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
(MAINTEINING -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];session
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
    THEN INSERT INTO rcUserRequestedQ[RentalCase]
        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'[Yes]
    THEN BLOCK
        (CANNOT CHANGE V
(MAINTEINING -('_SESSION'[SE
NEW x:YesNoAnswer;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes
    BLOCK
        (CANNOT CHANGE V[Yes
        (MAINTAINING -('_SESSION'[
        (MAINTAINING -('_SESSION'[SE
        (MAINTAINING -('_SESSION'[SESSION];
(MAINTEINING -('_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[Yes
        (MAINTAINING -('_SESSION'[SE

```





```

(MAINAINING -('_SESSION' [SESSION];sessionNewUserRC);
(MAINAINING -('_SESSION' [SESSION];sessionNewUserRC);
(MAINAINING -('_SESSION' [SESSION];sessionNewUserRC) \\/ sessionNewUserRC);
(MAINAINING -('_SESSION' [SESSION];sessionNewUserRC) \\/ sessionNewUserRC);
(MAINAINING -('_SESSION' [SESSION];sessionNewUserRC) \\/ sessionNewUserRC);
(MAINAINING -('_SESSION' [SESSION];sessionNewUserRC) \\/ sessionNewUserRC);
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);
THEN INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
SELECTFROM 'a' [RentalCase]*'b' [YesNoAnswer]

(TO MAINTAIN - (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);
PICK a,b FROM rcUserRequestedQ~;(sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]*'b' [YesNoAnswer])
THEN BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer] FROM Submit);
PICK a,b FROM 'Yes' [YesNoAnswer];('a' [RentalCase]*'b' [YesNoAnswer])
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Submit);
(MAINAINING - (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer] FROM Submit);
BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Submit);
(MAINAINING - (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);
(MAINAINING - (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);
(MAINAINING - (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);
(MAINAINING - (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);
NEW x:YesNoAnswer;
ALL of INSERT INTO rcUserRequestedQ[RentalCase*YesNoAnswer]
SELECTFROM (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);

(TO MAINTAIN - (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [YesNoAnswer])
THEN BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer] FROM Submit);
PICK a,b FROM 'Yes' [YesNoAnswer];('x' [YesNoAnswer])
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Submit);
(MAINAINING - (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);
(MAINAINING - (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);
(MAINAINING - (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC);
(MAINAINING - (sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC) \\/
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION' [SESSION];sessionNewUserRC);
THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM 'a' [SESSION]*'b' [RentalCase]

(TO MAINTAIN - ('_SESSION' [SESSION];sessionNewBranchRC);
PICK a,b FROM sessionNewBranchRC~;('_SESSION' [SESSION];sessionNewBranchRC);

```



```

(TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC) \
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Rent
    THEN INSERT INTO rcBranchRequestedQ[RentalCase]
        SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

        (TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC) \
        PICK a,b FROM rcBranchRequestedQ~;('x'[Rent
        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
            THEN BLOCK
                (CANNOT CHANGE 'Yes'[YesNoAnswer])
            PICK a,b FROM 'Yes'[YesNoAnswer]
            THEN BLOCK
                (CANNOT CHANGE V[YesNoAnswer])
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \
        NEW x:YesNoAnswer;
        ALL of BLOCK
            (CANNOT CHANGE 'Yes'[YesNoAnswer])
            BLOCK
            (CANNOT CHANGE V[YesNoAnswer])
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \
        NEW x:YesNoAnswer;
        ALL of INSERT INTO rcBranchRequestedQ[RentalCase]
            SELECTFROM 'x'[RentalCase]*(' _SESSION'[SESSION]

        (TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC) \
        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
            THEN BLOCK
                (CANNOT CHANGE 'Yes'[YesNoAnswer])
            PICK a,b FROM 'Yes'[YesNoAnswer];(
            THEN BLOCK
                (CANNOT CHANGE V[YesNoAnswer])
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \
        (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC~;' _SESSION'[SESSION]
            THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
                SELECTFROM 'a'[RentalCase]*'b'[YesNoAnswer]

        (TO MAINTAIN -('sessionNewBranchRC~;' _SESSION'[SESSION]
        PICK a,b FROM rcBranchRequestedQ~;('sessionNewBranchRC~;' _SESSION'[SESSION]
        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Rent
            THEN BLOCK
                (CANNOT CHANGE 'Yes'[YesNoAnswer] F

```

```

        PICK a,b FROM 'Yes' [YesNoAnswer]; ('a' [Yes
        THEN BLOCK
            (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM
        (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC
        NEW x:YesNoAnswer;
        ALL of BLOCK
            (CANNOT CHANGE 'Yes' [YesNoAnswer] FROM Complete
            BLOCK
            (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Complete
        (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC
        (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC
        (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC
        (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC
        NEW x:YesNoAnswer;
        ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNoAnswer]
            SELECTFROM (sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC
        (TO MAINTAIN -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC
        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [YesNoAnswer]
        THEN BLOCK
            (CANNOT CHANGE 'Yes' [YesNoAnswer] FROM Complete
            PICK a,b FROM 'Yes' [YesNoAnswer]; ('x' [YesNoAnswer]
            THEN BLOCK
            (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Complete
        (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC
        (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC
        (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC
        (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION' [SESSION]; sessionNewBranchRC
        THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
            SELECTFROM 'a' [SESSION]*'b' [RentalCase]
        (TO MAINTAIN -(('_SESSION' [SESSION]; sessionNewBranchRC
        PICK a,b FROM sessionNewBranchRC~; ('_SESSION' [SESSION]; sessionNewBranchRC
        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [SESSION]
            THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
            SELECTFROM 'a' [RentalCase]*'b' [YesNoAnswer]
        (TO MAINTAIN -(('_SESSION' [SESSION]; sessionNewBranchRC
        PICK a,b FROM rcKeysHandedOverQ~; ('a' [SESSION]
        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [SESSION]
            THEN BLOCK
            (CANNOT CHANGE 'Yes' [YesNoAnswer] FROM Complete
            PICK a,b FROM 'Yes' [YesNoAnswer]
            THEN BLOCK
            (CANNOT CHANGE V[YesNoAnswer*RentalCase] FROM Complete
        (MAINTAINING -(('_SESSION' [SESSION]; sessionNewBranchRC
        NEW x:YesNoAnswer;
        ALL of BLOCK
            (CANNOT CHANGE 'Yes' [YesNoAnswer] FROM Complete

```



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(CANNOT CHANGE 'Yes' [YesNoAnswer];
BLOCK
(CANNOT CHANGE V[YesNoAnswer];
(MAINAINING -( '_SESSION' [SESSION];sessionNewBranchRC;
(MAINAINING -( '_SESSION' [SESSION];sessionNewBranchRC;
(MAINAINING -( '_SESSION' [SESSION];sessionNewBranchRC;
(MAINAINING -( '_SESSION' [SESSION];sessionNewBranchRC;
NEW x:YesNoAnswer;
ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
SELECTFROM 'x' [RentalCase]*(' _SESSION' [SESSION];sessionNewBranchRC;
(TO MAINTAIN -( '_SESSION' [SESSION];sessionNewBranchRC;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC~;' _SESSION' [SESSION];
THEN BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer];
PICK a,b FROM 'Yes' [YesNoAnswer];
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer];
(MAINAINING -( '_SESSION' [SESSION];sessionNewBranchRC;
(MAINAINING -( '_SESSION' [SESSION];sessionNewBranchRC;
(MAINAINING -( '_SESSION' [SESSION];sessionNewBranchRC;
(MAINAINING -( '_SESSION' [SESSION];sessionNewBranchRC;
(MAINAINING -( '_SESSION' [SESSION];sessionNewBranchRC;
(MAINAINING -( '_SESSION' [SESSION];sessionNewBranchRC;
(MAINAINING -( '_SESSION' [SESSION];sessionNewBranchRC;
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC~;' _SESSION' [SESSION];
THEN INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
SELECTFROM 'a' [RentalCase]*'b' [YesNoAnswer]

(TO MAINTAIN -(sessionNewBranchRC~;' _SESSION' [SESSION];
PICK a,b FROM rcKeysHandedOverQ~;(sessionNewBranchRC~;' _SESSION' [SESSION];
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]*'b' [YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer] FROM rcKeysHandedOverQ~;(sessionNewBranchRC~;' _SESSION' [SESSION];
PICK a,b FROM 'Yes' [YesNoAnswer];('a' [RentalCase]*'b' [YesNoAnswer]
THEN BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase*YesNoAnswer];
(MAINAINING -(sessionNewBranchRC~;' _SESSION' [SESSION];
NEW x:YesNoAnswer;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [YesNoAnswer] FROM rcKeysHandedOverQ~;(sessionNewBranchRC~;' _SESSION' [SESSION];
BLOCK
(CANNOT CHANGE V[YesNoAnswer*RentalCase*YesNoAnswer];
(MAINAINING -(sessionNewBranchRC~;' _SESSION' [SESSION];
(MAINAINING -(sessionNewBranchRC~;' _SESSION' [SESSION];
(MAINAINING -(sessionNewBranchRC~;' _SESSION' [SESSION];
(MAINAINING -(sessionNewBranchRC~;' _SESSION' [SESSION];sessionNewBranchRC;
NEW x:YesNoAnswer;
ALL of INSERT INTO rcKeysHandedOverQ[RentalCase*YesNoAnswer]
SELECTFROM (sessionNewBranchRC~;' _SESSION' [SESSION];sessionNewBranchRC;

```

```

        (TO MAINTAIN  -(sessionNewBranchRC~;'_SESSION'[SESSION];se
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNoAnswer]
        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 FROM
        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

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        DE

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S
(T
(MAINTAIN
PICK a,b FROM
THEN INSERT IN
SELECTFR

(TO MAINT.
(MAINTAINING -('_SESS
NEW x:RentalCase;
ALL of ALL of INSE
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 INSE
SELE

(TO M
DELET
SELE

(TO M
(MAINTAINING
PICK a,b FROM (re
THEN INSERT INTO :
SELECTFROM

(TO MAINTAIN
(MAINTAINING -('_SESSION
NEW x:RentalCase;

```





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      (TO MAINTAIN -('_S
(MAINAINING -('_SESSION'[SESSI
NEW x:RentalCase;
      ALL of ALL of INSERT INTO ren
      SELECTFROM 'a'

      (TO MAINTAIN -
DELETE FROM ren
      SELECTFROM 'a'

      (TO MAINTAIN -
(MAINAINING -('_SESSI
INSERT INTO rcAssigned
      SELECTFROM 'x'[Rental

      (TO MAINTAIN -('_SESS
      (MAINAINING -('_SESSION'[SES
      (MAINAINING -('_SESSION'[SESSI
      (MAINAINING -('_SESSION'[SESSION];ses
(MAINAINING -('_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 ren
      SELECTFROM 'a'

      (TO MAINTAIN -
DELETE FROM ren
      SELECTFROM 'a'

      (TO MAINTAIN -
      (MAINAINING -('_SESSI
PICK a,b FROM (rentalHasBee
      THEN INSERT INTO rcAssigned
      SELECTFROM 'a'[Rental

      (TO MAINTAIN -('_SESS
(MAINAINING -('_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' [RentalCase]

      (TO MAINTAIN -( '_SESSION'
      (MAINTAINING -( '_SESSION' [SESSION]
      (MAINTAINING -( '_SESSION' [SESSION]
      (MAINTAINING -( '_SESSION' [SESSION];session
      (MAINTAINING -( '_SESSION' [SESSION];sessionDropped
      (MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar
      (MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar) \ / sess
      (MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar) \ / session
      (MAINTAINING -( '_SESSION' [SESSION];sessionDroppedoffCar) \ / sessionDropped
INSERT INTO Isn{dety=Car}
SELECTFROM (sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar

(TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionDroppedoffCar~;'_SESSION'
      THEN INSERT INTO rcAssignedCar[RentalCase*Car]
      SELECTFROM 'b' [RentalCase]*'a' [Car]

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION]
      PICK a,b FROM rcAssignedCar;((sessionDroppedoffCar~;'_SESSION'
      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]
      THEN ALL of INSERT INTO rentalHasBeenStarted
      SELECTFROM 'a' [RentalCase]*

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION]
      DELETE FROM rentalHasBeenEnded
      SELECTFROM 'a' [RentalCase]*

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION]
      (MAINTAINING -(sessionDroppedoffCar~;'_SESSION' [SESSION]
      PICK a,b FROM (rentalHasBeenStarted~ /\
      THEN INSERT INTO rcAssignedCar[RentalCase*Car]
      SELECTFROM 'a' [RentalCase]*'b' [Car]

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION]
      (MAINTAINING -(sessionDroppedoffCar~;'_SESSION' [SESSION]
      NEW x:RentalCase;
      ALL of ALL of INSERT INTO rentalHasBeenStarted
      SELECTFROM 'a' [RentalCase]*'b'

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION]
      DELETE FROM rentalHasBeenEnded
      SELECTFROM 'a' [RentalCase]*'b'

      (TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION]
      (MAINTAINING -(sessionDroppedoffCar~;'_SESSION' [SESSION]
      INSERT INTO rcAssignedCar[RentalCase*Car]

```



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PICK a,b FROM V[RentalCase*SESSION];(' _SESSION' [SESSION];sessionDr
THEN ALL of INSERT INTO Isn{dety=RentalCase}
      SELECTFROM 'a' [RentalCase]*'b' [RentalCase]

      (TO MAINTAIN -(' _SESSION' [SESSION];sessionDroppedoffC
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]
      THEN INSERT INTO rentalIsPaidQ[RentalCase]
      SELECTFROM 'a' [RentalCase]*'b' [Yes]

      (TO MAINTAIN -(' _SESSION' [SESSION]
PICK a,b FROM rentalIsPaidQ~;('a' [RentalCase]
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
      THEN BLOCK
      (CANNOT CHANGE 'Yes' [Yes]
PICK a,b FROM 'Yes' [Yes]
      THEN INSERT INTO rentalIsPaidQ[RentalCase]
      SELECTFROM 'b' [RentalCase]

      (TO MAINTAIN -(' _SESSION' [SESSION]
      (MAINTAINING -(' _SESSION' [SESSION];sessionDroppedoffC
NEW x:YesNoAnswer;
      ALL of BLOCK
      (CANNOT CHANGE 'Yes' [Yes]
      INSERT INTO rentalIsPaidQ[RentalCase]
      SELECTFROM 'b' [RentalCase]

      (TO MAINTAIN -(' _SESSION' [SESSION]
      (MAINTAINING -(' _SESSION' [SESSION]
      (MAINTAINING -(' _SESSION' [SESSION]
      (MAINTAINING -(' _SESSION' [SESSION];sessionDroppedoffC
NEW x:YesNoAnswer;
      ALL of INSERT INTO rentalIsPaidQ[RentalCase]
      SELECTFROM 'a' [RentalCase]*'b' [RentalCase]

      (TO MAINTAIN -(' _SESSION' [SESSION];sessionDroppedoffC
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]
      THEN BLOCK
      (CANNOT CHANGE 'Yes' [Yes]
PICK a,b FROM 'Yes' [Yes]
      THEN INSERT INTO rentalIsPaidQ[RentalCase]
      SELECTFROM 'b' [RentalCase]

      (TO MAINTAIN -(' _SESSION' [SESSION]
      (MAINTAINING -(' _SESSION' [SESSION];sessionDroppedoffC
NEW x:YesNoAnswer;
      ALL of BLOCK
      (CANNOT CHANGE 'Yes' [Yes]
      INSERT INTO rentalIsPaidQ[RentalCase]
      SELECTFROM 'b' [RentalCase]

```



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        (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[YesNoAnsw
        (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;

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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[YesNoAnsw
(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

```



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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~;'_SESSION'[SESSION];('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]

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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 [YesNoAnsw
    (MAINTAINING -(' _SESSION' [SESSION]
    (MAINTAINING -(' _SESSION' [SESSION];s
    (MAINTAINING -(' _SESSION' [SESSION];sessionN
    (MAINTAINING -(' _SESSION' [SESSION];sessionNewBranch
    (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

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(MAINAINING -(' _SESSION' [SESSION];s
NEW x:YesNoAnswer;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes' [YesNoA
        BLOCK
        (CANNOT CHANGE V[YesNoAnsw
        (MAINAINING -(' _SESSION' [SESSION]
        (MAINAINING -(' _SESSION' [SESSION];s
        (MAINAINING -(' _SESSION' [SESSION];sessionN
(MAINAINING -(' _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
        (MAINAINING -(' _SESSION' [SESSION];sessionNewB
        (MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC
        (MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC)
        (MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC) \\/ sess
        (MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC) \\/ sessionNewB
        (MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC) \\/ sessionNewBra
(MAINAINING -(' _SESSION' [SESSION];sessionNewBranchRC) \\/ sessionNewBranchRC;r
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionNewBranchRC~;' _SESSION
    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]
(MAINAINING -(sessionNewBranchRC~;' _SESSION' [SESSIO
NEW x:YesNoAnswer;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes' [YesNoAnswer] FROM Comp
        BLOCK
        (CANNOT CHANGE V[YesNoAnswer*RentalCase] FR
        (MAINAINING -(sessionNewBranchRC~;' _SESSION' [SESS
        (MAINAINING -(sessionNewBranchRC~;' _SESSION' [SESSIO
        (MAINAINING -(sessionNewBranchRC~;' _SESSION' [SESSION];sess
(MAINAINING -(sessionNewBranchRC~;' _SESSION' [SESSION];sessionNewBranch

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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];sessionNewBranch
        (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~;'_SESSION'[SESSION];sessC
          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

```

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(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 [YesNoAnsw
(MAINTAINING -(' _SESSION' [SESSION]
(MAINTAINING -(' _SESSION' [SESSION];s
(MAINTAINING -(' _SESSION' [SESSION];sessionN
(MAINTAINING -(' _SESSION' [SESSION];sessionNewBranch
(MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC
(MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchRC;(rent
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 [YesNoAnsw
(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];sessionNewBranch
    (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];rcBranch
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];rcBranch
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];sessionDroppedoff
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 MAINTAIN
      DELETE FROM
      SELECTFROM

      (TO MAINTAIN
      (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 MAINTAIN
      DELETE FROM
      SELECTFRO

      (TO MAINTAIN
      (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

```





```

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]*(sessionDroppedoffC

      (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{dety=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[RentalCase*Car]
SELECTFROM 'a' [RentalCase]*'b' [RentalCase]

(TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
DELETE FROM rentalHasBeenEnded[RentalCase*Car]
SELECTFROM 'a' [RentalCase]*'b' [RentalCase]

(TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
(MAINTAINING -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenEnded)
THEN INSERT INTO rcAssignedCar[RentalCase*Car]
SELECTFROM 'a' [RentalCase]*'b' [Car]

(TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
(MAINTAINING -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
NEW x:RentalCase;
ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
SELECTFROM 'x' [RentalCase]*((sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)

(TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
DELETE FROM rentalHasBeenEnded[RentalCase*Car]
SELECTFROM 'x' [RentalCase]*((sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)

(TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
INSERT INTO rcAssignedCar[RentalCase*Car]
SELECTFROM 'x' [RentalCase]*'x' [RentalCase]*((sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)

(TO MAINTAIN -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
(MAINTAINING -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
(MAINTAINING -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
(MAINTAINING -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
(MAINTAINING -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
(MAINTAINING -(sessionDroppedoffCar~;'_SESSION' [SESSION];sessionDroppedoffCar)
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION' [SESSION];sessionDroppedoffCar)
THEN BLOCK
(CANNOT CHANGE V[SESSION*RentalCase] FROM Car drop-off handling)
PICK a,b FROM V[RentalCase*SESSION];('_SESSION' [SESSION];sessionDroppedoffCar)
THEN ALL of INSERT INTO Isn{dety=RentalCase}
SELECTFROM 'a' [RentalCase]*'b' [RentalCase]

(TO MAINTAIN -(('_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]*'b' [RentalCase])
THEN INSERT INTO rentalIsPaidQ[RentalCase*YesNoAns]
SELECTFROM 'a' [RentalCase]*'b' [YesNoAns]

(TO MAINTAIN -(('_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar)
PICK a,b FROM rentalIsPaidQ~;'a' [RentalCase]*'b' [RentalCase]
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rentalIsPaidQ~;'a' [RentalCase]*'b' [RentalCase])
THEN BLOCK

```

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(CANNOT CHANGE 'Yes' [
PICK a,b FROM 'Yes' [YesNo
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

```

```

(MAINTEINING -( '_SESSION' [SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
(MAINTEINING -( '_SESSION' [SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
(MAINTEINING -( '_SESSION' [SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
(MAINTEINING -( '_SESSION' [SESSION];sessionNewBranchRC;(rentalHasBeenPromised /\ rcAss
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNoAnswer];rcBranchReques
(MAINTEINING -( '_SESSION' [SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
(MAINTEINING -( '_SESSION' [SESSION];sessionDroppedoffCar) \/ sessionDroppedoffCar;(I[C
(MAINTEINING -( '_SESSION' [SESSION];sessionDroppedoffCar;rcAssignedCar~;(I[RentalCase]

```

<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=SESSION} EXECUTE      -- (ECA rule 174)
ALL of DELETE FROM sessionNewUserRC[SESSION*RentalCase]
      SELECTFROM (-I[SESSION] /\ sessionNewUserRC;sessionNewUserRC~);sessionNewUserRC

      (TO MAINTAIN -(sessionNewUserRC;sessionNewUserRC~) \/ I[SESSION] FROM INJ sessionNewUserRC
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]

(MAINTEINING -(sessionNewUserRC;sessionNewUserRC~) \/ I[SESSION] FROM INJ sessionNewUserRC

```

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

```

ALL of DELETE FROM sessionNewUserRC[SESSION*RentalCase]
      SELECTFROM (-I[SESSION] /\ sessionNewUserRC;sessionNewUserRC~);sessionNewUserRC

```

```

      (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'.. 6

**Branch** an office of a car rental company at a specific location.. 5

**Brand** the brand of a car.. 6

**CarRentalCompany** a company whose business is renting cars.. 5

**CarType** the brand and model of a car.. 6

**DrivingLicense** the identification number of a (valid) driving license.. 11

**Location** a city (at which a branch office is located).. 6

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

**RentalCase** an information object that contains all information about a rental, including contractual items, rental items, billing items etc.. 6

**YesNoAnswer** the answer to a question that must be 'Yes' or 'No'.. 13