

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 ' to refer to a specific slide in the DEMO-3 document mentioned above. In this notation, is the slide number that can be found at the bottom of the slide. We use the notation 'P:', to refer to a specific sentence in the EU-Rent description of slide 3. In this notation, identifies the paragraph number, and 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.

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 document¹ defines the functionality of an information system called 'EU-Rent'. It defines the database and the business services of EURent by means of business rules². 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.

¹This document was generated at 5-6-2014 on 16:16:59, using Ampersand v3.0.2.1356, build time: 31-May-14 17:40:25 UTC.

²Rule 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 EURentOntology

In order to create a system that supports business functions, an ontology must exist that pertains to the information within that system. The ontology not only defines the (abstract) terms (concepts) and relations between them, but it must also specify the rules that must hold for the actual information in the system. This process defines such an ontology for the EU-Rent example.

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

Agreement 1: 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 branches. We need to know *P1:1, P4:5*

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.

Agreement 2: 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.

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

Agreement 3: 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 4: 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 5: 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 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 6: 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 7: 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.

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 8: 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 9: Rental contracts may specify the branch where the rental starts (i.e.: the car is picked up).

Phrases that can be made are for instance:

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

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

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

Agreement 10: 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.

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 11: 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.

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

Agreement 12: The person who rents the car is called the renter.

Phrases that can be made are for instance:

The renter for RC_AMS_123 is Richard Enter.

The renter for RC_RTD_262 is Richard Enter.

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

Agreement 13: The person who is going to drive is called the driver.

Phrases that can be made are for instance:

The driver for RC_AMS_123 is Dick River.

The driver for RC_RTD_262 is Dick River.

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

Agreement 14: 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.

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 15: 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 16: 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.

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 17: The rental has been promised

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

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

Agreement 19: 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. *Slide 4, P4:2*

Agreement 20: The property 'Rental has started' is a property that every rental contract has for which the associated rental has 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..

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 21: Rental contracts 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 22: 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 23: Rented cars must be dropped off at a specific branch.

A phrase that can be formed is for instance:

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

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 from the time of the start of a rental, payment is due, and the rented car is no longer available for rent. *Slide 4, P4:2*

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. *Slide 26, 30*

Agreement 24: The property 'Rental has ended' is a property that every rental contract has for which the associated rental has ended.

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

Agreement 25: Payments for rental contracts need to be accepted (or declined).

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

Agreement 26:

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

Agreement 27:

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

Agreement 28: 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 29:

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 30: 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.

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

Agreement 31: 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 32: 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 33: Rental contracts may specify an amount for the penalty charge for late drop-offs

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 34: The system is limited to branches that are part of EU-Rent.

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*

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 36: Drivers must have a valid driving license.

The rules that need to be satisfied in order for a rental case to have the property of having been promised, are as follows: *#.* 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. *#.* it must have been ascertained that the driver has a valid driving license. *#.* the drop-off branch must have a car available of the type specified in the contract. *Slide 11*

Agreement 37: A rental request is only considered if all required fields are filled in.

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

Agreement 38: Rentals may only be promised if a car of the type specified in the contract is available at the pick-up branch.

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

Agreement 39: All cars must either be rented, or in stock at one of the branches.

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 40: A Yes/No answer may only take the values 'Yes' or 'No'.

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

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

Agreement 42: 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.

The event where a rental starts is important for many reasons, a major one being that from that moment onward, payment is due. Therefore, for every rental it must be precisely known when this point in time occurs.

Agreement 44: A rental starts when the contract has been completely filled in, the responsibility for a car has been transferred from the pick-up branch to the renter, and the driver has received the keys for this car.

Agreement 45: The car that is dropped off must be the one that has been issued.

The event where a rental ends is important. Therefore, for every rental it must be precisely known when this point in time occurs.

Agreement 47: Payment for a rental may only be accepted if the total amount of the rental charge is known.

The rental charge consists of three amounts: the basic rental charge, the penalty charge when the car is returned after the contracted drop-off date, and a penalty charge in case the car is dropped off at a different branch than contractually agreed. *P4:2-5*

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 49: 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 50: 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 51: 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 52: 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 53: 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.

2.2 Computations

Agreement 69: For all combinations of (different) branches, the distance between them is known.

2.3 Computing Projected Costs

2.4 NewUserRentalInterface

2.5 NewBranchRentalInterface

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

2.6 CarReturnInterface

Agreement 79: A car can only be returned if it is actually in the possession of the renter or driver

Handling a returned car means that payment for the associated rental is 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	User	Branch
Promising rental requests	×		
Auto fill in renter in rental contract	×		
Starting the rental	×		
Ending the rental	×		
Rental charge computation	×		
Rental period computation	×		
Basic charge computation	×		
Excess period computation	×		
Excess charge computation	×		
Location penalty computation	×		
Compute max rental duration	×		
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	×	
Trigger projected rental period computation	×	
projectedRentalPeriod computation	×	
Trigger projected basic charge computation	×	
projectedBasicCharge computation	×	
Submit rental request		×
Fill in default renter	×	
Submit branch rental request		×
Fill in default renter (at a branch)	×	
The branch that fills in the request is the pick-up branch	×	
Car return handling		×
Return cars to drop-off branch	×	
Drop-off date is date of car return	×	

Concepts Branch, CarRentalCompany, Location, CarType, Brand, Model, Amount, RentalCase, Date, Person, DrivingLicense, Car, YesNo, Integer, DistanceBetweenLocations, MaxRentalDuration, CompRentalCharge, CompNrDays, CompTariffedCharge, CompNrExcessDays, and Distance remain without a purpose.

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

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

On line numbers 173 and 207 of file `.\EURent Ontology.adl`, on line number 147 of file `.\EURent Computations.adl`, and on line number 91 of file `.\EURent BRANCH interface.adl` rules are defined without documenting their purpose. On line numbers 60, 143, 189, and 212 of file `.\EURent Ontology.adl` and on line numbers 58, 98, 104, and 111 of file `.\EURent BRANCH interface.adl` rules are defined, the meaning of which is documented by means of computer generated language. On line numbers 13, 18, 31, 35, 51, 63, 67, 77, 88, 92, 100, 109, 124, and 134 of file `.\EURent Computations.adl`, on line numbers 117,

125, 131, and 138 of file `.\EURent Interfaces.adl`, on line numbers 44 and 50 of file `.\EURent RENTER interface.adl`, and on line numbers 46 and 52 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	%
EURentOntology	33	25	75%	20	11	55%
Computations	18	0	0%	16	0	0%
Computing Projected Costs	2	0	0%	4	0	0%
NewUserRentalInterface	1	0	0%	2	0	0%
NewBranchRentalInterface	1	0	0%	3	0	0%
CarReturnInterface	0	0	-	4	0	0%
Entire context	61	25	40%	49	11	22%

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
EURentOntology	EURent branches, Enforcing maximum rental duration, Qualified drivers, Ren
Computations	Uniqueness of rental charge computations, Uniqueness of period computation
Computing Projected Costs	UNI projectedRentalPeriod::RentalCase*Integer, UNI projectedBasicCharge::
CarReturnInterface	Car returns

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 ' to refer to a specific slide in the DEMO-3 document mentioned above. In this notation, is the slide number that can be found at the bottom of the slide. We use the notation 'P:', to refer to a specific sentence in the EU-Rent description of slide 3. In this notation, identifies the paragraph number, and 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.

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.

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 ' to refer to a specific slide in the DEMO-3 document mentioned above. In this notation, is the slide number that can be found at the bottom of the slide. We use the notation 'P:', to refer to a specific sentence in the EU-Rent description of slide 3. In this notation, identifies the paragraph number, and 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.

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 Auto fill in renter in rental contract Starting the rental Ending the rental Rental charge computation Rental period computation Basic charge computation Excess period computation Excess charge computation Location penalty computation Compute max rental duration 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 Trigger projected rental period computation projectedRentalPeriod computation Trigger projected basic charge computation projectedBasicCharge computation Fill in default renter Fill in default renter (at a branch) The branch that fills in the request is the pick-up branch Return cars to drop-off branch Drop-off date is date of car return
User	Submit rental request
Branch	Submit branch rental request Car return handling

5.1 EURentOntology

In order to create a system that supports business functions, an ontology must exist that pertains to the information within that system. The ontology not only defines the (abstract) terms (concepts) and relations between them, but it must also specify the rules that must hold for the actual information in the system. This process defines such an ontology for the EU-Rent example.

Figure 5.1 shows the process model.

Figure 5.1: Process model of EURentOntologytxtProcess

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

Figure 5.2: Basic sentences of EURentOntologyConceptualProcess

EURent branches 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
 We use definition ?? (branchOf).
 This means:

$$\text{branchOf} \vdash \text{branchOf};' tEU - Rent' \quad (5.1)$$

Enforcing maximum rental duration 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
 We use definitions ?? (contractedStartDate), ?? (contractedEndDate), and ?? (dateIntervalsWithinMaxRentalDuration).
 This means:

$$\text{contractedStartDate} \sim; \text{contractedEndDate} \vdash \text{dateIntervalsWithinMaxRentalDuration} \quad (5.2)$$

Qualified drivers 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
 We use definitions ?? (rcDriver) and ?? (validDrivingLicense).
 This means:

$$\text{rcDriver} \vdash \text{rcDriver}; (I_{Person} \cap \text{validDrivingLicense}; \text{validDrivingLicense} \sim) \quad (5.3)$$

Promising rental requests The rules that need to be satisfied in order for a rental case to have the property of having been promised, are as follows: Slide 11
 #. 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. #. it must have been ascertained that the driver has a valid driving license. #. the drop-off branch must have a car available of the type specified in the contract.
 We use definitions ?? (contractedStartDate), ?? (contractedEndDate), ?? (contractedCarType), ?? (contractedPickupBranch), ?? (contractedDropoffBranch), ?? (rcRenter), ?? (rcDriver), ?? (rcUserRequestedQ), and ?? (rcBranchRequestedQ).
 Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap (\text{rcUserRequestedQ};' tYes'; \text{rcUserRequestedQ} \sim \cup \text{rcBranchRequestedQ};' tYes'; \text{rcBranchRequestedQ} \sim) \quad (5.4)$$

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

We use definitions $??$ ($contractedCarType$), $??$ ($contractedPickupBranch$), $??$ ($carAvailableAt$), $??$ ($carType$), and $??$ ($rentalHasBeenPromised$).
This means:

$$contractedPickupBranch^\sim; (I_{RentalCase} \cap rentalHasBeenPromised); contractedCarType \vdash carAvailableAt \quad (5.5)$$

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

We use definitions $??$ ($carAvailableAt$), $??$ ($rcIssuedCar$), $??$ ($rentalHasBeenStarted$), and $??$ ($rentalHasBeenEnded$).
This means:

$$I_{Car} \vdash rcIssuedCar^\sim; (rentalHasBeenStarted \cap \overline{rentalHasBeenEnded}); rcIssuedCar \cup carAvailableAt; car^\sim \quad (5.6)$$

YesNo validity 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'.

This means:

$$I_{YesNo} \vdash' tYes' \cup' tNo' \quad (5.7)$$

Rented car type integrity 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.

We use definitions $??$ ($contractedCarType$), $??$ ($carType$), and $??$ ($rcIssuedCar$).
This means:

$$rcIssuedCar \vdash contractedCarType; carType^\sim \quad (5.8)$$

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 $??$ ($rcDriver$) and $??$ ($rcKeysHandedOverQ$).
This means:

$$I_{RentalCase} \cap rcKeysHandedOverQ; tYes'; rcKeysHandedOverQ^\sim \vdash rcDriver; rcDriver^\sim \quad (5.9)$$

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 $??$ ($rcRenter$), $??$ ($rcDriver$), and $??$ ($rcKeysHandedOverQ$).
Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rcKeysHandedOverQ; tYes'; rcKeysHandedOverQ^\sim \vdash rcRenter; rcRenter^\sim \quad (5.10)$$

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

Activities that are defined by this rule are finished when:

$$(contractedStartDate; earliestDate \sim \cap rcDroppedOffDate; latestDate \sim); computedRentalPeriod \vdash rentalPeriod \quad (5.16)$$

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

We use definitions $??$ ($rentalTariffPerDay$), $??$ ($carType$), $??$ ($rcIssuedCar$), $??$ ($rentalPeriod$), $??$ ($rentalBasicCharge$), $??$ ($ctcNrOfDays$), $??$ ($ctcDailyAmount$), and $??$ ($computedTariffedCharge$).

Activities that are defined by this rule are finished when:

$$(rentalPeriod; ctcNrOfDays \sim \cap rcIssuedCar; carType; rentalTariffPerDay; ctcDailyAmount \sim); computedTariffedCharge \vdash rentalBasicCharge \quad (5.17)$$

Excess period computation 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

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

Activities that are defined by this rule are finished when:

$$(rcDroppedOffDate; lastDate \sim \cap contractedEndDate; firstDate \sim); computedNrOfExcessDays \vdash rentalExcessPeriod \quad (5.18)$$

Excess charge computation 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

We use definitions $??$ ($carType$), $??$ ($rcIssuedCar$), $??$ ($rentalExcessPeriod$), $??$ ($excessTariffPerDay$), $??$ ($rentalPenaltyCharge$), $??$ ($ctcNrOfDays$), $??$ ($ctcDailyAmount$), and $??$ ($computedTariffedCharge$).

Activities that are defined by this rule are finished when:

$$(rentalExcessPeriod; ctcNrOfDays \sim \cap rcIssuedCar; carType; excessTariffPerDay; ctcDailyAmount \sim); computedTariffedCharge \vdash rentalPenaltyCharge \quad (5.19)$$

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 $??$ ($contractedDropoffBranch$), $??$ ($rcDroppedOffBranch$), $??$ ($computedLocationPenaltyCharge$), $??$ ($rentalLocationPenaltyCharge$), and $??$ ($distbranch$).

Activities that are defined by this rule are finished when:

$$(rcDroppedOffBranch; distbranch^\sim \cap contractedDropoffBranch; distbranch^\sim); computedLocationPenaltyCharge$$

(5.20)

5.2 Computations

Figure 5.3 shows the process model.

Figure 5.3: Process model of Computations.txtProcess

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

Figure 5.4: Basic sentences of ComputationsConceptualProcess

Compute max rental duration We use definitions ?? (*branchOf*), ?? (*contractedPickupBranch*), ?? (*maxRentalDuration*), and ?? (*rcMaxRentalDuration*).

Activities that are defined by this rule are finished when:

$$contractedPickupBranch; branchOf; maxRentalDuration \vdash rcMaxRentalDuration$$

(5.21)

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

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap contractedStartDate; contractedStartDate^\sim \cap contractedEndDate; contractedEndDate^\sim \cap rcMaxRentalDuration$$

(5.22)

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

This means:

$$arg1; arg1^\sim \cap arg2; arg2^\sim \cap arg3; arg3^\sim \vdash I_{CompRentalCharge}$$

(5.23)

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

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rentalBasicCharge; rentalBasicCharge^\sim \cap rentalPenaltyCharge; rentalPenaltyCharge^\sim \cap rentalLocationPenaltyCharge$$

(5.24)

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

Activities that are defined by this rule are finished when:

$$I_{CompRentalCharge} \vdash computedRentalCharge; computedRentalCharge^{\sim} \quad (5.25)$$

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

This means:

$$latestDate; latestDate^{\sim} \cap earliestDate; earliestDate^{\sim} \vdash I_{CompNrDays} \quad (5.26)$$

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

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap contractedStartDate; contractedStartDate^{\sim} \cap rcDroppedOffDate; rcDroppedOffDate^{\sim} \vdash (con \quad (5.27)$$

Compute number of days in period We use definitions ?? (*earliestDate*), ?? (*latestDate*), and ?? (*computedRentalPeriod*).

Activities that are defined by this rule are finished when:

$$I_{CompNrDays} \vdash computedRentalPeriod; computedRentalPeriod^{\sim} \quad (5.28)$$

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

This means:

$$ctcNrOfDays; ctcNrOfDays^{\sim} \cap ctcDailyAmount; ctcDailyAmount^{\sim} \vdash I_{CompTariffedCharge} \quad (5.29)$$

Trigger regular charge computation We use definitions ?? (*rentalTariffPerDay*), ?? (*carType*), ?? (*rcIssuedCar*), ?? (*rentalPeriod*), ?? (*ctcNrOfDays*), and ?? (*ctcDailyAmount*).

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rentalPeriod; rentalPeriod^{\sim} \cap rcIssuedCar; rcIssuedCar^{\sim} \vdash (rentalPeriod; ctcNrOfDays^{\sim} \cap \quad (5.30)$$

Trigger excess charge computation We use definitions ?? (*carType*), ?? (*rcIssuedCar*), ?? (*rentalExcessPeriod*), ?? (*excessTariffPerDay*), ?? (*ctcNrOfDays*), and ?? (*ctcDailyAmount*).

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rentalExcessPeriod; rentalExcessPeriod^{\sim} \vdash (rentalExcessPeriod; ctcNrOfDays^{\sim} \cap rcIssued \quad (5.31)$$

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

Activities that are defined by this rule are finished when:

$$I_{CompTariffedCharge} \vdash computedTariffedCharge; computedTariffedCharge^{\sim} \quad (5.32)$$

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

This means:

$$firstDate; firstDate^{\sim} \cap lastDate; lastDate^{\sim} \vdash I_{CompNrExcessDays} \quad (5.33)$$

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

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap contractedEndDate; contractedEndDate^{\sim} \cap rcDroppedOffDate; rcDroppedOffDate^{\sim} \vdash (contractedEndDate; rcDroppedOffDate; lastDate; lastDate^{\sim}) \quad (5.34)$$

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

Activities that are defined by this rule are finished when:

$$I_{CompNrExcessDays} \vdash computedNrOfExcessDays; computedNrOfExcessDays^{\sim} \quad (5.35)$$

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

This means:

$$\overline{I_{Branch}} \vdash distbranch^{\sim}; distbranch \quad (5.36)$$

5.3 Computing Projected Costs

Figure 5.5 shows the process model.

Figure 5.5: Process model of Computing Projected Costs

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

Figure 5.6: Basic sentences of Computing Projected Costs

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

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap contractedStartDate; contractedStartDate \sim \cap contractedEndDate; contractedEndDate \sim \vdash (a) \quad (5.37)$$

projectedRentalPeriod computation We use definitions ?? (*contractedStartDate*), ?? (*contractedEndDate*), ?? (*earliestDate*), ?? (*latestDate*), ?? (*computedRentalPeriod*), and ?? (*projectedRentalPeriod*).

Activities that are defined by this rule are finished when:

$$(contractedStartDate; earliestDate \sim \cap contractedEndDate; latestDate \sim); computedRentalPeriod \vdash projectedRentalPeriod \quad (5.38)$$

Trigger projected basic charge computation We use definitions ?? (*rentalTariffPerDay*), ?? (*contractedCarType*), ?? (*ctcNrOfDays*), ?? (*ctcDailyAmount*), and ?? (*projectedRentalPeriod*).

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap projectedRentalPeriod; projectedRentalPeriod \sim \cap contractedCarType; contractedCarType \sim \vdash (b) \quad (5.39)$$

projectedBasicCharge computation We use definitions ?? (*rentalTariffPerDay*), ?? (*contractedCarType*), ?? (*ctcNrOfDays*), ?? (*ctcDailyAmount*), ?? (*computedTariffedCharge*), ?? (*projectedRentalPeriod*), and ?? (*projectedBasicCharge*).

Activities that are defined by this rule are finished when:

$$(projectedRentalPeriod; ctcNrOfDays \sim \cap contractedCarType; rentalTariffPerDay; ctcDailyAmount \sim); computedTariffedCharge \vdash projectedBasicCharge \quad (5.40)$$

5.4 NewUserRentalInterface

Figure 5.7 shows the process model.

Figure 5.7: Process model of NewUserRentalInterface.txtProcess

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

Figure 5.8: Basic sentences of NewUserRentalInterfaceConceptualProcess

Submit rental request In order to formalize this, a relation session-NewUserRC is introduced (5.41):

$$\text{sessionNewUserRC} : \text{SESSION} \times \text{RentalCase} \quad (5.41)$$

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

Activities that are defined by this rule are finished when:

$$'t_s \text{SESSION}'; \text{sessionNewUserRC} \vdash \text{sessionNewUserRC}; \text{rcUserRequestedQ}; 'tYes'; V_{YesNoimesRentalC} \quad (5.42)$$

Fill in default renter In order to formalize this, a relation sessionUser is introduced (5.43):

$$\text{sessionUser} : \text{SESSION} \times \text{Person} \quad (5.43)$$

We also use definitions 5.41 (sessionNewUserRC), ?? (rcRenter), and ?? (rcUserRequestedQ) to formalize requirement ?? (page ??):

Activities that are defined by this rule are finished when:

$$I_{\text{RentalCase}} \cap \text{rcUserRequestedQ}; 'tYes'; \text{rcUserRequestedQ}^\sim \vdash \text{rcRenter}; \text{rcRenter}^\sim \quad (5.44)$$

5.5 NewBranchRentalInterface

Figure 5.9 shows the process model.

Figure 5.9: Process model of NewBranchRentalInterfacetxtProcess

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

Figure 5.10: Basic sentences of NewBranchRentalInterfaceConceptualProcess

Submit branch rental request In order to formalize this, a relation $\text{session-NewBranchRC}$ is introduced (5.45):

$$\text{sessionNewBranchRC} : \text{SESSION} \times \text{RentalCase} \quad (5.45)$$

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

Activities that are defined by this rule are finished when:

$$'t_s ESSION'; sessionNewBranchRC \vdash sessionNewBranchRC; rcBranchRequestedQ; 'tYes'; V_{YesNoimes} \quad (5.46)$$

Fill in default renter (at a branch) We use definitions ?? (*rcRenter*), ?? (*rcDriver*), and ?? (*rcBranchRequestedQ*).

Activities that are defined by this rule are finished when:

$$I_{RentalCase} \cap rcBranchRequestedQ; 'tYes'; rcBranchRequestedQ^\sim \cap rcDriver; rcDriver^\sim \vdash rcRenter; rcRenter^\sim \quad (5.47)$$

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 (5.48):

$$sessionBranch : SESSION \times Branch \quad (5.48)$$

We also use definitions 5.45 (*sessionNewBranchRC*), ?? (*contractedPickupBranch*), and ?? (*rcBranchRequestedQ*) to formalize requirement ?? (page ??):

$$(I_{RentalCase} \cap rcBranchRequestedQ; 'tYes'; rcBranchRequestedQ^\sim); sessionNewBranchRC^\sim; 't_s ESSION' \quad (5.49)$$

5.6 CarReturnInterface

Figure 5.11 shows the process model.

Figure 5.11: Process model of CarReturnInterface.txtProcess

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

Figure 5.12: Basic sentences of CarReturnInterfaceConceptualProcess

Car returns In order to formalize this, a relation *sessionReturnedCar* is introduced (5.50):

$$sessionReturnedCar : SESSION \times Car \quad (5.50)$$

We also use definitions $??$ ($carAvailableAt$), $??$ ($rcIssuedCar$), $??$ ($rentalHasBeenStarted$), and $??$ ($rentalHasBeenEnded$) to formalize requirement 2.6 (page 16):

This means:

$$'t_S ESSION'; sessionReturnedCar \vdash sessionReturnedCar; (I_{Car} \cap rcIssuedCar^\sim; (rentalHasBeenStarted \text{ (5.51)}))$$

Car return handling Handling a returned car means that payment for the associated rental is obtained.

We use definitions 5.50 ($sessionReturnedCar$), $??$ ($carAvailableAt$), $??$ ($rcIssuedCar$), $??$ ($rentalHasBeenStarted$), $??$ ($rentalHasBeenEnded$), and $??$ ($rentalIsPaidQ$).

Activities that are defined by this rule are finished when:

$$'t_S ESSION'; sessionReturnedCar; (I_{Car} \cap \overline{(carAvailableAt; carAvailableAt^\sim)}) \vdash sessionReturnedCar; rcDrop \text{ (5.52)}$$

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

We use definitions 5.50 ($sessionReturnedCar$), 5.48 ($sessionBranch$), $??$ ($carAvailableAt$), $??$ ($rcIssuedCar$), and $??$ ($rcDroppedOffBranch$).

Activities that are defined by this rule are finished when:

$$rcIssuedCar; (I_{Car} \cap \overline{(carAvailableAt; carAvailableAt^\sim)}); sessionReturnedCar^\sim; sessionBranch \vdash rcDrop \text{ (5.53)}$$

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

In order to formalize this, a relation $sessionToday$ is introduced (5.54):

$$sessionToday : SESSION \times Date \text{ (5.54)}$$

We also use definitions 5.50 ($sessionReturnedCar$), $??$ ($carAvailableAt$), $??$ ($rcIssuedCar$), and $??$ ($rcDroppedOffDate$) to formalize requirement ?? (page ??):

Activities that are defined by this rule are finished when:

$$rcIssuedCar; (I_{Car} \cap \overline{(carAvailableAt; carAvailableAt^\sim)}); sessionReturnedCar^\sim; sessionToday \vdash rcDrop \text{ (5.55)}$$

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

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

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

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

Properties: --

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: --

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

rentalHasBeenPromised : $RentalCase \times RentalCase$ The rental has been promised

Properties: --

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

Properties: --

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

Properties: UNI, SUR

rentalHasBeenStarted : $RentalCase \times RentalCase$ The property 'Rental has started' is a property that every rental contract has for which the associated rental has started.

Properties: --

rcDroppedOffCar : $RentalCase \times Car$ Rental contracts 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 : $RentalCase \times Branch$ Rented cars must be dropped off at a specific branch.

Properties: UNI

rentalHasBeenEnded : $RentalCase \times RentalCase$ The property 'Rental has ended' is a property that every rental contract has for which the associated rental has ended.

Properties: --

rentalIsPaidQ : $RentalCase \times YesNo$ Payments for rental contracts need to be accepted (or declined).

Properties: --

rentalCharge : $RentalCase \times Amount$ **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

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

Properties: UNI, TOT

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

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

Properties: --

rcMaxRentalDuration : *RentalCase* \times *MaxRentalDuration* 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 : *CompNrDays* \times *Date* **Properties:** UNI, TOT

latestDate : *CompNrDays* \times *Date* **Properties:** UNI, TOT

computedRentalPeriod : *CompNrDays* \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 : *CompNrExcessDays* \times *Date* **Properties:** UNI, TOT

lastDate : *CompNrExcessDays* \times *Date* **Properties:** UNI, TOT

computedNrOfExcessDays : *CompNrExcessDays* \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

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

Properties: --

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

Properties: --

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

sessionReturnedCar : *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:

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

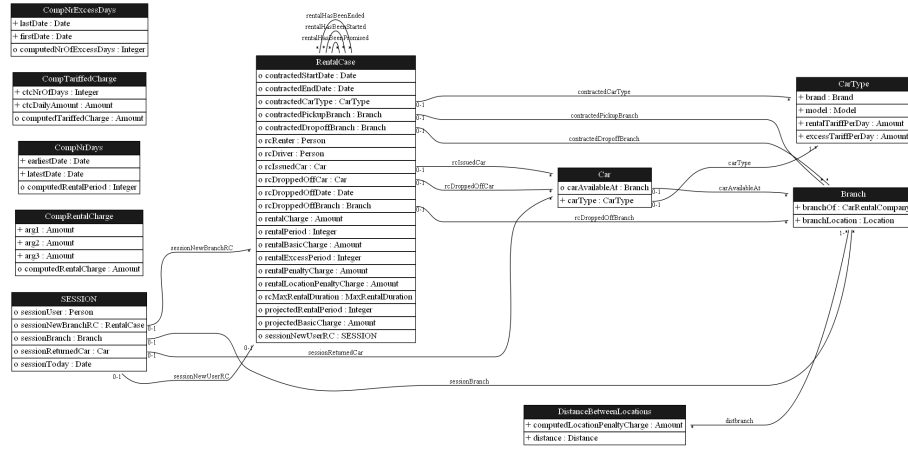


Figure 6.1: Logical data model of EURent

Branch has the following associations:

1. Every *RentalCase* ‘contractedPickupBranch’ zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *RentalCase*.
2. Every *RentalCase* ‘contractedDropoffBranch’ zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *RentalCase*.
3. Every *Car* ‘carAvailableAt’ zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *Car*.
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:

Attribute	Type
-----------	------

Id	Car	Primary key
carAvailableAt	Branch	Optional
carType	CarType	Mandatory

Car has the following associations:

1. Every *Car* ‘carAvailableAt’ zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *Car*.
2. Every *Car* must ‘carType’ at least one *CarType*. For the other way round, for this relation holds that each *CarType* at most one *Car*.
3. Every *RentalCase* ‘rcIssuedCar’ 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* ‘sessionReturnedCar’ 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 *RentalCase* ‘contractedCarType’ zero or more *CarType*. For the other way round, for this relation holds that each *CarType* at most one *RentalCase*.
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*.

6.3.4 Entity type: *CompNrDays*

This entity type has the following attributes:

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

CompNrDays has the following associations:

6.3.5 Entity type: *CompNrExcessDays*

This entity type has the following attributes:

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

CompNrExcessDays has the following associations:

6.3.6 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:

6.3.7 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:

6.3.8 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
contractedStartDate	Date	Optional
contractedEndDate	Date	Optional

contractedCarType	CarType	Optional
contractedPickupBranch	Branch	Optional
contractedDropoffBranch	Branch	Optional
rcRenter	Person	Optional
rcDriver	Person	Optional
rcIssuedCar	Car	Optional
rcDroppedOffCar	Car	Optional
rcDroppedOffDate	Date	Optional
rcDroppedOffBranch	Branch	Optional
rentalCharge	Amount	Optional
rentalPeriod	Integer	Optional
rentalBasicCharge	Amount	Optional
rentalExcessPeriod	Integer	Optional
rentalPenaltyCharge	Amount	Optional
rentalLocationPenaltyCharge	Amount	Optional
rcMaxRentalDuration	MaxRentalDuration	Optional
projectedRentalPeriod	Integer	Optional
projectedBasicCharge	Amount	Optional
sessionNewUserRC	SESSION	Optional

RentalCase has the following associations:

1. Every *RentalCase* ‘contractedCarType’ zero or more *CarType*. For the other way round, for this relation holds that each *CarType* at most one *RentalCase*.
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* ‘rentalHasBeenPromised’ zero or more *RentalCase*. For the other way round, for this relation holds that each *RentalCase* zero or more *RentalCase*.
5. Every *RentalCase* ‘rcIssuedCar’ zero or more *Car*. For the other way round, for this relation holds that each *Car* at most one *RentalCase*.

6. Every *RentalCase* ‘rentalHasBeenStarted’ zero or more *RentalCase*. For the other way round, for this relation holds that each *RentalCase* zero or more *RentalCase*.
7. Every *RentalCase* ‘rcDroppedOffCar’ zero or more *Car*. For the other way round, for this relation holds that each *Car* at most one *RentalCase*.
8. Every *RentalCase* ‘rcDroppedOffBranch’ zero or more *Branch*. For the other way round, for this relation holds that each *Branch* at most one *RentalCase*.
9. Every *RentalCase* ‘rentalHasBeenEnded’ zero or more *RentalCase*. For the other way round, for this relation holds that each *RentalCase* zero or more *RentalCase*.
10. Every *SESSION* ‘sessionNewUserRC’ at most one *RentalCase*. For the other way round, for this relation holds that each *RentalCase* at most one *SESSION*.
11. 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
sessionUser	Person	Optional
sessionNewBranchRC	RentalCase	Optional
sessionBranch	Branch	Optional
sessionReturnedCar	Car	Optional
sessionToday	Date	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*.

- Every *SESSION* 'sessionReturnedCar' 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.

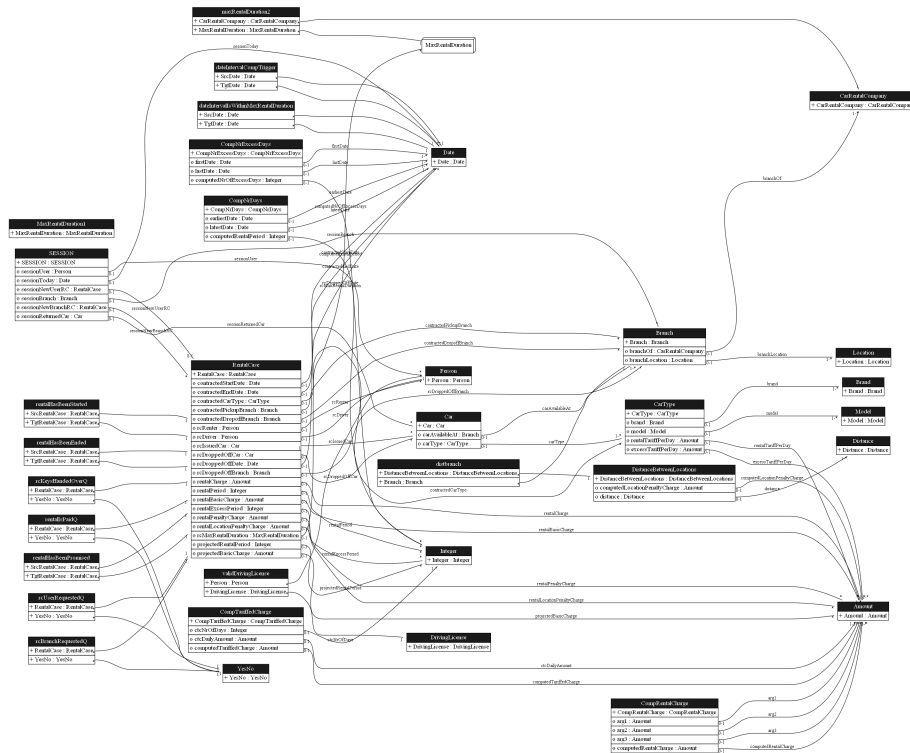


Figure 6.2: Technical data model of EURent

The technical datamodel consists of the following 34 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: CompNrDays

This table has the following 4 fields:

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

6.4.8 Table: CompNrExcessDays

This table has the following 4 fields:

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

6.4.9 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.

6.4.10 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.

6.4.11 Table: Date

This table has the following 1 fields:

- **Date**

This attribute is the primary key.
SQLVarchar 255, Mandatory, Unique.

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: MaxRentalDuration1

This table has the following 1 fields:

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

6.4.18 Table: Model

This table has the following 1 fields:

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

6.4.19 Table: Person

This table has the following 1 fields:

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

6.4.20 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.
- **rcIssuedCar**
This attribute implements the relation $RentalCase \xrightarrow{rcIssuedCar} Car$.
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.

- **rentalCharge**
This attribute implements the relation $RentalCase \xrightarrow{rentalCharge} Amount$.
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.
- **rcMaxRentalDuration**
This attribute implements the relation $RentalCase \xrightarrow{rcMaxRentalDuration} MaxRentalDuration$.
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.

6.4.21 Table: SESSION

This table has the following 7 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.
- **sessionReturnedCar**
This attribute implements the relation $SESSION \xrightarrow{sessionReturnedCar} Car$.
SQLVarchar 255, Optional.

6.4.22 Table: YesNo

This table has the following 1 fields:

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

6.4.23 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.

6.4.24 Table: dateIntervalsWithinMaxRentalDuration

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

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

6.4.25 Table: distbranch

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

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

6.4.26 Table: maxRentalDuration2

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

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

6.4.27 Table: rcBranchRequestedQ

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

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

6.4.28 Table: rcKeysHandedOverQ

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

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

- **YesNo**

This attribute implements the relation $RentalCase \xrightarrow{rcKeysHandedOverQ} YesNo$.
SQLVarchar 255, Mandatory.

6.4.29 Table: rcUserRequestedQ

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

- **RentalCase**

This attribute is a foreign key to RentalCase
SQLVarchar 255, Mandatory.

- **YesNo**

This attribute implements the relation $RentalCase \xrightarrow{rcUserRequestedQ} YesNo$.
SQLVarchar 255, Mandatory.

6.4.30 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.

6.4.31 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.

6.4.32 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.

6.4.33 Table: rentalIsPaidQ

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

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

6.4.34 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~ FROM
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]

```

```

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

```

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

```

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

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

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

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

```

<-----End Derivation --

```

ON DELETE Delta FROM branchLocation[Branch*Location] EXECUTE    -- (ECA rule 4)
DELETE FROM Isn{dety=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{dety=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 brand[CarType*Brand] EXECUTE    -- (ECA rule 5)
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]

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

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

<-----End Derivation --

ON DELETE Delta FROM brand[CarType*Brand] EXECUTE -- (ECA rule 6)
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 7)
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 8)
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 9)
ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
      SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay)
      -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[Amount]
      INSERT INTO Isn{dety=Amount}
      SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay)
      -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[Amount]
      (TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay)
      -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[Amount]
      INSERT INTO projectedBasicCharge[RentalCase*Amount]
      SELECTFROM ((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay)
      -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay) /\ I[Amount]
      (TO MAINTAIN -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay)
      -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay) /\ I[Amount]
      INSERT INTO Isn{dety=Amount}
      SELECTFROM ((rentalTariffPerDay /\ Delta)~;rentalTariffPerDay /\ -I[Amount])
      -((rentalTariffPerDay /\ Delta)~;rentalTariffPerDay /\ -I[Amount])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[Amount]
      (TO MAINTAIN -((rentalTariffPerDay~;rentalTariffPerDay) /\ I[Amount])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[Amount]
      INSERT INTO Isn{dety=CarType}
      SELECTFROM (Delta;Delta~ /\ I[CarType]) - I[CarType]
      (TO MAINTAIN -((rentalTariffPerDay~;rentalTariffPerDay) /\ I[CarType])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[CarType]
      INSERT INTO Isn{dety=Amount}
      SELECTFROM (Delta~;Delta /\ I[Amount]) - I[Amount]
      (TO MAINTAIN -((rentalTariffPerDay~;rentalTariffPerDay) /\ I[Amount])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[Amount]
      (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay)
      -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[Amount]
      (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay)
      -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay) /\ I[Amount]
      (MAINTAINING -((rentalTariffPerDay~;rentalTariffPerDay) /\ I[Amount])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[Amount]
      (MAINTAINING -I[CarType] /\ rentalTariffPerDay;rentalTariffPerDay)
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[CarType]

```

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

```

ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
      SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay)
      -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[Amount]
      (TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay)
      -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[Amount]
      INSERT INTO Isn{dety=Amount}
      SELECTFROM (rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay)
      -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[Amount]
      (TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay)
      -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI rentalTariffPerDay;rentalTariffPerDay) /\ I[Amount]
      INSERT INTO projectedBasicCharge[RentalCase*Amount]
      SELECTFROM ((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay)
      -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay) /\ I[Amount]
      (TO MAINTAIN -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay)
      -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay) /\ I[Amount])
      FROM UNI projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay) /\ I[Amount]

```

```
(TO MAINTAIN -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay;rcIssuedCar;carType;rentalTariffPerDay;c
INSERT INTO Isn{dety=Amount}
SELECTFROM (projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay;rcIssuedCar;carType;rentalTariffPerDay;c

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

(TO MAINTAIN -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI rentalTariffPerDay;rcIssuedCar;carType;rentalTariffPerDay;c
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~ /\ rcIssuedCar;carType;rentalTariffPerDay;rcIssuedCar;carType;rentalTariffPerDay;c
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;rcIssuedCar;carType;rentalTariffPerDay;c
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay;rcIssuedCar;carType;rentalTariffPerDay;c
(MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay;rcIssuedCar;carType;rentalTariffPerDay;c
(MAINTAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI rentalTariffPerDay;rcIssuedCar;carType;rentalTariffPerDay;c
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rentalTariffPerDay;rcIssuedCar;carType;rentalTariffPerDay;c
```

```

ON DELETE Delta FROM rentalTariffPerDay[CarType*Amount] EXECUTE -- (ECA rule
ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
    SELECTFROM -(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;(rentalTa
    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM rcIssuedCar[RentalCase*Car]
    SELECTFROM -(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod
    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM rentalPeriod[RentalCase*Integer]
    SELECTFROM -(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;(rentalTa
    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM rentalPeriod[RentalCase*Integer]
    SELECTFROM -(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalPeriod
    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM Isn{detyp=RentalCase}
    SELECTFROM -(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;(rentalTa
    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM contractedCarType[RentalCase*CarType]
    SELECTFROM -(projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;(

```



```

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

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

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

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

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

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

```

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

```

ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
      SELECTFROM  -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;(rentalTariff

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

      (TO MAINTAIN  -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Re
DELETE FROM rentalPeriod[RentalCase*Integer]
      SELECTFROM  -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;(rentalTariff

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

      (TO MAINTAIN  -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Re
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM  -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;(rentalTariffP

      (TO MAINTAIN  -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Re

```

```

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;(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 -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[RentalCase
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
(MAINTAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI rentalTa
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rentalTar

```

<-----End Derivation --

```

ON INSERT Delta IN contractedStartDate[RentalCase*Date] EXECUTE -- (ECA rule
ALL of INSERT INTO dateIntervalIsWithinMaxRentalDuration[Date*Date]
SELECTFROM (contractedStartDate \/ Delta)~;contractedEndDate /\ -dateInt

(TO MAINTAIN -(contractedStartDate~;contractedEndDate) \/ dateIntervalIs
INSERT INTO Isn{dety=Date}
SELECTFROM ((contractedStartDate \/ Delta)~;rcUserRequestedQ;'Yes'[YesNo]

(TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUser
(TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBr
(TO MAINTAIN -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssue

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIs
INSERT INTO rentalPeriod[RentalCase*Integer]
SELECTFROM ((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;lates

```

```

(TO MAINTAIN -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;late
INSERT INTO Isn{dety=Integer}
SELECTFROM (rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDropped

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
(TO MAINTAIN -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
INSERT INTO dateIntervalCompTrigger[Date*Date]
SELECTFROM ((contractedStartDate /\ Delta)~;rcMaxRentalDuration;rcMaxRen

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurat
INSERT INTO projectedRentalPeriod[RentalCase*Integer]
SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;late

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

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rc
THEN INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM 'a'[RentalCase]*'b'[Date]

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

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration;rcMaxRentalDuratio
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration;rcMaxRentalDuratio
NEW x:Date;
ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
SELECTFROM 'a'[Date]*'b'[RentalCase]*'c'[Date]

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

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration;rcMaxRentalDuratio
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration;rcMaxRentalDuratio
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration;rcMaxRentalDuratio
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration;rcMaxRentalDuratio
NEW x:Date;
ALL of INSERT INTO contractedStartDate[RentalCase*Date]

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SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration~ /\

(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~ /\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((contractedStartDate \
THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
SELECTFROM 'a'[Date]*'b'[Date]

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

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

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

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration~
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~

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

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

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

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

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

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

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
INSERT INTO earliestDate[CompNrDays*Date]
SELECTFROM 'b' [CompNrDays]*'a' [RentalCase]

(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' [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[CompNrDays*Date]
SELECTFROM 'b'[CompNrDays]*'a'[Date]

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

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
INSERT INTO latestDate[CompNrDays*Date]
SELECTFROM 'b'[CompNrDays]*'a'[RentalCase]

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

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

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

(TO MAINTAIN -(contractedEndDate;contractedEndDate)
INSERT INTO earliestDate[CompNrDays*Date]
SELECTFROM 'b'[CompNrDays]*'a'[RentalCase]

(TO MAINTAIN -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)

```

```

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

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

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

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

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\
(MAINAINING -(contractedEndDate;contractedEndDate~ /\
(MAINAINING -(contractedEndDate;contractedEndDate~ /\
(MAINAINING -(contractedEndDate;contractedEndDate~ /\
PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;contractedEndDate~ /\
THEN BLOCK
(CANNOT CHANGE V[CompNrDays*RentalCase] FROM Trigger projected
(MAINAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate~ /\
(MAINAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMaxRentalDuration
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;
(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contractedEndDate~ /\
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contractedEndDate~ /\
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contractedEndDate~ /\
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate~ /\
(MAINAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate~ /\
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate
(MAINAINING -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI contractedStartDate;contractedStartDate~ /\

```

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

ALL of INSERT INTO dateIntervalIsWithinMaxRentalDuration[Date*Date]

```

SELECTFROM (contractedStartDate \/ Delta)~;contractedEndDate /\ -dateInterval
(TO MAINTAIN -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithin
INSERT INTO Isn{detyp=Date}
SELECTFROM ((contractedStartDate \/ Delta)~;rcUserRequestedQ;'Yes'[YesNo];rcU

(TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserReque
(TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchR
(TO MAINTAIN -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedC
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
(TO MAINTAIN -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
INSERT INTO dateIntervalCompTrigger[Date*Date]
SELECTFROM ((contractedStartDate \/ Delta)~;rcMaxRentalDuration;rcMaxRentalDu

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~;
INSERT INTO projectedRentalPeriod[RentalCase*Integer]
SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat

(TO MAINTAIN -((contractedStartDate;earliestDate~ /\ contractedEndDate;latest
INSERT INTO Isn{detyp=RentalCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRe
    THEN INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[Date]

        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRe
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*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~ /\ contractedEndDate;
NEW x:Date;
ALL of INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedStartDate;

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

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~ /\
PICK a,b FROM dateIntervalCompTrigger~;(((contractedStartDate /\

```

```

THEN INSERT INTO contractedEndDate[RentalCase*Date]
      SELECTFROM 'b'[RentalCase]*'a'[Date]

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

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

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

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

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

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

```

```

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

        (TO MAINTAIN  -(rcDroppedOffDate;rcDropped0
INSERT INTO earliestDate[CompNrDays*Date]
        SELECTFROM 'b' [CompNrDays]*'a' [RentalCase]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDropped0
        (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*
        SELECTFROM 'a' [RentalCase]*'b' [Date]

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

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

        (TO MAINTAIN  -(rcDroppedOffDate;rcDropped0
INSERT INTO latestDate[CompNrDays*Date]
        SELECTFROM 'b' [CompNrDays]*'a' [RentalCase]

        (TO MAINTAIN  -(rcDroppedOffDate;rcDropped0
        (MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
        (MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSta
PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;rcDrope
    THEN BLOCK
        (CANNOT CHANGE V[CompNrDays*RentalCase] FROM Trigger rental period
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contr
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedEndDate;contractedEndDat
    THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [Renta
        THEN INSERT INTO contractedStartDate[RentalCa
            SELECTFROM 'a' [RentalCase]*'b' [Date]

        (TO MAINTAIN  -(contractedEndDate;contra
PICK a,b FROM contractedStartDate~;('a' [Renta
    THEN INSERT INTO earliestDate[CompNrDays*Date

```

```

SELECTFROM 'b' [CompNrDays]*'a' [Date]

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

(TO MAINTAIN -(contractedEndDate;contracte
INSERT INTO earliestDate[CompNrDays*Date]
SELECTFROM 'b' [CompNrDays]*'a' [RentalCase]

(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[CompNrDays*Date]
SELECTFROM 'b' [CompNrDays]*'a' [Date]

(TO MAINTAIN -(contractedEndDate;contra
(MAINTAINING -(contractedEndDate;contractedEndDate~
NEW x:Date;
ALL of INSERT INTO contractedEndDate[RentalCase*Da
SELECTFROM 'a' [RentalCase]*'b' [CompNrDays]

(TO MAINTAIN -(contractedEndDate;contracte
INSERT INTO latestDate[CompNrDays*Date]
SELECTFROM 'b' [CompNrDays]*'a' [RentalCase]

(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[CompNrDays*RentalCase] FROM Trigger projected ren
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;con
(MAINTAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalIsWithinMaxRent
(MAINTAINING -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/ c
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;rcIss
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co

```

```

(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINAINING -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI contract

```

<-----End Derivation --

```

ON DELETE Delta FROM contractedStartDate[RentalCase*Date] EXECUTE -- (ECA rule)
ALL of ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
    SELECTFROM (-((contractedStartDate /\ -Delta);(contractedStartDate
    (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
    DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
    SELECTFROM (-((contractedStartDate /\ -Delta);(contractedStartDate
    (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
    DELETE FROM Isn{dety=RentalCase}
    SELECTFROM -((contractedStartDate /\ -Delta);(contractedStartDate
    (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
ONE OF DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
    SELECTFROM (-((contractedStartDate /\ -Delta);(contractedStartDate
    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
    DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
    SELECTFROM (-((contractedStartDate /\ -Delta);(contractedStartDate
    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
    DELETE FROM Isn{dety=RentalCase}
    SELECTFROM -((contractedStartDate /\ -Delta);(contractedStartDate
    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
    SELECTFROM (-((contractedStartDate /\ -Delta);dateIntervalCompTri
    (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
    DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
    SELECTFROM -(contractedEndDate;dateIntervalCompTrigger~;(contract
    (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
    DELETE FROM contractedEndDate[RentalCase*Date]

```

```

SELECTFROM (-(contractedStartDate /\ -Delta);dateIntervalCompTri,

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM (-(contractedEndDate;dateIntervalCompTrigger~;(contrac

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM (-(contractedStartDate /\ -Delta);dateIntervalCompTri,

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM (-(contractedEndDate;dateIntervalCompTrigger~;(contrac

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM Isn{dety=RentalCase}
SELECTFROM (-(contractedStartDate /\ -Delta);dateIntervalCompTri,

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndD
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
SELECTFROM (-(contractedStartDate /\ -Delta);dateIntervalCompTri,

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

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

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM (-(contractedStartDate /\ -Delta);dateIntervalCompTri,

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

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

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM (-(contractedStartDate /\ -Delta);dateIntervalCompTri,

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

```

```

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

      (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracted
DELETE FROM contractedEndDate[RentalCase*Date]
      SELECTFROM -(contractedStartDate /\ -Delta);dateIntervalCompTrig

      (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contracted
(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*CompNrDays];(earliestDate;(contractedS

      (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*CompNrDays];(earliestDate;(contractedS

      (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*CompNrDays];(earliestDate;(contractedS

      (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*CompNrDays];(earliestDate;(contractedS

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM (-(((contractedStartDate /\ -Delta);earliestDate~ /\ co

```

```

        (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
(MAINAINING  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
(MAINAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
(MAINAINING  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contr

```

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

```

ALL of ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
        SELECTFROM  -((contractedStartDate /\ -Delta);(contractedStartDate /\

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

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
DELETE FROM Isn{dety=RentallCase}
        SELECTFROM  -((contractedStartDate /\ -Delta);(contractedStartDate /\ -

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
(MAINAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
ONE OF DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
        SELECTFROM  -((contractedStartDate /\ -Delta);(contractedStartDate /\

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
        SELECTFROM  -((contractedStartDate /\ -Delta);(contractedStartDate~ /\

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
DELETE FROM Isn{dety=RentallCase}
        SELECTFROM  -((contractedStartDate /\ -Delta);(contractedStartDate /\ -

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
(MAINAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
        SELECTFROM  -((contractedStartDate /\ -Delta);dateIntervalCompTrigger;

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
        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
(MAINTAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;c
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
SELECTFROM  -((contractedStartDate /\ -Delta);dateIntervalCompTrigger)

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
SELECTFROM  contractedEndDate;(-(dateIntervalCompTrigger~;(contractedSt

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

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM  -((contractedStartDate /\ -Delta);dateIntervalCompTrigger)

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

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

(TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM  -((contractedStartDate /\ -Delta);dateIntervalCompTrigger)

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

```

```

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedStartDate;contractedStartDate~;(-(contractedStar

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM -((contractedStartDate /\ -Delta);dateIntervalCompTrigger)

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate /\ c
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM (-(((contractedStartDate /\ -Delta);earliestDate~ /\ rcDrop

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*CompNrDays];(earliestDate;(contractedStartD

(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*CompNrDays];(earliestDate;(contractedStartD

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
DELETE FROM Isn{detyp=RentalCase}
SELECTFROM -(((contractedStartDate /\ -Delta);earliestDate~ /\ rcDrop

(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*CompNrDays];(earliestDate;(contractedStartD

(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*CompNrDays];(earliestDate;(contractedStartD

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStart
DELETE FROM Isn{detyp=RentalCase}
SELECTFROM -(((contractedStartDate /\ -Delta);earliestDate~ /\ contrac

```

```

        (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate)
        (MAINTAINING  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate)
        (MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ I[RentalCase])
        (MAINTAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
        (MAINTAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contractedStartDate)
        (MAINTAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contractedStartDate)
        (MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate)
        (MAINTAINING  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate)

```

<-----End Derivation --

```

ON INSERT Delta IN contractedEndDate[RentalCase*Date] EXECUTE      -- (ECA rule 13)
ALL of INSERT INTO dateIntervalIsWithinMaxRentalDuration[Date*Date]
      SELECTFROM (contractedStartDate~;contractedEndDate /\ -dateIntervalIsWithinMaxRentalDuration[Date*Date])

        (TO MAINTAIN  -(contractedStartDate~;contractedEndDate) \/\ dateIntervalIsWithinMaxRentalDuration[Date*Date]
        INSERT INTO Isn{dety=Date}
        SELECTFROM ((contractedEndDate /\ Delta)~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])

        (TO MAINTAIN  -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
        (TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
        (TO MAINTAIN  -(contractedEndDate~;contractedEndDate) \/\ I[Date] FROM UNION
        INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcKeysHandedOverQ~ /\ I[RentalCase])

        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcKeysHandedOverQ~ /\ I[RentalCase])
        INSERT INTO rentalExcessPeriod[RentalCase*Integer]
        SELECTFROM ((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~ /\ I[Date])

        (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~ /\ I[Date])
        INSERT INTO Isn{dety=Integer}
        SELECTFROM (rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~ /\ I[Date])

        (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~ /\ I[Date])
        (TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ contractedEndDate;lastDate~ /\ I[Date])
        INSERT INTO dateIntervalCompTrigger[Date*Date]
        SELECTFROM (contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~ /\ I[Date])

        (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~ /\ I[Date])
        INSERT INTO projectedRentalPeriod[RentalCase*Integer]
        SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;lastDate~ /\ I[Date])

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

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRentalDuration~ /\ I[Date])
      THEN INSERT INTO contractedStartDate[RentalCase*Date]

```

```

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

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

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

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

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

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~
(MAINTAINING -(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]*'y' [Date])
THEN INSERT INTO dateIntervalCompTrigger [Date]*('x' [Date]*'y' [Date])
SELECTFROM 'a' [Date]*'b' [Date]

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

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

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

```

```

SELECTFROM ((rcMaxRentalDuration;rcMaxRe

        (TO MAINTAIN -(rcMaxRentalDuration;rcMax
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDu
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDura
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contr
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contrac
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndD
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedStartDate~;r
        THEN INSERT INTO dateIntervalCompTrigger[Date*Date]
            SELECTFROM 'a'[Date]*'b'[Date]

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

        (TO MAINTAIN -(contractedStartDate~;rcMaxRentalDurati
        (MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRental
NEW x:Date;
        ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
            SELECTFROM ((contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~;co

        (TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~;co
        INSERT INTO contractedEndDate[RentalCase*Date]
            SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration~;contractedStartDate~;rc

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

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

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

        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedStartDate~;rc
        INSERT INTO dateIntervalCompTrigger[Date*Date]
            SELECTFROM 'x'[Date]*((rcMaxRentalDuration;rcMaxRentalDuration~;contractedStartDate~;rc

```

```

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

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

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

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~;
        INSERT INTO firstDate[CompNrExcessDays]
        SELECTFROM 'b' [CompNrExcessDays]*'a' [Date]

        (TO MAINTAIN -(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' [Date]

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

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

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~;
        INSERT INTO lastDate[CompNrExcessDays]
        SELECTFROM 'b' [CompNrExcessDays]*'a' [Date]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~;
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~;

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      (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
      (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contract
      PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedO
      THEN BLOCK
      (CANNOT CHANGE V[CompNrExcessDays*RentalCase] FROM Trigger ex
      (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;co
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedEndDate;(contracted
      THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
      THEN INSERT INTO contractedStartDate[Ren
      SELECTFROM 'a'[RentalCase]*'b'[Dat

      (TO MAINTAIN -(contractedEndDate;c
      PICK a,b FROM contractedStartDate~;'a'[
      THEN INSERT INTO earliestDate[CompNrDays
      SELECTFROM 'b'[CompNrDays]*'a'[Dat

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

      (TO MAINTAIN -(contractedEndDate;cont
      INSERT INTO earliestDate[CompNrDays*Da
      SELECTFROM 'b'[CompNrDays]*'a'[Rental

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

      (TO MAINTAIN -(contractedEndDate;c
      PICK a,b FROM contractedEndDate~;'a'[Re
      THEN INSERT INTO latestDate[CompNrDays*D
      SELECTFROM 'b'[CompNrDays]*'a'[Dat

      (TO MAINTAIN -(contractedEndDate;c
      (MAINTAINING -(contractedEndDate;contractedEndD
      NEW x:Date;
      ALL of INSERT INTO contractedEndDate[RentalCa
      SELECTFROM 'a'[RentalCase]*'b'[CompNr

      (TO MAINTAIN -(contractedEndDate;cont
      INSERT INTO latestDate[CompNrDays*Date
      SELECTFROM 'b'[CompNrDays]*'a'[Rental

```

```

        (TO MAINTAIN  -(contractedEndDate;cont
        (MAINTAINING -(contractedEndDate;contractedEnd
        (MAINTAINING -(contractedEndDate;contractedEndD
        (MAINTAINING -(contractedEndDate;contractedEndDate~ /\
        (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contra
        PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;con
        THEN BLOCK
        (CANNOT CHANGE V[CompNrDays*RentalCase] FROM Trigger projecte
        (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
        (MAINTAINING -(contractedStartDate~;contractedEndDate) \/ dateIntervalsWithinMa
        (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
        (MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
        (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;
        (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 ----->

```

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

    (TO MAINTAIN  -(contractedStartDate~;contractedEndDate) \/ dateIntervalsWithi
    INSERT INTO Isn{detyp=Date}
    SELECTFROM ((contractedEndDate /\ Delta)~;rcUserRequestedQ;'Yes'[YesNo];rcUse

    (TO MAINTAIN  -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
    (TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
    (TO MAINTAIN  -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI cont
    INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
    SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;

    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedC
    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
(TO MAINTAIN -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
INSERT INTO dateIntervalCompTrigger[Date*Date]
SELECTFROM (contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~;con

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~;
INSERT INTO projectedRentalPeriod[RentalCase*Integer]
SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDat

(TO MAINTAIN -((contractedStartDate;earliestDate~ /\ contractedEndDate;latest
INSERT INTO Isn{detyp=RentalCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRe
THEN INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM 'a'[RentalCase]*'b'[Date]

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRe
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~ /\ cont

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

```

```

SELECTFROM 'a' [Date]*'b' [Date]

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

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

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRenta
INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM ((rcMaxRentalDuration;rcMaxRentalD

(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;rcMaxRe

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMax
INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM ((rcMaxRentalDuration;rcMaxRentalDuration~;contrac

(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;rcMaxRe
THEN INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM 'a' [RentalCase]*'b' [Date]

```

```

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;co
PICK a,b FROM contractedStartDate~;((rcMaxRentalDuration;rcMaxRe
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~;contrac

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contr
INSERT INTO dateIntervalCompTrigger[Date*Date]
        SELECTFROM 'x'[Date]*((rcMaxRentalDuration;rcMaxRentalDuratio

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contr
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEnd
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDa
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate /\ c
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffDate;rcDroppedOffDate~
        THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
                THEN INSERT INTO contractedEndDate[RentalCase]
                SELECTFROM 'a'[RentalCase]*'b'[Date]

                (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                PICK a,b FROM contractedEndDate~;('a'[RentalC
                THEN INSERT INTO firstDate[CompNrExcessDays*D
                SELECTFROM 'b'[CompNrExcessDays]*'a'[Da

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

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

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

                (TO MAINTAIN  -(rcDroppedOffDate;rcDropp
                PICK a,b FROM rcDroppedOffDate~;('a'[RentalCa

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```

THEN INSERT INTO lastDate[CompNrExcessDays*Date]
SELECTFROM 'b'[CompNrExcessDays]*'a'[Date]

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

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\
INSERT INTO lastDate[CompNrExcessDays*Date]
SELECTFROM 'b'[CompNrExcessDays]*'a'[Date]

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

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

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

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

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

```

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

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

        (TO MAINTAIN  -(contractedEndDate;contractedEndDate~)
        INSERT INTO latestDate[CompNrDays*Date]
        SELECTFROM 'b'[CompNrDays]*'a'[RentalCase]

        (TO MAINTAIN  -(contractedEndDate;contractedEndDate~)
        (MAINTAINING -(contractedEndDate;contractedEndDate~)
        (MAINTAINING -(contractedEndDate;contractedEndDate~)
        (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedEndDate)
        PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;contractedEndDate)
        THEN BLOCK
        (CANNOT CHANGE V[CompNrDays*RentalCase] FROM Trigger projected rentalCase
        (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedEndDate)
        (MAINTAINING -(contractedStartDate~;contractedEndDate) /\ dateIntervalIsWithinMaxRentDuration
        (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) /\ contractedStartDate
        (MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]) /\ contractedStartDate
        (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;rcIssuedCar~)
        (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedNrDays)
        (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedNrDays)
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contractedStartDate)
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contractedStartDate)
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contractedStartDate)
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contractedStartDate)
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate)
        (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate)
        (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c)
        (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c)
        (MAINTAINING -(contractedEndDate~;contractedEndDate) /\ I[Date] FROM UNI contractedEndDate

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<-----End Derivation --

```

ON DELETE Delta FROM contractedEndDate[RentalCase*Date] EXECUTE  -- (ECA rule
ALL of ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
        SELECTFROM (-((contractedEndDate /\ -Delta);(contractedEndDate /\
        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
        DELETE FROM rcUserRequestedQ[RentalCase*YesNo]

```

```

SELECTFROM (-(contractedEndDate /\ -Delta);(contractedEndDate~ /\
(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
DELETE FROM Isn{dety=RentalCase}
SELECTFROM (-(contractedEndDate /\ -Delta);(contractedEndDate /\
(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
ONE OF DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM (-(contractedEndDate /\ -Delta);(contractedEndDate /\
(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM (-(contractedEndDate /\ -Delta);(contractedEndDate~ /\
(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
DELETE FROM Isn{dety=RentalCase}
SELECTFROM (-(contractedEndDate /\ -Delta);(contractedEndDate /\
(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
SELECTFROM (-(contractedStartDate;dateIntervalCompTrigger;(contra
(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
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*CompNrExcessDays];(firstDate;(contract
(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*CompNrDays];(earliestDate;contractedSt
(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*CompNrDays];(earliestDate;contractedSt
(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
DELETE FROM Isn{dety=RentalCase}
SELECTFROM -(((contractedStartDate;earliestDate~ /\ (contractedEnd
(TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contracted
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contr

```

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

```

ALL of ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM (-(((contractedEndDate /\ -Delta);(contractedEndDate /\ -Del
(TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM (-(((contractedEndDate /\ -Delta);(contractedEndDate~ /\ -De

```



```

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM -((contractedEndDate /\ -Delta);(contractedEndDate /\ -Delt

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
ONE OF DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
      SELECTFROM -((contractedEndDate /\ -Delta);(contractedEndDate /\ -Del

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
      SELECTFROM -((contractedEndDate /\ -Delta);(contractedEndDate~ /\ -De

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM -((contractedEndDate /\ -Delta);(contractedEndDate /\ -Delt

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
      SELECTFROM -(contractedStartDate;dateIntervalCompTrigger;(contractedE

      (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
      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~;(-(contractedEndDate

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
SELECTFROM contractedStartDate;(-(dateIntervalCompTrigger;(contractedE

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
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*CompNrExcessDays];(firstDate;(contractedEnd

(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*CompNrExcessDays];(firstDate;(contractedEnd

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate
DELETE FROM Isn{dety=RentCase}
      SELECTFROM  -(((contractedEndDate /\ -Delta);firstDate~ /\ rcDroppedOff

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

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
DELETE FROM contractedEndDate[RentalCase*Date]
      SELECTFROM  -(V[RentalCase*CompNrDays];(earliestDate;contractedStartDa

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

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

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
DELETE FROM Isn{dety=RentCase}
      SELECTFROM  -(((contractedStartDate;earliestDate~ /\ (contractedEnd

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStart
      (MAINTAINING  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;con
(MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \ / c
(MAINTAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINTAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINTAINING  -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted

```

<-----End Derivation --

```

ON INSERT Delta IN contractedCarType[RentalCase*CarType] EXECUTE  -- (ECA rule
ONE OF INSERT INTO Isn{dety=CarType}
      SELECTFROM  ((contractedCarType \ / Delta)~;rcUserRequestedQ;'Yes'[YesNo]);

      (TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];rcUserRe
INSERT INTO Isn{dety=CarType}
      SELECTFROM  ((contractedCarType \ / Delta)~;rcBranchRequestedQ;'Yes'[YesNo]

```

```

(TO MAINTAIN  -(contractedCarType~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ rcBranchRequestedQ
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenStarted[RentalCase*
THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'b'[Car]*'a'[Branch]

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

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

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

(TO MAINTAIN  -(contractedCarType~;rcIssuedCar;carType) /\ I[CarType] FROM RentedCarType[CarType]
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
  SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;carType /\ -I[CarType]

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;carType /\ -I[CarType]
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedCarType~;(I[RentalCase] /\ rentalHasBeenStarted[RentalCase*
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~;rcIssuedCar;carType) /\ I[CarType] FROM RentedCarType[CarType]
PICK a,b FROM projectedRentalPeriod~;'a'[Car]*'b'[CarType]
THEN INSERT INTO ctcNrOfDays[CompTariffedCharge]
  SELECTFROM 'b'[CompTariffedCharge]

      (TO MAINTAIN  -(contractedCarType~;rcIssuedCar;carType) /\ I[CarType] FROM RentedCarType[CarType]
(MAINTAINING -(contractedCarType~;rcIssuedCar;carType) /\ I[CarType] FROM RentedCarType[CarType]
NEW x:Integer;
  ALL of INSERT INTO projectedRentalPeriod[RentalCase*CarType]
    SELECTFROM 'x'[RentalCase]*'y'[CarType]

```

```

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

(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 renta
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;con
(MAINTAINING -(contractedCarType;contractedCarT
NEW x:CarType;
ALL of INSERT INTO contractedCarType[RentalCa
SELECTFROM 'a' [RentalCase]*'b' [CompTa

(TO MAINTAIN -(contractedCarType;cont
ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
THEN INSERT INTO rentalT
SELECTFROM 'a' [Car

(TO MAINTAIN -(con

```

```

PICK a,b FROM rentalTari
THEN INSERT INTO ctcDail
SELECTFROM 'b'[Comp

(TO MAINTAIN -(con
(MAINTAINING -(contractedCarTyp
NEW x:Amount;
ALL of INSERT INTO rentalTari
SELECTFROM 'x'[CarTyp

(TO MAINTAIN -(contra
INSERT INTO ctcDailyAm
SELECTFROM 'b'[CompTa

(TO MAINTAIN -(contra
(MAINTAINING -(contractedCarT
(MAINTAINING -(contractedCarTyp
(MAINTAINING -(contractedCarType;contr
(MAINTAINING -(contractedCarType;contractedCar
(MAINTAINING -(contractedCarType;contractedCarT
(MAINTAINING -(contractedCarType;contractedCarType~ /\
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projec
PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPer
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=CarType}
SELECTFROM ((contractedCarType \/ Delta)~;contractedCarType /\ -I[CarTyp

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

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

(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised);
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type into
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type into
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type into

```

```

(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;
(MAINAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;pro
(MAINAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINAINING -(contractedCarType~;contractedCarType) \/ I[CarType] FROM UNI cont

```

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

```

ONE OF INSERT INTO Isn{dety=CarType}
    SELECTFROM ((contractedCarType \/ Delta)~;rcUserRequestedQ;'Yes'[YesNo];rcUse

    (TO MAINTAIN -(contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
    INSERT INTO Isn{dety=CarType}
    SELECTFROM ((contractedCarType \/ Delta)~;rcBranchRequestedQ;'Yes'[YesNo];rcB

    (TO MAINTAIN -(contractedCarType~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
    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
    INSERT INTO carType[Car*CarType]
    SELECTFROM rcIssuedCar~;(contractedCarType \/ Delta) /\ -carType

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

    (TO MAINTAIN -(contractedCarType~;rcIssuedCar;carType) \/ I[CarType] FROM Ren
    INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
    SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;

```

```

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedC
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedCarType;(contractedCarTy
      THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
          THEN INSERT INTO projectedRentalPeriod[Rental
              SELECTFROM 'a'[RentalCase]*'b'[Integer]

          (TO MAINTAIN  -(contractedCarType;contra
PICK a,b FROM projectedRentalPeriod~;('a'[Ren
      THEN INSERT INTO ctcNrOfDays[CompTariffedChar
          SELECTFROM 'b'[CompTariffedCharge]*'a'[

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

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

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

      (TO MAINTAIN  -(contractedCarType;contra
PICK a,b FROM contractedCarType~;('a'[RentalC
      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
          THEN INSERT INTO rentalTar
              SELECTFROM 'a'[CarTy

          (TO MAINTAIN  -(contr
PICK a,b FROM rentalTariff
      THEN INSERT INTO ctcDailyA
          SELECTFROM 'b'[CompT

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

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

```



```

                (TO MAINTAIN -(contract
                (MAINTAINING -(contractedCarType;
                (MAINTAINING -(contractedCarType;
                (MAINTAINING -(contractedCarType;contract
                (MAINTAINING -(contractedCarType;contractedCarType~
NEW x:CarType;
        ALL of INSERT INTO contractedCarType[RentalCase*Ca
        SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

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

                (TO MAINTAIN -(contract
                PICK a,b FROM rentalTariffPer
                THEN INSERT INTO ctcDailyAmou
                SELECTFROM 'b'[CompTari

                (TO MAINTAIN -(contract
                (MAINTAINING -(contractedCarType;con
NEW x:Amount;
        ALL of INSERT INTO rentalTariffPer
        SELECTFROM 'x'[CarType]*'a

                (TO MAINTAIN -(contractedC
                INSERT INTO ctcDailyAmount[
                SELECTFROM 'b'[CompTariffe

                (TO MAINTAIN -(contractedC
                (MAINTAINING -(contractedCarType;c
                (MAINTAINING -(contractedCarType;con
                (MAINTAINING -(contractedCarType;contracted
                (MAINTAINING -(contractedCarType;contractedCarType~
                (MAINTAINING -(contractedCarType;contractedCarType~
                (MAINTAINING -(contractedCarType;contractedCarType~ /\ proj
                (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRe
                PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount;ren
                THEN BLOCK
                (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger proje
                (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;p
                INSERT INTO projectedBasicCharge[RentalCase*Amount]
                SELECTFROM ((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa

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

                (TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c

```

```

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

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

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

(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \ / c
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised);contr
(MAINTAINING -rcIssuedCar \ / contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING -rcIssuedCar \ / contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING -rcIssuedCar \ / contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;rcIss
(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 --

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```

ON DELETE Delta FROM contractedCarType[RentalCase*CarType] EXECUTE -- (ECA ru
ALL of ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
  SELECTFROM (-((contractedCarType /\ -Delta);(contractedCarType /\

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

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
DELETE FROM Isn{dety=RentalCase}
  SELECTFROM -((contractedCarType /\ -Delta);(contractedCarType /\

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
ONE OF DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
  SELECTFROM (-((contractedCarType /\ -Delta);(contractedCarType /\

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
  SELECTFROM (-((contractedCarType /\ -Delta);(contractedCarType~ /

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
DELETE FROM Isn{dety=RentalCase}
  SELECTFROM -((contractedCarType /\ -Delta);(contractedCarType /\

```

```

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
(MAINTAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
DELETE FROM rcIssuedCar[RentalCase*Car]
      SELECTFROM  -((contractedCarType /\ -Delta);carType~) /\ rcIssuedCar

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

      (TO MAINTAIN  -(rcIssuedCar;carType) /\ contractedCarType FROM Rented car
DELETE FROM carType[Car*CarType]
      SELECTFROM  rcIssuedCar~;((-contractedCarType /\ rcIssuedCar;carType)

      (TO MAINTAIN  -(rcIssuedCar;carType) /\ contractedCarType FROM Rented car
(MAINTAINING  -(rcIssuedCar;carType) /\ contractedCarType FROM Rented car
ONE OF DELETE FROM contractedCarType[RentalCase*CarType]
      SELECTFROM  -((projectedRentalPeriod;ctcNrOfDays~ /\ (contractedCarType

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

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

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

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

      (TO MAINTAIN  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod
(MAINTAINING  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod

(MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING  -rcIssuedCar /\ contractedCarType;carType~ FROM Rented car type int
(MAINTAINING  -rcIssuedCar /\ contractedCarType;carType~ FROM Rented car type int
(MAINTAINING  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projectedRentalPeriod

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

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ALL of ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
      SELECTFROM  -((contractedCarType /\ -Delta);(contractedCarType /\ -Delta)

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(TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM  -((contractedCarType /\ -Delta);(contractedCarType~ /\ -De

(TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
DELETE FROM Isn{dety=RentalCase}
SELECTFROM  -((contractedCarType /\ -Delta);(contractedCarType /\ -Delt

(TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
(MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
ONE OF DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM  -((contractedCarType /\ -Delta);(contractedCarType /\ -Del

(TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM  -((contractedCarType /\ -Delta);(contractedCarType~ /\ -De

(TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
DELETE FROM Isn{dety=RentalCase}
SELECTFROM  -((contractedCarType /\ -Delta);(contractedCarType /\ -Delt

(TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
(MAINTAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM  -((contractedCarType /\ -Delta);carType~) /\ rcIssuedCar

(TO MAINTAIN  -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type
ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM  ((-contractedCarType /\ rcIssuedCar;carType) \/ (Delta /\ r

(TO MAINTAIN  -(rcIssuedCar;carType) \/ contractedCarType FROM Rented c
DELETE FROM carType[Car*CarType]
SELECTFROM  rcIssuedCar~;((-contractedCarType /\ rcIssuedCar;carType) \

(TO MAINTAIN  -(rcIssuedCar;carType) \/ contractedCarType FROM Rented c
(MAINTAINING  -(rcIssuedCar;carType) \/ contractedCarType FROM Rented car type
ONE OF DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM  -((projectedRentalPeriod;ctcNrOfDays~ /\ (contractedCarTyp

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

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

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

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```

        (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  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ c
(MAINTAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING  -rcIssuedCar \/\ contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING  -rcIssuedCar \/\ contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING  -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte

<-----End Derivation --

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ON INSERT Delta IN contractedPickupBranch[RentalCase*Branch] EXECUTE      -- (ECA :
ALL of INSERT INTO Isn{dety=Branch}
        SELECTFROM  ((contractedPickupBranch \/\ Delta)~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ c
        (TO MAINTAIN  -(contractedPickupBranch~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ c
        (TO MAINTAIN  -(contractedPickupBranch~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]) \/\ c
        (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]) \/\ c
        (TO MAINTAIN  -(contractedPickupBranch~;contractedPickupBranch) \/\ I[Branch]
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM  (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar \/\ I[RentalCase]) \/\ c
        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar \/\ I[RentalCase]) \/\ c
INSERT INTO rcMaxRentalDuration[RentalCase*MaxRentalDuration]
        SELECTFROM  (contractedPickupBranch;branchOf;maxRentalDuration /\ -rcMaxRentalDuration) \/\ rcMaxRentalDuration
        (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \/\ rcMaxRentalDuration
INSERT INTO Isn{dety=MaxRentalDuration}
        SELECTFROM  (rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRentalDuration) \/\ rcMaxRentalDuration
        (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRentalDuration) \/\ rcMaxRentalDuration
INSERT INTO Isn{dety=RentalCase}
        SELECTFROM  (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]) \/\ c
PICK a,b FROM carAvailableAt;((contractedPickupBranch \/\ Delta)~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ c
THEN INSERT INTO carType[Car*CarType]
                SELECTFROM  'a'[Car]*'b'[CarType]

                (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]) \/\ c

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(MAINTEINING -(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 \/ Delta)~;
    (TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\
    (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
    (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
    (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHas
    (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
    (MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
    (MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised);
    (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;
    (MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDuration;
    (MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDuration;
    (MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ;
    (MAINTAINING -(contractedPickupBranch~;contractedPickupBranch) \/ I[Branch] FROM

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

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ALL of INSERT INTO Isn{detyp=Branch}
  SELECTFROM ((contractedPickupBranch \/ Delta)~;rcUserRequestedQ;'Yes'[YesNo];

  (TO MAINTAIN -(contractedPickupBranch~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ;
  (TO MAINTAIN -(contractedPickupBranch~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ;
  (TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];
  (TO MAINTAIN -(contractedPickupBranch~;contractedPickupBranch) \/ I[Branch] FROM
  INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
    SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;

  (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;
  INSERT INTO rcMaxRentalDuration[RentalCase*MaxRentalDuration]
    SELECTFROM (contractedPickupBranch;branchOf;maxRentalDuration /\ -rcMaxRentalDuration;

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

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

  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedPickupBranch \/ Delta)~;
    THEN INSERT INTO carAvailableAt[Car*Branch]

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SELECTFROM 'b'[Car]*'a'[Branch]

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ r
PICK a,b FROM carAvailableAt;((contractedPickupBranch /\ Delta)~
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 /\ Delta)~;(I[Re

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rent
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBee
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenP
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) /\ c
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised);contr
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;rcIss
(MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) /\ rcMaxRentalDurat
(MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) /\ rcMaxRentalDurat
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~)
(MAINTAINING -(contractedPickupBranch~;contractedPickupBranch) /\ I[Branch] FROM UNI

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<-----End Derivation --

```

ON DELETE Delta FROM contractedPickupBranch[RentalCase*Branch] EXECUTE -- (EC
ALL of ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM (-((contractedPickupBranch /\ -Delta);(contractedPickup

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

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
DELETE FROM Isn{dety=RentalCase}
SELECTFROM -((contractedPickupBranch /\ -Delta);(contractedPickup

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
ONE OF DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM (-((contractedPickupBranch /\ -Delta);(contractedPickup

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      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
      SELECTFROM  -((contractedPickupBranch /\ -Delta);(contractedPickupBranch

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
DELETE FROM Isn{dety=Rentalcas}
      SELECTFROM  -((contractedPickupBranch /\ -Delta);(contractedPickupBranch

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
      (MAINTAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]
ONE OF DELETE FROM Isn{dety=Rentalcas}
      SELECTFROM  ((-contractedPickupBranch /\ (I[RentalCase] /\ rcBranchRequestedQ

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

      (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
      SELECTFROM  sessionNewBranchRC~;'_SESSION'[SESSION];sessionBranch;

      (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
      SELECTFROM  '_SESSION'[SESSION];sessionBranch;((-contractedPickupBranch

      (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];
DELETE FROM sessionBranch[SESSION*Branch]
      SELECTFROM  '_SESSION'[SESSION];sessionNewBranchRC;(I[RentalCase] /\ rcBranchRequestedQ

      (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];
      (MAINTAINING  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]
      (MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
      (MAINTAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]
      (MAINTAINING  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]

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

```

ALL of ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
      SELECTFROM  -((contractedPickupBranch /\ -Delta);(contractedPickupBranch

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

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
DELETE FROM Isn{dety=Rentalcas}
      SELECTFROM  -((contractedPickupBranch /\ -Delta);(contractedPickupBranch

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        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
ONE OF DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
        SELECTFROM  -((contractedPickupBranch /\ -Delta);(contractedPickupBranch

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
        SELECTFROM  -((contractedPickupBranch /\ -Delta);(contractedPickupBranch

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
DELETE FROM Isn{dety=RentCase}
        SELECTFROM  -((contractedPickupBranch /\ -Delta);(contractedPickupBranch

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
ONE OF DELETE FROM Isn{dety=RentCase}
        SELECTFROM  ((-contractedPickupBranch /\ (I[RentalCase] /\ rcBranchRequ

        (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBra
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
        SELECTFROM  ((-contractedPickupBranch /\ (I[RentalCase] /\ rcBranchRequ

        (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBra
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
        SELECTFROM  sessionNewBranchRC~;'_SESSION'[SESSION];sessionBranch;((-co

        (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBra
DELETE FROM sessionNewBranchRC[SESSION*RentCase]
        SELECTFROM  '_SESSION'[SESSION];sessionBranch;((-contractedPickupBranch

        (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBra
DELETE FROM sessionBranch[SESSION*Branch]
        SELECTFROM  '_SESSION'[SESSION];sessionNewBranchRC;(I[RentalCase] /\ rc

        (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBra
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \ / c
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~)

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<-----End Derivation --

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ON INSERT Delta IN contractedDropoffBranch[RentalCase*Branch] EXECUTE  -- (ECA
ALL of INSERT INTO Isn{dety=Branch}
        SELECTFROM  ((contractedDropoffBranch \ / Delta)~;rcUserRequestedQ;'Yes'[Y

        (TO MAINTAIN  -(contractedDropoffBranch~;rcUserRequestedQ;'Yes'[YesNo];rc

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      (TO MAINTAIN  -(contractedDropoffBranch~;rcBranchRequestedQ;'Yes'[YesNo]);
      (TO MAINTAIN  -(contractedDropoffBranch~;contractedDropoffBranch) /\ I[Branch]
      INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
      SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;
      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~

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

      ONE OF 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;distbranch~
      PICK a,b FROM rentalLocationPenaltyCharge~;((rcDroppedOffBranch;distbranch~
      THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations]
      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]
      SELECTFROM ((distbranch;rcDroppedOffBranch~ /\ distbranch;rcDroppedOffBranch~

      (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
      (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
      (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
      (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
      (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
      (MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
      (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;
      (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
      (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
      (MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
      (MAINTAINING -(contractedDropoffBranch~;contractedDropoffBranch) /\ I[Branch] FROM

```

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

```

ALL of INSERT INTO Isn{dety=Branch}
    SELECTFROM ((contractedDropoffBranch \ Delta)~;rcUserRequestedQ;'Yes'[YesNo]

(TO MAINTAIN -(contractedDropoffBranch~;rcUserRequestedQ;'Yes'[YesNo];rcUserR
(TO MAINTAIN -(contractedDropoffBranch~;rcBranchRequestedQ;'Yes'[YesNo];rcBra
(TO MAINTAIN -(contractedDropoffBranch~;contractedDropoffBranch) \ I[Branch]
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
    SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedC
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{dety=RentalCase}
    SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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[DistanceBetweenLocat
            SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

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

        (TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDr
        INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocat
            SELECTFROM ((distbranch;rcDroppedOffBranch~ /\ distbranch;con

        (TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDr
        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBra
        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distb
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \ c
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;rcIss
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~

```

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(MAINAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINAINING -(contractedDropoffBranch~;contractedDropoffBranch) \/ I[Branch] FROM UN

```

<-----End Derivation --

```

ON DELETE Delta FROM contractedDropoffBranch[RentalCase*Branch] EXECUTE -- (E
ALL of ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
    SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropo

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

    (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
DELETE FROM Isn{detyp=RentalCase}
    SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropo

    (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
ONE OF DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
    SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropo

    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
    SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropo

    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
DELETE FROM Isn{detyp=RentalCase}
    SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropo

    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa

```

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

```

ALL of ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
    SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropoffBr

    (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
    SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropoffBr

    (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
DELETE FROM Isn{detyp=RentalCase}
    SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropoffBra

```

```

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
ONE OF DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
        SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropoffBr

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
        SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropoffBr

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
DELETE FROM Isn{dety= RentalCase}
        SELECTFROM -((contractedDropoffBranch /\ -Delta);(contractedDropoffBra

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
        (MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \ / c
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])

<-----End Derivation --

```

```

ON INSERT Delta IN dateIntervalIsWithinMaxRentalDuration[Date*Date] EXECUTE  --
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 dateIntervalIsWithinMaxRentalDuration[Date*Date] EXECUTE
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
        SELECTFROM contractedEndDate;((-dateIntervalIsWithinMaxRentalDuration~ /

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

        (TO MAINTAIN  -(contractedStartDate~;contractedEndDate) \ / dateIntervalIs
(MAINTAINING -(contractedStartDate~;contractedEndDate) \ / dateIntervalIsWithinMa

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

```

```

ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM contractedEndDate;((-dateIntervalIsWithinMaxRentalDuration~ /\ con

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

      (TO MAINTAIN  -(contractedStartDate~;contractedEndDate) /\ dateIntervalIsWithi
(MAINTAINING  -(contractedStartDate~;contractedEndDate) /\ dateIntervalIsWithinMaxRent

<-----End Derivation --

```

```

ON INSERT Delta IN rcRenter[RentalCase*Person] EXECUTE      -- (ECA rule 23)
ONE OF INSERT INTO Isn{dety=Person}
      SELECTFROM ((rcRenter /\ Delta)~;rcUserRequestedQ;'Yes'[YesNo];rcUserReq

      (TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
INSERT INTO Isn{dety=Person}
      SELECTFROM ((rcRenter /\ Delta)~;rcBranchRequestedQ;'Yes'[YesNo];rcBranch

      (TO MAINTAIN  -(rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest
INSERT INTO Isn{dety=Person}
      SELECTFROM ((rcRenter /\ Delta)~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHa

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

      (TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranc
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}
      SELECTFROM (Delta~;Delta /\ I[Person]) - I[Person]

(MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase
(MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
(MAINTAINING  -(rcRenter~;rcRenter) /\ I[Person] FROM UNI rcRenter::RentalCase*Pe

```

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

```

ONE OF INSERT INTO Isn{dety=Person}
      SELECTFROM ((rcRenter \ / Delta)~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequeste

      (TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcRe
INSERT INTO Isn{dety=Person}
      SELECTFROM ((rcRenter \ / Delta)~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequ

      (TO MAINTAIN  -(rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;
INSERT INTO Isn{dety=Person}
      SELECTFROM ((rcRenter \ / Delta)~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedO

      (TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;rc
INSERT INTO Isn{dety=Person}
      SELECTFROM ((rcRenter \ / Delta)~;rcDriver;rcDriver~;rcRenter /\ (rcRenter \ /

      (TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
INSERT INTO Isn{dety=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 -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \ / r
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]) \ /
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \ / r
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequeste
(MAINTAINING -(rcRenter~;rcRenter) \ / I[Person] FROM UNI rcRenter::RentalCase*Person)

```

<-----End Derivation --

```

ON DELETE Delta FROM rcRenter[RentalCase*Person] EXECUTE      -- (ECA rule 24)
ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
      SELECTFROM (-((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcUserReque

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

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Rent
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcUserReques

```

```

(TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Rent
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcBranchReq

(TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter~ /\ -Delta~)) /\ rcBranchRe

(TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcBranchRequ

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

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

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

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[Re
DELETE FROM rcDriver[RentalCase*Person]
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcDriver;rc

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

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

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

(TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcB
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM  -((rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcDriver;rcD

(TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcB
(MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase
(MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq

```


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

```
ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
      SELECTFROM (-(rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcUserRequestedQ

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

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

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

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

(TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase*YesNo])
DELETE FROM Isn{detyp=RentalCase}
      SELECTFROM (-(rcRenter /\ -Delta);(rcRenter /\ -Delta)~) /\ rcBranchRequestedQ

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

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

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

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

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

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

```

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

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

(TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranch
(MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ r
(MAINTAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]) \/\
(MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ r
(MAINTAINING  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequeste

```

<-----End Derivation --

```

ON INSERT Delta IN rcDriver[RentalCase*Person] EXECUTE      -- (ECA rule 25)
ALL of INSERT INTO Isn{detyp=Person}
SELECTFROM  ((rcDriver \/\ Delta)~;rcDriver /\ -I[Person]) \/\ ((rcDriver \/\

(TO MAINTAIN  -(rcDriver~;rcDriver) \/\ (I[Person] /\ validDrivingLicense;
(TO MAINTAIN  -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
(TO MAINTAIN  -(rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest
(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOver
(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcRan
(TO MAINTAIN  -(rcDriver~;rcDriver) \/\ I[Person] FROM UNI rcDriver::Renta
INSERT INTO Isn{detyp=RentalCase}
SELECTFROM  (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDriver /\ -(rcDriver
THEN INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM  'a'[RentalCase]*'b'[Person]

(TO MAINTAIN  -rcDriver \/\ rcDriver;(I[Person] /\ vali
PICK a,b FROM rcDriver~;((rcDriver /\ -(rcDriver;(I[Person]
THEN ALL of INSERT INTO Isn{detyp=Person}
SELECTFROM  'a'[Person]*'b'[Person]

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

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

```

```

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

        (TO MAINTAIN -rcDriver \/ rcDriver;
        INSERT INTO validDrivingLicense
        SELECTFROM 'b'[Person]*'a'[Person]

        (TO MAINTAIN -rcDriver \/ rcDriver;
        (MAINTAINING -rcDriver \/ rcDriver; (I[Person] /\ validDrivingLicense;
        (MAINTAINING -rcDriver \/ rcDriver; (I[Person] /\ validDrivingLicense;
        (MAINTAINING -rcDriver \/ rcDriver; (I[Person] /\ validDrivingLicense;
        (MAINTAINING -rcDriver \/ rcDriver; (I[Person] /\ validDrivingLicense;
        NEW x:Person;
        ALL of INSERT INTO rcDriver[RentalCase*Person]
        SELECTFROM ((rcDriver /\ -(rcDriver; (I[Person] /\ validDrivingLicense;

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

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

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

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

        (TO MAINTAIN -rcDriver \/ rcDriver; (I[Person] /\ validDrivingLicense;
        (MAINTAINING -rcDriver \/ rcDriver; (I[Person] /\ validDrivingLicense;
        (MAINTAINING -rcDriver \/ rcDriver; (I[Person] /\ validDrivingLicense;
        (MAINTAINING -rcDriver \/ rcDriver; (I[Person] /\ validDrivingLicense;
        (MAINTAINING -rcDriver \/ rcDriver; (I[Person] /\ validDrivingLicense;
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((rcDriver \/ Delta)~; r
        THEN INSERT INTO validDrivingLicense[Person*DrivingLicense]
        SELECTFROM 'a'[Person]*'b'[Person]

```

```

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

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

        (TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validDriving
        (MAINTAINING -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLi
(MAINTAINING -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense;v
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDriver;(rcDriver \/
        THEN INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM 'a' [RentalCase]*'b' [Person]

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

        (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequeste
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN
NEW x:Person;
        INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM ((rcDriver;(rcDriver \/ Delta)~ /\ rcBranchRequested

        (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[Y
        (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesN
        (MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBr
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivin
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivin
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
(MAINTAINING -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase*Pe

```

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

```

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

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

```

```

(TO MAINTAIN  -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcDr
(TO MAINTAIN  -(rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;
(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;rc
(TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
(TO MAINTAIN  -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase
INSERT INTO Isn{detyp=RentalCase}
  SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

      (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDriv
PICK a,b FROM rcDriver~;((rcDriver /\ -(rcDriver;(I[Person] /\ v
THEN ALL of INSERT INTO Isn{detyp=Person}
  SELECTFROM 'a'[Person]*'b'[Person]

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

      (TO MAINTAIN  -rcDriver \/ rcDriv
PICK a,b FROM validDrivingLicense~;('a
THEN INSERT INTO validDrivingLicense[P
  SELECTFROM 'b'[Person]*'a'[Drivi

      (TO MAINTAIN  -rcDriver \/ rcDriv
(MAINTAINING -rcDriver \/ rcDriver;(I[Person]
NEW x:DrivingLicense;
  ALL of INSERT INTO validDrivingLicense[Pers
    SELECTFROM 'a'[Person]*'b'[Person]*

      (TO MAINTAIN  -rcDriver \/ rcDriver;
INSERT INTO validDrivingLicense[Pers
  SELECTFROM 'b'[Person]*'a'[Person]*

      (TO MAINTAIN  -rcDriver \/ rcDriver;
(MAINTAINING -rcDriver \/ rcDriver;(I[Perso
(MAINTAINING -rcDriver \/ rcDriver;(I[Person]
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ val
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivi
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;va
NEW x:Person;
  ALL of INSERT INTO rcDriver[RentalCase*Person]
    SELECTFROM ((rcDriver /\ -(rcDriver;(I[Person] /\ validDrivin

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

```

```

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

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

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

        (TO MAINTAIN  -rcDriver \/\ rcDriver;(I[Person] /\ val
        (MAINTAINING -rcDriver \/\ rcDriver;(I[Person] /\ validD
        (MAINTAINING -rcDriver \/\ rcDriver;(I[Person] /\ validDrivingL
        (MAINTAINING -rcDriver \/\ rcDriver;(I[Person] /\ validDrivingLicense;
        (MAINTAINING -rcDriver \/\ rcDriver;(I[Person] /\ validDrivingLicense;va
        (MAINTAINING -rcDriver \/\ rcDriver;(I[Person] /\ validDrivingLicense;validDriv
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((rcDriver \/\ Delta)~;rcDriv
        THEN INSERT INTO validDrivingLicense[Person*DrivingLicense]
        SELECTFROM 'a'[Person]*'b'[DrivingLicense]

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

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

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

        (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Y
        PICK a,b FROM rcRenter~;((rcDriver;rcDriver \/\ Delta)~ /\ rcBra
        THEN INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM 'b'[RentalCase]*'a'[Person]

```

```

        (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rc
(MAINAINING  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rc
NEW x:Person;
        INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM ((rcDriver;(rcDriver \/ Delta)~ /\ rcBranchRequestedQ;'Ye

        (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo]
        (MAINAINING  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rc
        (MAINAINING  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchR
(MAINAINING  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice
(MAINAINING  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice
(MAINAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/ r
(MAINAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINAINING  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]) \/
(MAINAINING  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequeste
(MAINAINING  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequeste
(MAINAINING  -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase*Person)

```

<-----End Derivation --

```

ON DELETE Delta FROM rcDriver[RentalCase*Person] EXECUTE      -- (ECA rule 26)
ALL of DELETE FROM rcDriver[RentalCase*Person]
        SELECTFROM -((rcDriver /\ -Delta);(I[Person] /\ validDrivingLicense;valid

        (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;val
ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
        SELECTFROM (-((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcUs

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

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
DELETE FROM Isn{dety=RentalCase}
        SELECTFROM -((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcUse

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
ONE OF DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
        SELECTFROM (-((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcBr

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

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
DELETE FROM Isn{dety=RentalCase}
        SELECTFROM -((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcBra

```

```

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]
(MAINAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]
ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
      SELECTFROM  -((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcKeysHandedOverQ[RentalCase*YesNo]

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

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

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]
(MAINAINING  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]
(MAINAINING  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLicense)
(MAINAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINAINING  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase])

```

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

```

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

      (TO MAINTAIN  -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLicense)
ONE OF DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
      SELECTFROM  -((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcUserRequestedQ[RentalCase*YesNo]

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

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

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
(MAINAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
ONE OF DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
      SELECTFROM  -((rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcBranchRequestedQ[RentalCase*YesNo]

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

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]

```



```

DELETE FROM Isn{dety=RentaCase}
SELECTFROM -(rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcBranchRe

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
SELECTFROM -(rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcKeysHan

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

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[
DELETE FROM Isn{dety=RentaCase}
SELECTFROM -(rcDriver /\ -Delta);(rcDriver /\ -Delta)~) /\ rcKeysHand

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCa
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/ r
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]) \/

```

<-----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 ----->

```

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;validDriv
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDriv

```

----- 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 carAvailableAt[Car*Branch] EXECUTE -- (ECA rule 29)
ALL of INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
    SELECTFROM rcIssuedCar;(I[Car] /\ -(carAvailableAt;(carAvailableAt \/ De

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

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

```

```

SELECTFROM rcIssuedCar;(I[Car] /\ -(carAvailableAt;(carAvailableAt \ De

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

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

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];ses
THEN INSERT INTO sessionReturnedCar[SESSION*Car]
SELECTFROM 'a'[SESSION]*'b'[Car]

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar
PICK a,b FROM sessionReturnedCar~;('_SESSION'[SESSION];sess
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
THEN INSERT INTO rcIssuedCar[RentalCase*
SELECTFROM 'b'[RentalCase]*'a'[Car]

(TO MAINTAIN -('_SESSION'[SESSION]
PICK a,b FROM rcIssuedCar;('a'[Car]*'b'[
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
THEN ALL of INSERT IN
SELECTFR

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NEW x:Yes;
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NEW x:RentalCase;
ALL of ALL of INSERT INTO
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DELETE FROM
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NEW x:YesNo;
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NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*'b'[Car]*'
(TO MAINTAIN -( '_SESSION' [SESSION];se
ONE OF ONE NONEMPTY ALTERNATIVE OF PIC
THEN ALL of INSERT INTO
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DELETE FROM
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NEW x:RentalCase;
  ALL of ALL of INSERT INTO ren
    SELECTFROM 'x'

    (TO MAINTAIN -
DELETE FROM ren
SELECTFROM 'x'

    (TO MAINTAIN -
(MAINTAINING -( '_SESSI
ONE OF ONE NONEMPTY AL
    THEN INS
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PICK a,b
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(MAINTAINING -(
NEW x:YesNo;
  ALL of INSERT
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(MAINTAINING
NEW x:YesNo;
ALL of INS
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NEW x:RentalCase;
ALL of ALL of INSERT INTO ren
SELECTFROM 'a'

(TO MAINTAIN -
DELETE FROM ren
SELECTFROM 'a'

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ONE OF ONE NONEMPTY AL
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(MAINTAINING -('_SESSION'[SESSION];ses
(MAINTAINING -('_SESSION'[SESSION];sessionReturned
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*((I[Car] /\ -
(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

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SELECTFROM 'a'

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PICK a,b FROM (rentalHasBee
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      ALL of INSERT
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      (MAINTAINING -
      (MAINTAINING -('_SESSI

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(MAINTEINING -('_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
        ONE OF ONE NONEMPTY ALTER
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            PICK a,b FR
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NEW x:YesNo;
    ALL of INSERT IN
    SELECTFR

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    (MAINTAINING -('_SESSION'
    (MAINTAINING -('_SESSION' [SESSION]
    (MAINTAINING -('_SESSION' [SESSION]
    (MAINTAINING -('_SESSION' [SESSION];session

```

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(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar;
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar;
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar; (I[Car] /\
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar; (I[Car] /\ -
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar; (I[Car] /\ -(carAvaila
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionReturnedCar~;'_S
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'b'[RentalCase]*'a'[Car]

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION]
PICK a,b FROM rcIssuedCar;(sessionReturnedCar~;'_SESSION'[S
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
THEN ALL of INSERT INTO rentalHasBeenSta
SELECTFROM 'a'[RentalCase]*

(TO MAINTAIN -(sessionRetur
DELETE FROM rentalHasBeenEnd
SELECTFROM 'a'[RentalCase]*

(TO MAINTAIN -(sessionRetur
(MAINAINING -(sessionReturnedCar~;
PICK a,b FROM (rentalHasBeenStarted~ /\
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
THEN INSERT INTO rent
SELECTFROM 'a'[

(TO MAINTAIN -(
PICK a,b FROM rentalI
THEN ONE OF ONE NONEM
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NEW x:Yes;
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NEW x:YesNo;
ALL of INSERT INTO rentalI
SELECTFROM 'a'[Ren

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ONE OF ONE NONEMPTY
THEN

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NEW x:YesNo;
ALL of BLO
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(MAINTAINING -(sessionReturn
(MAINTAINING -(sessionReturnedCar~;
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[S
NEW x:RentalCase;
ALL of ALL of INSERT INTO rentalHasBeenStarte
SELECTFROM 'a'[RentalCase]*'b'

(TO MAINTAIN -(sessionReturned
DELETE FROM rentalHasBeenEnded[
SELECTFROM 'a'[RentalCase]*'b'

(TO MAINTAIN -(sessionReturned
(MAINTAINING -(sessionReturnedCar~;'_S
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN INSERT INTO rentalI
SELECTFROM 'a'[Ren

(TO MAINTAIN -(ses
PICK a,b FROM rentalIsPa
THEN ONE OF ONE NONEMPTY
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NEW x:YesNo;
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(MAINTEINING -(sessionReturnedC
NEW x:YesNo;
    ALL of INSERT INTO rentalIsPa
        SELECTFROM 'x'[Rental

        (TO MAINTAIN -(session
        ONE OF ONE NONEMPTY AL
            THEN BLOC
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                THEN BLOC
                (CA
        (MAINTEINING -(
        NEW x:YesNo;
            ALL of BLOCK
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        (MAINTEINING -(sessionReturnedCar~;'_S
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        (MAINTEINING -(sessionReturnedCar~;'_SESSION' [S
        (MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION]
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionRetu
NEW x:RentalCase;
    ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'x'[RentalCase]*((I[Car] /\ -((carAvailableAt

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];s
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Ren
            THEN ALL of INSERT INTO rentalHasBeenStarte
                SELECTFROM 'a'[RentalCase]*'b'

        (TO MAINTAIN -(sessionReturned
        DELETE FROM rentalHasBeenEnded[
            SELECTFROM 'a'[RentalCase]*'b'

        (TO MAINTAIN -(sessionReturned
        (MAINTEINING -(sessionReturnedCar~;'_S
        PICK a,b FROM (rentalHasBeenStarted~ /\ -re
        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
            THEN INSERT INTO rentalI
                SELECTFROM 'a'[Ren

        (TO MAINTAIN -(ses
        PICK a,b FROM rentalIsPa

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THEN ONE OF ONE NONEMPTY
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NEW x:YesNo;
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NEW x:YesNo;
ALL of INSERT INTO rentalIsPa
SELECTFROM 'a'[Rental

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NEW x:YesNo;
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(MAINTAINING -(sessionReturnedCar~;'_S
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NEW x:RentalCase;
ALL of INSERT INTO rentalHasBeenStarted[RentalCa
SELECTFROM 'x'[RentalCase]*(sessionRetur

(TO MAINTAIN -(sessionReturnedCar~;'_SES
DELETE FROM rentalHasBeenEnded[RentalCase
SELECTFROM 'x'[RentalCase]*(sessionRetur

(TO MAINTAIN -(sessionReturnedCar~;'_SES
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a

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THEN INSERT INTO rentalIsPa
    SELECTFROM 'a'[Rental

    (TO MAINTAIN -(session
PICK a,b FROM rentalIsPaidQ
THEN ONE OF ONE NONEMPTY AL
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NEW x:YesNo;
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NEW x:YesNo;
    ALL of INSERT INTO rentalIsPaidQ
    SELECTFROM 'x'[RentalCas

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    ONE NONEMPTY ALTERNATIVE
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    (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRetu
    (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar
    (MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA
    (MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA
    (MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
    (MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
    (MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
    (MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
    (MAINTAINING -(carAvailableAt~;carAvailableAt) \/ I[Branch] FROM UNI carAvailabl

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

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

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

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

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

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

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionR
      THEN INSERT INTO sessionReturnedCar[SESSION*Car]
            SELECTFROM 'a'[SESSION]*'b'[Car]

            (TO MAINTAIN  -('_SESSION'[SESSION];sessionReturnedCar;(I[C
PICK a,b FROM sessionReturnedCar~;('_SESSION'[SESSION];sessionRe
      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Car]*
            THEN INSERT INTO rcIssuedCar[RentalCase*Car]
                  SELECTFROM 'b'[RentalCase]*'a'[Car]

            (TO MAINTAIN  -('_SESSION'[SESSION];sess
PICK a,b FROM rcIssuedCar;('a'[Car]*'b'[Car])
      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
            THEN ALL of INSERT INTO re
                  SELECTFROM 'a

            (TO MAINTAIN
            DELETE FROM re
            SELECTFROM 'a

            (TO MAINTAIN
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PICK a,b FROM (rentalHasBe
      THEN ONE OF ONE NONEMPTY A
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DELETE FROM rentalHa
SELECTFROM 'x'[Rent

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SELECTFROM 'a' [Rent

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DELETE FROM rentalHa
SELECTFROM 'a' [Rent


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      THEN INSERT I
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NEW x:YesNo;
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        (MAINTAINING -('_SESSION'[SESSION];sessionR
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(
NEW x:RentalCase;
    ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'x'[RentalCase]*((I[Car] /\ -((car

        (TO MAINTAIN -('_SESSION'[SESSION];sessionRet
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 ONE OF ONE NONEMPTY ALTERNA
    THEN INSERT I
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NEW x:YesNo;
    ALL of INSERT INTO
        SELECTFROM

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(MAINAINING -('_SESSION'[SESSION];sess
(MAINAINING -('_SESSION'[SESSION];sessionRetu
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar;
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar;I[Car]
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar;I[Car] /\ -(ca
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar;I[Car] /\ -(carA
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar;I[Car] /\ -(carAvailabl
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionReturnedCar~;'_SESSIO
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'b'[RentalCase]*'a'[Car]

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];ses
PICK a,b FROM rcIssuedCar;(sessionReturnedCar~;'_SESSION'[SESSION]
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 -(sessionReturnedCa
DELETE FROM rentalHasBeenEnded[Re
SELECTFROM 'a'[RentalCase]*'b'[R

(TO MAINTAIN -(sessionReturnedCa
(MAINAINING -(sessionReturnedCar~;'_SES
PICK a,b FROM (rentalHasBeenStarted~ /\ -rent
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN INSERT INTO rentalIsP
SELECTFROM 'a'[Renta

(TO MAINTAIN -(sessi
PICK a,b FROM rentalIsPaid
THEN ONE OF ONE NONEMPTY A
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NEW x:YesNo;

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(MAINTAINING -(sessionReturnedCar
NEW x:YesNo;
ALL of INSERT INTO rentalIsPaid
SELECTFROM 'a'[RentalCa

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ONE OF ONE NONEMPTY ALTE
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PICK a,b F
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NEW x:YesNo;
ALL of BLOCK
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(MAINTAINING -(sessionReturnedC
(MAINTAINING -(sessionReturnedCar
(MAINTAINING -(sessionReturnedCar~;'_SES
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSIO
NEW x:RentalCase;
ALL of ALL of INSERT INTO rentalHasBeenStarted[Ren
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -(sessionReturnedCar~;
DELETE FROM rentalHasBeenEnded[Renta
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -(sessionReturnedCar~;
(MAINTAINING -(sessionReturnedCar~;'_SESSIO
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
THEN INSERT INTO rentalIsPaid
SELECTFROM 'a'[RentalCa

(TO MAINTAIN -(sessionR
PICK a,b FROM rentalIsPaidQ~;
THEN ONE OF ONE NONEMPTY ALTE
THEN BLOCK

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PICK a,b F
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NEW x:YesNo;
ALL of BLOCK
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(MAINTAINING -(sessionReturnedCar~;'
NEW x:YesNo;
ALL of INSERT INTO rentalIsPaidQ[R
SELECTFROM 'x'[RentalCase]

(TO MAINTAIN -(sessionRetu
ONE OF ONE NONEMPTY ALTERNA
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NEW x:YesNo;
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(MAINTAINING -(sessionReturnedCar~;'_SESSION
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESS
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION]
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sess
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedC
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*((I[Car] /\ -((carAvailableAt /\ D

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessio
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCa
THEN ALL of INSERT INTO rentalHasBeenStarted[Ren
SELECTFROM 'a'[RentalCase]*'b'[Rent

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```

      (TO MAINTAIN  -(sessionReturnedCar~;
      DELETE FROM rentalHasBeenEnded[Renta
      SELECTFROM 'a' [RentalCase]*'b' [Rent

```

```

      (TO MAINTAIN  -(sessionReturnedCar~;
      (MAINTAINING -(sessionReturnedCar~;'_SESSIO
      PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalH
      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
      THEN INSERT INTO rentalIsPaid
      SELECTFROM 'a' [RentalCa

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```

      (TO MAINTAIN  -(sessionR
      PICK a,b FROM rentalIsPaidQ~;
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      PICK a,b F
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      (MAINTAINING -(se
      NEW x:YesNo;
      ALL of BLOCK
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      (MAINTAINING -(sessionRe
      (MAINTAINING -(sessionReturnedCar~;'
      NEW x:YesNo;
      ALL of INSERT INTO rentalIsPaidQ[R
      SELECTFROM 'a' [RentalCase]

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      (TO MAINTAIN  -(sessionRetu
      ONE OF ONE NONEMPTY ALTERNA
      THEN BLOCK
      (CANNOT
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      (MAINTAINING -(sessi
      NEW x:YesNo;
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(MAINAINING -(sessionReturnedCar~;'
(MAINAINING -(sessionReturnedCar~;'_SESSIO
(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];
NEW x:RentalCase;
ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Re
SELECTFROM 'x'[RentalCase]*(sessionReturnedCa

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'
DELETE FROM rentalHasBeenEnded[RentalCase*Rent
SELECTFROM 'x'[RentalCase]*(sessionReturnedCa

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FR
THEN INSERT INTO rentalIsPaidQ[R
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -(sessionRetu
PICK a,b FROM rentalIsPaidQ~;('x
THEN ONE OF ONE NONEMPTY ALTERNA
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NEW x:YesNo;
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NEW x:YesNo;
ALL of INSERT INTO rentalIsPaidQ[Rent
SELECTFROM 'x'[RentalCase]*'x

(TO MAINTAIN -(sessionReturne
ONE NONEMPTY ALTERNATIVE OF PI
THEN BLOCK
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(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];
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(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturne
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(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
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(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINAINING -(carAvailableAt~;carAvailableAt) /\ I[Branch] FROM UNI carAvailableAt::

```

<-----End Derivation --

```

ON DELETE Delta FROM carAvailableAt[Car*Branch] EXECUTE -- (ECA rule 30)
ALL of ONE OF DELETE FROM contractedPickupBranch[RentalCase*Branch]
SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised);contractedCar

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

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

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

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

(TO MAINTAIN -I[Car] /\ carAvailableAt;carAvailableAt~ /\ rcIssuedCar~;(
(MAINAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised);
(MAINAINING -I[Car] /\ carAvailableAt;carAvailableAt~ /\ rcIssuedCar~;(rentalHa

```

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

```

ALL of ONE OF DELETE FROM contractedPickupBranch[RentalCase*Branch]
SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised);contractedCarType;

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeen
DELETE FROM Isn{dety=RentalCase}

```

```

SELECTFROM contractedPickupBranch;(-(carAvailableAt /\ -Delta)~;carTy

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

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

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

(TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(renta
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised);contr
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(rentalHasBeen

```

<-----End Derivation --

```

ON INSERT Delta IN carType[Car*CarType] EXECUTE -- (ECA rule 31)
ONE OF INSERT INTO Isn{dety=CarType}
SELECTFROM (contractedCarType~;rcIssuedCar;carType /\ -I[CarType]) \/ (c

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

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

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

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

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

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
INSERT INTO Isn{dety=CarType}
SELECTFROM ((carType \/ Delta)~;carType /\ -I[CarType]) \/ ((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 -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type int
      (MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type int
      (MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type int
      (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPer
      (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPer
      (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar
      (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar
      (MAINTAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
      (MAINTAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)

```

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

```

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

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

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

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

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

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

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

      (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]

(MAINTEINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type integrit
(MAINTEINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type integrit
(MAINTEINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type integrit
(MAINTEINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
(MAINTEINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
(MAINTEINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
(MAINTEINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
(MAINTEINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
(MAINTEINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)

<-----End Derivation --

ON DELETE Delta FROM carType[Car*CarType] EXECUTE -- (ECA rule 32)
ONE OF DELETE FROM contractedPickupBranch[RentalCase*Branch]
  SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised);contractedCarType;(-

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

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

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

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

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

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

  (TO MAINTAIN -(contractedCarType~;rcIssuedCar) \/ carType~ FROM Rented c
DELETE FROM rcIssuedCar[RentalCase*Car]

```

```

SELECTFROM (-(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;(carType /\ -Del

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

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

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

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM Isn{dety=RentalCase}
SELECTFROM (-(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;(carType /\ -Delt

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
SELECTFROM (-(rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;(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~ /\ rcIssuedCar;(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 -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised);
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type int
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type int
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Renta
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rent
(MAINTAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
(MAINTAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)

```

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

```

ONE OF DELETE FROM contractedPickupBranch[RentalCase*Branch]
SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised);contractedCarType;(-(car

```

```

(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)
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM (I[RentalCase] /\ rentalHasBeenPromised~);contractedPickupBranch;(

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

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

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

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

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

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

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

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

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

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

```

```

SELECTFROM  (-(V[RentalCase*CompTariffedCharge];(ctcNrOfDays;rentalExcessPeriod
(TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (r
DELETE FROM Isn{dety=RentalCase}
SELECTFROM  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;(carType /\ -Del
(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  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised);contr
(MAINTAINING  -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING  -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING  -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[RentalCase
(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 --

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

```

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

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((contractedPickupBranch~;(I[
  THEN INSERT INTO carAvailableAt[Car*Branch]
    SELECTFROM 'b'[Car]*'a'[Branch]

    (TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ r
  PICK a,b FROM carAvailableAt;((contractedPickupBranch~;(I[Rental
  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] /\ re

    (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
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised);contr

```

<-----End Derivation --

```

ON INSERT Delta IN rcKeysHandedOverQ[RentalCase*YesNo] EXECUTE -- (ECA rule 3
ALL of INSERT INTO Isn{dety=Person}
  SELECTFROM (rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];(rcKeysHandedOverQ

  (TO MAINTAIN -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOver
  (TO MAINTAIN -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOver
  INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
    SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];(rcKeysHandedOverQ /\ Delta)~

  (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIs
  INSERT INTO Isn{dety=RentalCase}
    SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

```



```

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' [YesNo];rcKeysH
PICK a,b FROM rcDriver~;((rcKeysHandedOverQ;'Yes' [YesNo];(r
      THEN INSERT INTO rcDriver[RentalCase*Person]
      SELECTFROM 'b' [RentalCase]*'a' [Person]

      (TO MAINTAIN -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysH
(MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~ /
NEW x:Person;
      INSERT INTO rcDriver[RentalCase*Person]
      SELECTFROM ((rcKeysHandedOverQ;'Yes' [YesNo];(rcKeysHandedOverQ
      (TO MAINTAIN -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ
      (MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~ /
(MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~ /\ I[Ren
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' [YesNo];rcKeysH
PICK a,b FROM rcRenter~;((rcKeysHandedOverQ;'Yes' [YesNo];(r
      THEN INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM 'b' [RentalCase]*'a' [Person]

      (TO MAINTAIN -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysH
(MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~ /
NEW x:Person;
      INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM ((rcKeysHandedOverQ;'Yes' [YesNo];(rcKeysHandedOverQ
      (TO MAINTAIN -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ
      (MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~ /
      (MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~ /\ I[Ren
(MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]
(MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]
(MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]
(MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]
(MAINTAINING -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;

```

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

```

ALL of INSERT INTO Isn{detyp=Person}
      SELECTFROM (rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];(rcKeysHandedOverQ /\ De

```

```

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;rc
(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;rc
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
  SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];(rcKeysHandedOverQ /\ Delta)~ /\ r

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedC
INSERT INTO Isn{dety=RentatCase}
  SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

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'[YesNo];rcKeysHanded
  PICK a,b FROM rcDriver~;((rcKeysHandedOverQ;'Yes'[YesNo];(rcKeys
  THEN INSERT INTO rcDriver[RentalCase*Person]
    SELECTFROM 'b'[RentalCase]*'a'[Person]

    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHanded
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[R
NEW x:Person;
  INSERT INTO rcDriver[RentalCase*Person]
    SELECTFROM ((rcKeysHandedOverQ;'Yes'[YesNo];(rcKeysHandedOverQ /\ De

    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\
    (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[R
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCa
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'[YesNo];rcKeysHanded
  PICK a,b FROM rcRenter~;((rcKeysHandedOverQ;'Yes'[YesNo];(rcKeys
  THEN INSERT INTO rcRenter[RentalCase*Person]
    SELECTFROM 'b'[RentalCase]*'a'[Person]

    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHanded
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[R
NEW x:Person;
  INSERT INTO rcRenter[RentalCase*Person]
    SELECTFROM ((rcKeysHandedOverQ;'Yes'[YesNo];(rcKeysHandedOverQ /\ De

    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\
    (MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[R
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCa
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]) /\
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]) /\

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(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]) /\
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]) /\
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;rcIss

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<-----End Derivation --

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ON INSERT Delta IN rcIssuedCar[RentalCase*Car] EXECUTE -- (ECA rule 37)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcIssuedCar /\ -(contractedCarType
    THEN INSERT INTO contractedCarType[RentalCase*CarType]
        SELECTFROM 'a'[RentalCase]*'b'[CarType]

        (TO MAINTAIN -rcIssuedCar /\ contractedCarType;carType~ FROM
        PICK a,b FROM contractedCarType~;((rcIssuedCar /\ -(contractedCarType
        THEN INSERT INTO carType[Car*CarType]
            SELECTFROM 'b'[Car]*'a'[CarType]

            (TO MAINTAIN -rcIssuedCar /\ contractedCarType;carType~ FROM
(MAINAINING -rcIssuedCar /\ contractedCarType;carType~ FROM Rented car t
NEW x:CarType;
    ALL of INSERT INTO contractedCarType[RentalCase*CarType]
        SELECTFROM ((rcIssuedCar /\ -(contractedCarType;carType~)) /\ (
        (TO MAINTAIN -rcIssuedCar /\ contractedCarType;carType~ FROM Re
        INSERT INTO carType[Car*CarType]
            SELECTFROM ((rcIssuedCar~ /\ -(carType;contractedCarType~)) /\

            (TO MAINTAIN -rcIssuedCar /\ contractedCarType;carType~ FROM Re
            (MAINAINING -rcIssuedCar /\ contractedCarType;carType~ FROM Rented car
(MAINAINING -rcIssuedCar /\ contractedCarType;carType~ FROM Rented car t
INSERT INTO carType[Car*CarType]
    SELECTFROM (rcIssuedCar~;contractedCarType /\ -carType) /\ (Delta~;contr

(TO MAINTAIN -(contractedCarType~;rcIssuedCar) /\ carType~ FROM Rented c
INSERT INTO Isn{dety=CarType}
    SELECTFROM (contractedCarType~;rcIssuedCar;carType /\ -I[CarType]) /\ (c

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

(TO MAINTAIN -(rcIssuedCar;carType) /\ contractedCarType FROM Rented car
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
    SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssue

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIss
INSERT INTO Isn{dety=Car}
    SELECTFROM (rcIssuedCar /\ Delta~;rcDroppedOffCar /\ -I[Car]

```

```

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

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

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

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

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

(TO MAINTAIN -(rcIssuedCar;rcIssue
PICK a,b FROM rentalPeriod~;('a'[RentalC
THEN INSERT INTO ctcNrOfDays[CompTariffedCharge]
SELECTFROM 'b'[CompTariffedCharge]

(TO MAINTAIN -(rcIssuedCar;rcIssue
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rent
NEW x:Integer;
ALL of INSERT INTO rentalPeriod[RentalCase*Amount]
SELECTFROM 'a'[RentalCase]*'b'[CompTariffedCharge]

(TO MAINTAIN -(rcIssuedCar;rcIssue
INSERT INTO ctcNrOfDays[CompTariffedCharge]
SELECTFROM 'b'[CompTariffedCharge]*'a'

(TO MAINTAIN -(rcIssuedCar;rcIssue
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rent
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rent
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
THEN INSERT INTO rcIssuedCar[RentalCase*Amount]
SELECTFROM 'a'[RentalCase]*'b'[Car

(TO MAINTAIN -(rcIssuedCar;rcIssue
PICK a,b FROM rcIssuedCar~;('a'[RentalC
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
THEN INSERT INTO carType[CarType]
SELECTFROM 'a'[

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PICK a,b FROM carType
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NEW x:CarType;
ALL of INSERT INTO carType
SELECTFROM 'a'[Car

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(TO MAINTAIN -(rcI
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(MAINAINING -(rcIssuedCar;rcIssued
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rent
NEW x:Car;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car
SELECTFROM 'a'[RentalCase]*'b'[CompTa

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

(TO MAINTAIN -(rcI
PICK a,b FROM carType~;(
THEN ONE OF ONE NONEMPTY
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(MAINAINING -(rcIssuedCar;rcIs
NEW x:CarType;
ALL of INSERT INTO carType[Ca
SELECTFROM 'x'[Car]*'

(TO MAINTAIN -(rcIssu
ONE OF ONE NONEMPTY AL

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NEW x:Amount;
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(MAINTAINING -(rcIssuedCar;rcIssuedCar
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rent
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rental
PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalT
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger :
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
SELECTFROM (rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se

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

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

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

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

```

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SELECTFROM ((rcIssuedCar \/ Delta)~;rcIssuedCar /\ -I[Car]) \/ ((rcIssue

(TO MAINTAIN  -(rcIssuedCar~;rcIssuedCar) \/ I[Car] FROM UNI rcIssuedCar:
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 -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type int
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type int
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type int
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type int
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type int
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;
(MAINTAINING -rcDroppedOffCar \/ rcIssuedCar FROM Dropped-off car type integrity
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPeri
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPeri
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Renta
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessioni
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessioni
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessioni
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessioni
(MAINTAINING -(rcIssuedCar~;rcIssuedCar) \/ I[Car] FROM UNI rcIssuedCar::RentalC

```

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

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ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcIssuedCar /\ -(contractedCarType
THEN INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM 'a'[RentalCase]*'b'[CarType]

(TO MAINTAIN  -rcIssuedCar \/ contractedCarType;carType~ FROM Rent
PICK a,b FROM contractedCarType~;((rcIssuedCar /\ -(contractedCarType;c
THEN INSERT INTO carType[Car*CarType]
SELECTFROM 'b'[Car]*'a'[CarType]

(TO MAINTAIN  -rcIssuedCar \/ contractedCarType;carType~ FROM Rent
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type i
NEW x:CarType;
ALL of INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM ((rcIssuedCar /\ -(contractedCarType;carType~)) \/ (Delta

(TO MAINTAIN  -rcIssuedCar \/ contractedCarType;carType~ FROM Rented
INSERT INTO carType[Car*CarType]
SELECTFROM ((rcIssuedCar~ /\ -(carType;contractedCarType~)) \/ (Delt

```



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      (TO MAINTAIN  -rcIssuedCar \/ contractedCarType;carType~ FROM Rented
      (MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type i
INSERT INTO carType[Car*CarType]
      SELECTFROM (rcIssuedCar~;contractedCarType /\ -carType) \/ (Delta~;contracted

(TO MAINTAIN  -(contractedCarType~;rcIssuedCar) \/ carType~ FROM Rented car ty
INSERT INTO Isn{dety=CarType}
      SELECTFROM (contractedCarType~;rcIssuedCar;carType /\ -I[CarType]) \/ (contra

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

(TO MAINTAIN  -(rcIssuedCar;carType) \/ contractedCarType FROM Rented car type
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
      SELECTFROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedC
INSERT INTO Isn{dety=Car}
      SELECTFROM (rcIssuedCar \/ Delta)~;rcDroppedOffCar /\ -I[Car]

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

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

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

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

(TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcIss
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcIssuedCar;(rcIssuedCar \/ Delta)
      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  -(rcIssuedCar;rcIssuedCar~
      PICK a,b FROM rentalPeriod~;('a'[RentalCase]*
      THEN INSERT INTO ctcNrOfDays[CompTariffedChar
      SELECTFROM 'b'[CompTariffedCharge]*'a'[

      (TO MAINTAIN  -(rcIssuedCar;rcIssuedCar~

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(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPer
NEW x:Integer;
  ALL of INSERT INTO rentalPeriod[RentalCase*Integer
    SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\
    INSERT INTO ctcNrOfDays[CompTariffedCharge*
    SELECTFROM 'b'[CompTariffedCharge]*'a'[Ren

    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\
    (MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalP
    (MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPer
    (MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;ren
    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
    THEN INSERT INTO rcIssuedCar[RentalCase*Car]
    SELECTFROM 'a'[RentalCase]*'b'[Car]

    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~
    PICK a,b FROM rcIssuedCar~;('a'[RentalCase]*'
    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
    THEN INSERT INTO carType[C
    SELECTFROM 'a'[Car]*

    (TO MAINTAIN -(rcIss
    PICK a,b FROM carType~;('a
    THEN ONE OF ONE NONEMPTY A
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    (MAINTAINING -(rcIssu
    (MAINTAINING -(rcIssuedCar;rcIssu
    NEW x:CarType;

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ALL of INSERT INTO carType[Car*
      SELECTFROM 'a'[Car]*'b'

      (TO MAINTAIN -(rcIssued
ONE OF ONE NONEMPTY ALTE
      THEN INSE
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PICK a,b F
THEN INSE
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NEW x:Amount;
      ALL of INSERT I
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      (MAINTAINING -(rcIssuedCar;rcIssuedCar~
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPer
NEW x:Car;
      ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
      SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

      (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
      THEN INSERT INTO carType[Car*
      SELECTFROM 'a'[Car]*'b'

      (TO MAINTAIN -(rcIssued
PICK a,b FROM carType~;'x'[C
      THEN ONE OF ONE NONEMPTY ALTE
      THEN INSE
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PICK a,b F
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                                (MAINTAINING -(rc
                                NEW x:Amount;
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                                (MAINTAINING -(rcIssuedCar;rcIssuedC
                                NEW x:CarType;
                                ALL of INSERT INTO carType[Car*Car
                                SELECTFROM 'x'[Car]*'a'[Re

                                (TO MAINTAIN -(rcIssuedCar
                                ONE OF ONE NONEMPTY ALTERNA
                                THEN INSERT I
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                                NEW x:Amount;
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                                (MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;ren

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        (MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeri
PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTariff
THEN BLOCK
        (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger regul
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Ren
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
        SELECTFROM (rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sess
INSERT INTO Isn{detyp=Branch}
        SELECTFROM (rcDroppedOffBranch~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAv
(TO MAINTAIN -(rcDroppedOffBranch~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carA
INSERT INTO rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sess
INSERT INTO Isn{detyp=Date}
        SELECTFROM (rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvai
(TO MAINTAIN -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carA
INSERT INTO Isn{detyp=Car}
        SELECTFROM ((rcIssuedCar \/ Delta)~;rcIssuedCar /\ -I[Car]) \/ ((rcIssuedCar
(TO MAINTAIN -(rcIssuedCar~;rcIssuedCar) \/ I[Car] FROM UNI rcIssuedCar::Rent
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 -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;rcIss
(MAINTAINING -rcDroppedOffCar \/ rcIssuedCar FROM Dropped-off car type integrity)
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[RentalCase
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcIssuedCar~;rcIssuedCar) \/ I[Car] FROM UNI rcIssuedCar::RentalCase*C

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<-----End Derivation --

```

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

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

      (TO MAINTAIN  -rcDroppedOffCar \/ rcIssuedCar FROM Dropped-off car type is
ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
      SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ (rcIssuedCar /\ -Delta

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

      (TO MAINTAIN  -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPer
DELETE FROM rentalPeriod[RentalCase*Integer]
      SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ (rcIssuedCar /\ -Delta

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

      (TO MAINTAIN  -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPer
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ (rcIssuedCar /\ -Delta

      (TO MAINTAIN  -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPer
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\
ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
      SELECTFROM (-((rentalExcessPeriod;ctcNrOfDays~ /\ (rcIssuedCar /\

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

      (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[Rental
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM -((rentalExcessPeriod;ctcNrOfDays~ /\ (rcIssuedCar /\

      (TO MAINTAIN  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[Rental
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \
DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;(I[Car] /\ (rcIssue

      (TO MAINTAIN  -('_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturned
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ se

```

```

      (TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION]; sessionRet
      DELETE FROM sessionReturnedCar [SESSION*Car]
      SELECTFROM  '_SESSION' [SESSION]; sessionReturnedCar; ((-I[Car] /\ se

      (TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION]; sessionRet
      (MAINTAINING  -(sessionReturnedCar~; '_SESSION' [SESSION]; sessionReturnedCar
      ONE OF DELETE FROM sessionReturnedCar [SESSION*Car]
      SELECTFROM  '_SESSION' [SESSION]; (- (sessionReturnedCar; rcIssuedCar

      (TO MAINTAIN  -(' _SESSION' [SESSION]; sessionReturnedCar; I[Car] /\
      DELETE FROM Isn{dety p=Car}
      SELECTFROM  sessionReturnedCar~; '_SESSION' [SESSION]; (- (sessionRetu

      (TO MAINTAIN  -(' _SESSION' [SESSION]; sessionReturnedCar; I[Car] /\
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~; '_SE
      THEN INSERT INTO carAvailableAt [Car*Branch]
      SELECTFROM  'a' [Car]*'b' [Branch]

      (TO MAINTAIN  -(' _SESSION' [SESSION]; sessionReturnedCar
      PICK a,b FROM carAvailableAt~; sessionReturnedCar~; '_SESSION
      THEN INSERT INTO carAvailableAt [Car*Branch]
      SELECTFROM  'b' [Car]*'a' [Branch]

      (TO MAINTAIN  -(' _SESSION' [SESSION]; sessionReturnedCar
      (MAINTAINING  -(' _SESSION' [SESSION]; sessionReturnedCar; I[Car] /\ -
      NEW x:Branch;
      INSERT INTO carAvailableAt [Car*Branch]
      SELECTFROM  (sessionReturnedCar~; '_SESSION' [SESSION]; (- (sessionR

      (TO MAINTAIN  -(' _SESSION' [SESSION]; sessionReturnedCar; I[Car] /\
      (MAINTAINING  -(' _SESSION' [SESSION]; sessionReturnedCar; I[Car] /\ -
      (MAINTAINING  -(' _SESSION' [SESSION]; sessionReturnedCar; I[Car] /\ -(carAva
      ONE OF DELETE FROM sessionReturnedCar [SESSION*Car]
      SELECTFROM  '_SESSION' [SESSION]; sessionReturnedCar; I[Car] /\ -(car

      (TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION]; sessionRet
      DELETE FROM sessionReturnedCar [SESSION*Car]
      SELECTFROM  '_SESSION' [SESSION]; sessionReturnedCar; (- ((rcIssuedCar

      (TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION]; sessionRet
      DELETE FROM Isn{dety p=Car}
      SELECTFROM  sessionReturnedCar~; '_SESSION' [SESSION]; sessionReturne

      (TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION]; sessionRet
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~; '_SE
      THEN INSERT INTO carAvailableAt [Car*Branch]
      SELECTFROM  'a' [Car]*'b' [Branch]

      (TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION];

```

```

PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION
THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'b'[Car]*'a'[Branch]

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION]
(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRetu
NEW x:Branch;
      INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];sessionRetu

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionR
      (MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRetu
      (MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar
(MAINAINING -I[Car] \\/ carAvailableAt;carAvailableAt~ \\/ rcIssuedCar~;(rentalHa
(MAINAINING -rcDroppedOffCar \\/ rcIssuedCar FROM Dropped-off car type integrity
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Renta
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \\/ (rent
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar) \\/ sessionReturnedCar;(I[
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar) \\/ sessionReturnedCar;(I[
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA

```

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

```

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

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

      (TO MAINTAIN -rcDroppedOffCar \\/ rcIssuedCar FROM Dropped-off car type integr
ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
      SELECTFROM (-((rentalPeriod;ctcNrOfDays~ /\ (rcIssuedCar /\ -Delta);ca

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

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

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

      (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~

```



```

DELETE FROM Isn{detypr=RentalCase}
SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ (rcIssuedCar /\ -Delta);car

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Ren
ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
SELECTFROM -((rentalExcessPeriod;ctcNrOfDays~ /\ (rcIssuedCar /\ -Del

(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{detypr=RentalCase}
SELECTFROM -((rentalExcessPeriod;ctcNrOfDays~ /\ (rcIssuedCar /\ -Delt

(TO MAINTAIN -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/(re
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;(I[Car] /\ (rcIssuedCar

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar) \/(sessionReturnedCar;
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ session

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ session

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar) \/(
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;(rcIssuedCar /\ -

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(car
DELETE FROM Isn{detypr=Car}
SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionReturnedC

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(car
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SESSION'
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'a'[Car]*'b'[Branch]

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[C
PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION'[SES
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'b'[Car]*'a'[Branch]

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[C
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carA

```

```

NEW x:Branch;
  INSERT INTO carAvailableAt[Car*Branch]
    SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionReturn

      (TO MAINTAIN -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(c
      (MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carA
      (MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailabl
      ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
        SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvai

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
      DELETE FROM sessionReturnedCar[SESSION*Car]
        SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(-(rcIssuedCar /\ -

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
      DELETE FROM Isn{dety=Car}
        SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar;

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SESSION'
        THEN INSERT INTO carAvailableAt[Car*Branch]
          SELECTFROM 'a'[Car]*'b'[Branch]

          (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];ses
          PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION'[SES
          THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'b'[Car]*'a'[Branch]

          (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];ses
      (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedC
      NEW x:Branch;
        INSERT INTO carAvailableAt[Car*Branch]
          SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedC

          (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturn
          (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedC
          (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar;(I[C
      (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(rentalHasBeen
      (MAINTAINING -rcDroppedOffCar \/ rcIssuedCar FROM Dropped-off car type integrity)
      (MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[RentalCase
      (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExc
      (MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturnedCar;(I[Car]
      (MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturnedCar;(I[Car]
      (MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car
      (MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car

```

<-----End Derivation --

```

ON INSERT Delta IN rentalHasBeenStarted[RentalCase*RentalCase] EXECUTE    -- (EC
ALL of INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
      SELECTFROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranc

      (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBr
INSERT INTO Isn{detyp=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase] \/ (Delta~;De

(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;r

```

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

```

ALL of INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
      SELECTFROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;r

      (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranc
INSERT INTO Isn{detyp=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase] \/ (Delta~;Delta /

(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;rcDrop

```

<-----End Derivation --

```

ON DELETE Delta FROM rentalHasBeenStarted[RentalCase*RentalCase] EXECUTE    -- (
ALL of DELETE FROM Isn{detyp=Car}
      SELECTFROM -(carAvailableAt;carAvailableAt~) /\ -(rcIssuedCar~;(rentalHa

      (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(
ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
      SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[Yes

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
      SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[Ye

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM rcIssuedCar[RentalCase*Car]
      SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[Yes

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM rcIssuedCar[RentalCase*Car]
      SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[Ye

      (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[Yes

```

```

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM contractedPickupBranch[RentalCase*Branch]
SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM contractedPickupBranch[RentalCase*Branch]
SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[Yes

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
DELETE FROM Isn{dety=RentalCase}
SELECTFROM (-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesN

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIss
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];(-<sessionReturnedCar;(I[Car] /\ rcIssued

(TO MAINTAIN  -('_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturned
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ se

(TO MAINTAIN  -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet

```

```

DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ se

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;rcIssuedCar~

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\
DELETE FROM Isn{dety=Car}
SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionRetu

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SE
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'a'[Car]*'b'[Branch]

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar
PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'b'[Car]*'a'[Branch]

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -
NEW x:Branch;
INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionR

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAva
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(car

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(-(rcIssuedCar~

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet
DELETE FROM Isn{dety=Car}
SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];sessionReturne

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SE
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'a'[Car]*'b'[Branch]

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION
PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION
THEN INSERT INTO carAvailableAt[Car*Branch]

```

```

SELECTFROM 'b' [Car]*'a' [Branch]

      (TO MAINTAIN  -(sessionReturnedCar~;'_SESSION' [SESSION]
(MAINTEINING  -(sessionReturnedCar~;'_SESSION' [SESSION];sessionRetu
NEW x:Branch;
      INSERT INTO  carAvailableAt [Car*Branch]
      SELECTFROM  (sessionReturnedCar~;'_SESSION' [SESSION];sessionRetu

      (TO MAINTAIN  -(sessionReturnedCar~;'_SESSION' [SESSION];sessionR
      (MAINTAINING  -(sessionReturnedCar~;'_SESSION' [SESSION];sessionRetu
      (MAINTAINING  -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar
(MAINTEINING  -I[Car]  \ /  carAvailableAt;carAvailableAt~  \ /  rcIssuedCar~;(rentalHa
(MAINTEINING  -(rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~  /\  rcIssuedCar;
(MAINTEINING  -(('_SESSION' [SESSION];sessionReturnedCar)  \ /  sessionReturnedCar;(I[
(MAINTEINING  -(('_SESSION' [SESSION];sessionReturnedCar)  \ /  sessionReturnedCar;(I[
(MAINTEINING  -(('_SESSION' [SESSION];sessionReturnedCar;(I[Car]  /\  -(carAvailableA
(MAINTEINING  -(('_SESSION' [SESSION];sessionReturnedCar;(I[Car]  /\  -(carAvailableA

```

```

ALL of DELETE FROM In{dety=C}
SELECTFROM -(carAvailableAt;carAvailableAt~) /\ -(rcIssuedCar~;(rentalHasBeen

(TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(renta
ONE OF DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNo];r

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[YesNo];

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNo];r

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[YesNo];

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNo];r

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[YesNo];

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc

```

```

DELETE FROM contractedPickupBranch[RentalCase*Branch]
SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNo];r

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM contractedPickupBranch[RentalCase*Branch]
SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[YesNo];

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNo];r

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[YesNo];

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNo];r

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[YesNo];

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM ((-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNo];r

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM ((-rentalHasBeenStarted~ /\ rcKeysHandedOverQ;'Yes'[YesNo];

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
DELETE FROM Isn{dety=RentalCase}
SELECTFROM (-rentalHasBeenStarted /\ rcKeysHandedOverQ;'Yes'[YesNo];rc

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rc
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCa
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;(I[Car] /\ rcIssuedCar~;

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturnedCar;
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ session

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ session

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar) \/

```

```

ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;rcIssuedCar~;(ren

(TO MAINTAIN -(('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(car
DELETE FROM Isn{dety=Car}
      SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionReturnedC

(TO MAINTAIN -(('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(car
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SESSION'
      THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'a'[Car]*'b'[Branch]

            (TO MAINTAIN -(('_SESSION'[SESSION];sessionReturnedCar;(I[C
PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION'[SES
      THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'b'[Car]*'a'[Branch]

            (TO MAINTAIN -(('_SESSION'[SESSION];sessionReturnedCar;(I[C
(MAINTAINING -(('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carA
NEW x:Branch;
      INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionReturn

      (TO MAINTAIN -(('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(c
      (MAINTAINING -(('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carA
(MAINTAINING -(('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailabl
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvai

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(-(rcIssuedCar~;(ren

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
DELETE FROM Isn{dety=Car}
      SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar;

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SESSION'
      THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'a'[Car]*'b'[Branch]

            (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];ses
PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION'[SES
      THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'b'[Car]*'a'[Branch]

            (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];ses
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedC
NEW x:Branch;

```



```

INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedC

      (TO MAINTAIN  -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturn
      (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedC
      (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar;(I[C
(MAINTAINING -I[Car] \ / carAvailableAt;carAvailableAt~ \ / rcIssuedCar~;(rentalHasBeen
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ \ / rcIssuedCar;rcIss
(MAINTAINING -(('_SESSION'[SESSION];sessionReturnedCar) \ / sessionReturnedCar;(I[Car]
(MAINTAINING -(('_SESSION'[SESSION];sessionReturnedCar) \ / sessionReturnedCar;(I[Car]
(MAINTAINING -(('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car
(MAINTAINING -(('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car

```

<-----End Derivation --

```

ON INSERT Delta IN rcDroppedOffCar[RentalCase*Car] EXECUTE      -- (ECA rule 41)
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
      SELECTFROM (rcDroppedOffCar /\ -rcIssuedCar) \ / (Delta /\ -rcIssuedCar)

      (TO MAINTAIN  -rcDroppedOffCar \ / rcIssuedCar FROM Dropped-off car type i
      INSERT INTO Isn{dety=Car}
      SELECTFROM (rcIssuedCar~;rcDroppedOffCar /\ -I[Car]) \ / (rcIssuedCar~;De

      (TO MAINTAIN  -(rcIssuedCar~;rcDroppedOffCar) \ / I[Car] FROM Dropped-off
      (TO MAINTAIN  -(rcDroppedOffCar~;rcDroppedOffCar) \ / I[Car] FROM UNI rcDr
      INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
      SELECTFROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBra

      (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOff
      INSERT INTO Isn{dety=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

      (MAINTAINING -rcDroppedOffCar \ / rcIssuedCar FROM Dropped-off car type integrity
      (MAINTAINING -rcDroppedOffCar \ / rcIssuedCar FROM Dropped-off car type integrity
      (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;r
      (MAINTAINING -(rcDroppedOffCar~;rcDroppedOffCar) \ / I[Car] FROM UNI rcDroppedOff

```

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

```

ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
      SELECTFROM (rcDroppedOffCar /\ -rcIssuedCar) \ / (Delta /\ -rcIssuedCar)

      (TO MAINTAIN  -rcDroppedOffCar \ / rcIssuedCar FROM Dropped-off car type integr
      INSERT INTO Isn{dety=Car}
      SELECTFROM (rcIssuedCar~;rcDroppedOffCar /\ -I[Car]) \ / (rcIssuedCar~;Delta /

      (TO MAINTAIN  -(rcIssuedCar~;rcDroppedOffCar) \ / I[Car] FROM Dropped-off car t

```

```

      (TO MAINTAIN  -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDropped
      INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
      SELECTFROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;r

      (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch
      INSERT INTO Isn{dety=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

      (MAINTAINING -rcDroppedOffCar \/ rcIssuedCar FROM Dropped-off car type integrity)
      (MAINTAINING -rcDroppedOffCar \/ rcIssuedCar FROM Dropped-off car type integrity)
      (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;rcDrop
      (MAINTAINING -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDroppedOffCar::

<-----End Derivation --

```

```

ON INSERT Delta IN rcDroppedOffDate[RentalCase*Date] EXECUTE      -- (ECA rule 43)
ALL of INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
      SELECTFROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch

      (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffDate;
      INSERT INTO rentalPeriod[RentalCase*Integer]
      SELECTFROM ((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~

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

      (TO MAINTAIN  -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;
      (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedStartDate;
      INSERT INTO rentalExcessPeriod[RentalCase*Integer]
      SELECTFROM ((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~)

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

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

      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 contractedStartDate[RentalCase*Integer]
      SELECTFROM 'a'[RentalCase]*'b'[Date]

      (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate)
      PICK a,b FROM contractedStartDate~;'a'[Date]

```

```

THEN INSERT INTO earliestDate[CompNrDays]
SELECTFROM 'b'[CompNrDays]*'a'[Date]

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

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
INSERT INTO earliestDate[CompNrDays*Date]
SELECTFROM 'b'[CompNrDays]*'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'[Date]
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[CompNrDays*Date]
SELECTFROM 'b'[CompNrDays]*'a'[Date]

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

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
INSERT INTO latestDate[CompNrDays*Date]
SELECTFROM 'b'[CompNrDays]*'a'[RentalCase]

(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[CompNrDays*RentalCase] FROM Trigger rental p
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDroppedOffDate;rcDroppedOff
THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Date]
THEN INSERT INTO contractedEndDate[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[Date]

```

```

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

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

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~;('a'[RentalCase]
INSERT INTO firstDate[CompNrExcessDays]*'a'[RentalCase]
        SELECTFROM 'b'[CompNrExcessDays]*'a'[RentalCase]

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

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

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

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~;('a'[RentalCase]
INSERT INTO lastDate[CompNrExcessDays]*'a'[RentalCase]
        SELECTFROM 'b'[CompNrExcessDays]*'a'[RentalCase]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~;('a'[RentalCase]
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~;('a'[RentalCase]
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~;('a'[RentalCase]
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ c
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contract
PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedOffDate~
THEN BLOCK
        (CANNOT CHANGE V[CompNrExcessDays*RentalCase] FROM Trigger ex
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;co
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;r
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate

```

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(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
(MAINAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINAINING -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI rcDropped

```

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

```

ALL of INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
    SELECTFROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;r

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch
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
(TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
INSERT INTO rentalExcessPeriod[RentalCase*Integer]
    SELECTFROM ((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp

(TO MAINTAIN -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);c
INSERT INTO Isn{detyp=Date}
    SELECTFROM ((rcDroppedOffDate \/ Delta)~;rcIssuedCar;(I[Car] /\ -(carAvailabl

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

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[CompNrDays*Date
            SELECTFROM 'b'[CompNrDays]*'a'[Date]

            (TO MAINTAIN -(rcDroppedOffDate;rcDropp
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
NEW x:Date;
    ALL of INSERT INTO contractedStartDate[RentalCase*

```

```

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

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

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

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

(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[CompNrDays*RentalCase] FROM Trigger rental period
(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*Date]
SELECTFROM 'a' [RentalCase]*'b' [Date]

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

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\

```

```

NEW x:Date;
ALL of INSERT INTO contractedEndDate[RentalCase*Da
SELECTFROM 'a' [RentalCase]*'b' [CompNrExces

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

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

(TO MAINTAIN -(rcDroppedOffDate;rcDropp
PICK a,b FROM rcDroppedOffDate~;'a' [RentalCa
THEN INSERT INTO lastDate[CompNrExcessDays*Da
SELECTFROM 'b' [CompNrExcessDays]*'a' [Da

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

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

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedO
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedOffDat
THEN BLOCK
(CANNOT CHANGE V[CompNrExcessDays*RentalCase] FROM Trigger excess
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINTAINING -(rentalIsPaidQ;'Yes' [YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;rcDroppedOffDate;rcDroppedOffDate~ /\
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -(rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINTAINING -(rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI rcDroppedOffDa

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<-----End Derivation --

```

ON DELETE Delta FROM rcDroppedOffDate[RentalCase*Date] EXECUTE    -- (ECA rule 4
ALL of ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
    SELECTFROM (-((contractedStartDate;earliestDate~ /\ (rcDroppedOffDate

    (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
DELETE FROM rcDroppedOffDate[RentalCase*Date]
    SELECTFROM -(V[RentalCase*CompNrDays];(earliestDate;contractedSt

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

    (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
DELETE FROM contractedStartDate[RentalCase*Date]
    SELECTFROM -(V[RentalCase*CompNrDays];(earliestDate;contractedSt

    (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedSt
DELETE FROM Isn{dety=RentalCase}
    SELECTFROM -((contractedStartDate;earliestDate~ /\ (rcDroppedOffDate

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

    (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
DELETE FROM rcDroppedOffDate[RentalCase*Date]
    SELECTFROM -(V[RentalCase*CompNrExcessDays];(firstDate;contracte

    (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
DELETE FROM contractedEndDate[RentalCase*Date]
    SELECTFROM (-((contractedEndDate;firstDate~ /\ (rcDroppedOffDate

    (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
DELETE FROM contractedEndDate[RentalCase*Date]
    SELECTFROM -(V[RentalCase*CompNrExcessDays];(firstDate;contracte

    (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
DELETE FROM Isn{dety=RentalCase}
    SELECTFROM -((contractedEndDate;firstDate~ /\ (rcDroppedOffDate /

    (TO MAINTAIN  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;co
ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
    SELECTFROM ((-rcDroppedOffDate /\ rcIssuedCar;(I[Car] /\ -(carAva

    (TO MAINTAIN  -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailab

```



```

DELETE FROM Isn{dety=Car}
SELECTFROM rcIssuedCar~;((-rcDroppedOffDate /\ rcIssuedCar;(I[Car]

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailab
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcIssuedCar~;((-rcDropped
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'a'[Car]*'b'[Branch]

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailab
PICK a,b FROM carAvailableAt~;rcIssuedCar~;((-rcDroppedOffDate /\
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'b'[Car]*'a'[Branch]

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailab
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailab
NEW x:Branch;
INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM (rcIssuedCar~;((-rcDroppedOffDate /\ rcIssuedCar;(I[C

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailab
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailab
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM sessionToday;((-rcDroppedOffDate~ /\ sessionToday~;ses

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailab
DELETE FROM sessionToday[SESSION*Date]
SELECTFROM sessionReturnedCar;(I[Car] /\ -(carAvailableAt;carAvailab

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailab
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session

```

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

```

ALL of ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM (-((contractedStartDate;earliestDate~ /\ (rcDroppedOffDate

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*CompNrDays];(earliestDate;contractedStartDa

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

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDa

```

```

DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*CompNrDays];(earliestDate;contractedStartDate

(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*CompNrExcessDays];(firstDate;contractedEndD

(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*CompNrExcessDays];(firstDate;contractedEndD

(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 rcIssuedCar[RentalCase*Car]
SELECTFROM ((-rcDroppedOffDate /\ rcIssuedCar;(I[Car] /\ -(carAvailabl

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
DELETE FROM Isn{dety=Car}
SELECTFROM rcIssuedCar~;((-rcDroppedOffDate /\ rcIssuedCar;(I[Car] /\

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcIssuedCar~;((-rcDroppedOffD
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'a'[Car]*'b'[Branch]

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;car
PICK a,b FROM carAvailableAt~;rcIssuedCar~;((-rcDroppedOffDate /\
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'b'[Car]*'a'[Branch]

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;car
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)
NEW x:Branch;

```

```

INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM (rcIssuedCar~;(-rcDroppedOffDate /\ rcIssuedCar;(I[Car]/

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM sessionToday;((-rcDroppedOffDate~ /\ sessionToday~;sessionR

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
DELETE FROM sessionToday[SESSION*Date]
SELECTFROM sessionReturnedCar;(I[Car] /\ -(carAvailableAt;carAvailable

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur

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<-----End Derivation --

```

ON INSERT Delta IN rcDroppedOffBranch[RentalCase*Branch] EXECUTE -- (ECA rule
ALL of INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
SELECTFROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBra

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOfff
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=Branch}
SELECTFROM ((rcDroppedOffBranch /\ Delta)~;rcIssuedCar;(I[Car] /\ -(carA

(TO MAINTAIN -(rcDroppedOffBranch~;rcIssuedCar;(I[Car] /\ -(carAvailable.
(TO MAINTAIN -(rcDroppedOffBranch~;rcDroppedOffBranch) /\ I[Branch] FROM
INSERT INTO Isn{dety=RentalCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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~;((rcDroppedOffBr
THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetw

```

```

SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

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

(TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contrac
INSERT INTO computedLocationPenaltyCharge[DistanceBetween
SELECTFROM ((distbranch;rcDroppedOffBranch~ /\ distbranch

(TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contrac
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropo
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoff
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;r
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINTAINING -(rcDroppedOffBranch~;rcDroppedOffBranch) \/ I[Branch] FROM UNI rcD

```

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

```

ALL of INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
SELECTFROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;(

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch
INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
SELECTFROM ((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr

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

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

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

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[DistanceBetweenLoco
        SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

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

        (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDr
INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocat
        SELECTFROM ((distbranch;rcDroppedOffBranch~ /\ distbranch;con

        (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDr
        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBra
        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distb
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;rcDrop
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcDroppedOffBranch~;rcDroppedOffBranch) \/ I[Branch] FROM UNI rcDrope

```

<-----End Derivation --

```

ON DELETE Delta FROM rcDroppedOffBranch[RentalCase*Branch] EXECUTE      -- (ECA ru
ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
        SELECTFROM ((-rcDroppedOffBranch /\ rcIssuedCar;(I[Car] /\ -(carAvailableAt;

        (TO MAINTAIN  -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~))
DELETE FROM Isn{dety=Car}
        SELECTFROM rcIssuedCar~;((-rcDroppedOffBranch /\ rcIssuedCar;(I[Car] /\

        (TO MAINTAIN  -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~))
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcIssuedCar~;((-rcDroppedOffBranch
        THEN INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM 'a'[Car]*'b'[Branch]

        (TO MAINTAIN  -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAv
PICK a,b FROM carAvailableAt~;rcIssuedCar~;((-rcDroppedOffBranch /\
        THEN INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM 'b'[Car]*'a'[Branch]

        (TO MAINTAIN  -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAv

```

```

(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));
NEW x:Branch;
    INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM (rcIssuedCar~;(-rcDroppedOffBranch /\ rcIssuedCar;(I[Car] /\
        (TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));
DELETE FROM sessionReturnedCar[SESSION*Car]
    SELECTFROM sessionBranch;((-rcDroppedOffBranch~ /\ sessionBranch~;session
    (TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)
DELETE FROM sessionBranch[SESSION*Branch]
    SELECTFROM sessionReturnedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt
    (TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session

```

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

```

ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
    SELECTFROM ((-rcDroppedOffBranch /\ rcIssuedCar;(I[Car] /\ -(carAvailableAt;c

    (TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sess
DELETE FROM Isn{detyp=Car}
    SELECTFROM rcIssuedCar~;((-rcDroppedOffBranch /\ rcIssuedCar;(I[Car] /\ -(car

    (TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sess
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcIssuedCar~;((-rcDroppedOffBranch /\
    THEN INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM 'a'[Car]*'b'[Branch]

        (TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailab
PICK a,b FROM carAvailableAt~;rcIssuedCar~;((-rcDroppedOffBranch /\ rcI
    THEN INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM 'b'[Car]*'a'[Branch]

        (TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailab
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
NEW x:Branch;
    INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM (rcIssuedCar~;(-rcDroppedOffBranch /\ rcIssuedCar;(I[Car] /\ -(c

    (TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessi
DELETE FROM sessionReturnedCar[SESSION*Car]
    SELECTFROM sessionBranch;((-rcDroppedOffBranch~ /\ sessionBranch~;sessionRetu

    (TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sess

```

```

DELETE FROM sessionBranch[SESSION*Branch]
SELECTFROM sessionReturnedCar;I[Car] /\ -(carAvailableAt;carAvailableAt~));r

(TO MAINTAIN -(rcIssuedCar;I[Car] /\ -(carAvailableAt;carAvailableAt~));sess
(MAINTAINING -(rcIssuedCar;I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur

<-----End Derivation --

```

```

ON INSERT Delta IN rentalHasBeenEnded[RentalCase*RentalCase] EXECUTE -- (ECA :
INSERT INTO Isn{dety=RentaCase}
SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase] \/ (Delta~;Delta /\ I

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

```

```

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

<-----End Derivation --

```

```

ON DELETE Delta FROM rentalHasBeenEnded[RentalCase*RentalCase] EXECUTE -- (EC
ALL of DELETE FROM Isn{dety=Car}
SELECTFROM -(carAvailableAt;carAvailableAt~) /\ -(rcIssuedCar~;(rentalHas

(TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(
ONE OF DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
SELECTFROM ((-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNo];re

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDro
DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
SELECTFROM ((-rentalHasBeenEnded~ /\ rentalIsPaidQ;'Yes'[YesNo];r

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDro
DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
SELECTFROM ((-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNo];re

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDro
DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
SELECTFROM ((-rentalHasBeenEnded~ /\ rentalIsPaidQ;'Yes'[YesNo];r

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDro
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM ((-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNo];re

```

```

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDro
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM ((-rentalHasBeenEnded~ /\ rentalIsPaidQ;'Yes'[YesNo];r

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDro
DELETE FROM rcDroppedOffCar[RentalCase*Car]
SELECTFROM ((-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNo];re

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDro
DELETE FROM rcDroppedOffCar[RentalCase*Car]
SELECTFROM ((-rentalHasBeenEnded~ /\ rentalIsPaidQ;'Yes'[YesNo];r

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDro
DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
SELECTFROM (-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNo];ren

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDro
DELETE FROM Isn{detyP=RentalCase}
SELECTFROM (-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNo];ren

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDro
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffB
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;(I[Car] /\ rcIssued

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturned
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ se

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ se

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;rcIssuedCar~

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\
DELETE FROM Isn{detyP=Car}
SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionRetu

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SE
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'a'[Car]*'b'[Branch]

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar
PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION
THEN INSERT INTO carAvailableAt[Car*Branch]

```



```

SELECTFROM 'b'[Car]*'a'[Branch]

      (TO MAINTAIN -( '_SESSION'[SESSION];sessionReturnedCar
(MAINAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -
NEW x:Branch;
      INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionR

      (TO MAINTAIN -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\
      (MAINAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -
(MAINAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvai
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(car

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet
DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(-(rcIssuedCar~

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet
DELETE FROM Isn{dety=Car}
      SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];sessionReturne

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SE
      THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'a'[Car]*'b'[Branch]

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION]
PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION
      THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'b'[Car]*'a'[Branch]

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION]
(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRetu
NEW x:Branch;
      INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];sessionRetu

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionR
      (MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRetu
      (MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar
(MAINAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(rentalHa
(MAINAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;r
(MAINAINING -( '_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturnedCar;(I[
(MAINAINING -( '_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturnedCar;(I[
(MAINAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA
(MAINAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA

```

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

```

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

(TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(renta
ONE OF DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
      SELECTFROM ((-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNo];rentalI

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedO
DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
      SELECTFROM ((-rentalHasBeenEnded~ /\ rentalIsPaidQ;'Yes'[YesNo];rental

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedO
DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
      SELECTFROM ((-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNo];rentalI

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedO
DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
      SELECTFROM ((-rentalHasBeenEnded~ /\ rentalIsPaidQ;'Yes'[YesNo];rental

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedO
DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM ((-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNo];rentalI

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedO
DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM ((-rentalHasBeenEnded~ /\ rentalIsPaidQ;'Yes'[YesNo];rental

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedO
DELETE FROM rcDroppedOffCar[RentalCase*Car]
      SELECTFROM ((-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNo];rentalI

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedO
DELETE FROM rcDroppedOffCar[RentalCase*Car]
      SELECTFROM ((-rentalHasBeenEnded~ /\ rentalIsPaidQ;'Yes'[YesNo];rental

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedO
DELETE FROM rentalHasBeenStarted[RentalCase*RentalCase]
      SELECTFROM (-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNo];rentalIs

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedO
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM (-rentalHasBeenEnded /\ rentalIsPaidQ;'Yes'[YesNo];rentalIs

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedO
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch
DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;(I[Car] /\ rcIssuedCar~;

      (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturnedCar;

```

```

ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ session

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ session

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar) \/
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;rcIssuedCar~;(ren

      (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(car
DELETE FROM Isn{dety=Car}
      SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionReturnedC

      (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(car
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SESSION'
      THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'a'[Car]*'b'[Branch]

            (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[C
PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION'[SES
      THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'b'[Car]*'a'[Branch]

            (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[C
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carA
NEW x:Branch;
      INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionReturn

      (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(c
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carA
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailabl
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvai

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(-(rcIssuedCar~;(ren

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
DELETE FROM Isn{dety=Car}
      SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar;

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturned
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SESSION'
      THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'a'[Car]*'b'[Branch]

```

```

        (TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION]; ses
PICK a,b FROM carAvailableAt~;sessionReturnedCar~; '_SESSION' [SES
THEN INSERT INTO carAvailableAt [Car*Branch]
        SELECTFROM 'b' [Car]*'a' [Branch]

        (TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION]; ses
(MAINTAINING -(sessionReturnedCar~; '_SESSION' [SESSION]; sessionReturnedC
NEW x:Branch;
        INSERT INTO carAvailableAt [Car*Branch]
        SELECTFROM (sessionReturnedCar~; '_SESSION' [SESSION]; sessionReturnedC

        (TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION]; sessionReturn
        (MAINTAINING -(sessionReturnedCar~; '_SESSION' [SESSION]; sessionReturnedC
        (MAINTAINING -(sessionReturnedCar~; '_SESSION' [SESSION]; sessionReturnedCar; (I [C
(MAINTAINING -I [Car] \/ carAvailableAt; carAvailableAt~ \/ rcIssuedCar~; (rentalHasBeen
(MAINTAINING -(rentalIsPaidQ; 'Yes' [YesNo]; rentalIsPaidQ~ /\ rcDroppedOffBranch; rcDrop
(MAINTAINING -('_SESSION' [SESSION]; sessionReturnedCar) \/ sessionReturnedCar; (I [Car]
(MAINTAINING -('_SESSION' [SESSION]; sessionReturnedCar) \/ sessionReturnedCar; (I [Car]
(MAINTAINING -('_SESSION' [SESSION]; sessionReturnedCar; (I [Car] /\ -(carAvailableAt; car
(MAINTAINING -('_SESSION' [SESSION]; sessionReturnedCar; (I [Car] /\ -(carAvailableAt; car

```

<-----End Derivation --

```

ON INSERT Delta IN rentalIsPaidQ[RentalCase*YesNo] EXECUTE  -- (ECA rule 49)
ALL of INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
        SELECTFROM (rentalIsPaidQ; 'Yes' [YesNo]; (rentalIsPaidQ \/ Delta)~ /\ rcDr

        (TO MAINTAIN  -(rentalIsPaidQ; 'Yes' [YesNo]; rentalIsPaidQ~ /\ rcDroppedOff
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalIsPaidQ; 'Yes' [Yes
        THEN INSERT INTO rentalCharge[RentalCase*Amount]
        SELECTFROM 'a' [RentalCase]*'b' [Amount]

        (TO MAINTAIN  -(rentalIsPaidQ; 'Yes' [YesNo]; rentalIsPaid
PICK a,b FROM rentalCharge~; ((rentalIsPaidQ; 'Yes' [YesNo]; (r
        THEN INSERT INTO rentalCharge[RentalCase*Amount]
        SELECTFROM 'b' [RentalCase]*'a' [Amount]

        (TO MAINTAIN  -(rentalIsPaidQ; 'Yes' [YesNo]; rentalIsPaid
(MAINTAINING -(rentalIsPaidQ; 'Yes' [YesNo]; rentalIsPaidQ~ /\ I [Rent
NEW x:Amount;
        INSERT INTO rentalCharge[RentalCase*Amount]
        SELECTFROM ((rentalIsPaidQ; 'Yes' [YesNo]; (rentalIsPaidQ \/ Delta

        (TO MAINTAIN  -(rentalIsPaidQ; 'Yes' [YesNo]; rentalIsPaidQ~ /\ I [R
        (MAINTAINING -(rentalIsPaidQ; 'Yes' [YesNo]; rentalIsPaidQ~ /\ I [Rent
(MAINTAINING -(rentalIsPaidQ; 'Yes' [YesNo]; rentalIsPaidQ~ /\ I [RentalCase]
INSERT INTO Isn{detyp=Amount}

```

```

SELECTFROM (rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];(rentalIsPaidQ \ / Delta)~ / \ rcDroppedOffBranch;rcDrop
(TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ / \ rcDroppedOffBranch;rcDrop
INSERT INTO Isn{detyp=RentalCase}
SELECTFROM (Delta;Delta~ / \ I[RentalCase]) - I[RentalCase]

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

(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ / \ rcDroppedOffBranch;rcDrop
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ / \ I[RentalCase]) \ / rcDrop
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ / \ I[RentalCase]) \ / rcDrop

```

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

```

ALL of INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
SELECTFROM (rentalIsPaidQ;'Yes'[YesNo];(rentalIsPaidQ \ / Delta)~ / \ rcDroppedOffBranch;rcDrop

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ / \ rcDroppedOffBranch;rcDrop
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalIsPaidQ;'Yes'[YesNo];
THEN INSERT INTO rentalCharge[RentalCase*Amount]
SELECTFROM 'a'[RentalCase]*'b'[Amount]

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ / \ rcDroppedOffBranch;rcDrop
PICK a,b FROM rentalCharge~;((rentalIsPaidQ;'Yes'[YesNo];(rentalIsPaidQ \ / Delta)~ / \ rcDroppedOffBranch;rcDrop
THEN INSERT INTO rentalCharge[RentalCase*Amount]
SELECTFROM 'b'[RentalCase]*'a'[Amount]

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ / \ rcDroppedOffBranch;rcDrop
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ / \ I[RentalCase]) \ / rcDrop
NEW x:Amount;
INSERT INTO rentalCharge[RentalCase*Amount]
SELECTFROM ((rentalIsPaidQ;'Yes'[YesNo];(rentalIsPaidQ \ / Delta)~ / \ rcDroppedOffBranch;rcDrop

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ / \ I[RentalCase]) \ / rcDrop
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ / \ I[RentalCase]) \ / rcDrop
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ / \ I[RentalCase]) \ / rcDrop
INSERT INTO Isn{detyp=Amount}
SELECTFROM (rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];(rentalIsPaidQ \ / Delta)~ / \ rcDroppedOffBranch;rcDrop

(TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rentalIsPaidQ \ / Delta)~ / \ rcDroppedOffBranch;rcDrop
INSERT INTO Isn{detyp=RentalCase}
SELECTFROM (Delta;Delta~ / \ I[RentalCase]) - I[RentalCase]

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

(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ / \ rcDroppedOffBranch;rcDrop

```

```

(MAINAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \/ rentalC
(MAINAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \/ rentalC

```

<-----End Derivation --

```

ON DELETE Delta FROM rentalIsPaidQ[RentalCase*YesNo] EXECUTE      -- (ECA rule 50)
ALL of ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;rcIssuedCar~

      (TO MAINTAIN  -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ 
DELETE FROM Isn{dety=Car}
      SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionRetu

      (TO MAINTAIN  -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ 
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SE
      THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'a'[Car]*'b'[Branch]

      (TO MAINTAIN  -('_SESSION'[SESSION];sessionReturnedCar
PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION
      THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'b'[Car]*'a'[Branch]

      (TO MAINTAIN  -('_SESSION'[SESSION];sessionReturnedCar
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -
NEW x:Branch;
      INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionR

      (TO MAINTAIN  -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ 
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -
(MAINAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAva
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(car

      (TO MAINTAIN  -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet
DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(-(rcIssuedCar~

      (TO MAINTAIN  -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet
DELETE FROM Isn{dety=Car}
      SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];sessionReturne

      (TO MAINTAIN  -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRet
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SE
      THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'a'[Car]*'b'[Branch]

```

```

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION]
        PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION
        THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'b'[Car]*'a'[Branch]

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION]
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRetu
        NEW x:Branch;
        INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];sessionRetu

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionR
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRetu
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar
        (MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA
        (MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA

```

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

```

ALL of ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
    SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;rcIssuedCar~;(ren

    (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(car
    DELETE FROM Isn{dety=Car}
    SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionReturnedC

    (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(car
    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SESSION
    THEN INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM 'a'[Car]*'b'[Branch]

        (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[C
        PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION'[SES
        THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'b'[Car]*'a'[Branch]

        (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[C
        (MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carA
        NEW x:Branch;
        INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionReturn

        (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(c
        (MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carA
        (MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailabl
    ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
        SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvai

```

```

(TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION];sessionReturned
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM  '_SESSION' [SESSION];sessionReturnedCar;(-(rcIssuedCar~;(ren

(TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION];sessionReturned
DELETE FROM Isn{dety=Car}
SELECTFROM sessionReturnedCar~; '_SESSION' [SESSION];sessionReturnedCar;

(TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION];sessionReturned
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~; '_SESSION'
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM  'a' [Car]*'b' [Branch]

(TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION];ses
PICK a,b FROM carAvailableAt~;sessionReturnedCar~; '_SESSION' [SES
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM  'b' [Car]*'a' [Branch]

(TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION];ses
(MAINTAINING  -(sessionReturnedCar~; '_SESSION' [SESSION];sessionReturnedC
NEW x:Branch;
INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM (sessionReturnedCar~; '_SESSION' [SESSION];sessionReturnedC

(TO MAINTAIN  -(sessionReturnedCar~; '_SESSION' [SESSION];sessionReturn
(MAINTAINING  -(sessionReturnedCar~; '_SESSION' [SESSION];sessionReturnedC
(MAINTAINING  -(sessionReturnedCar~; '_SESSION' [SESSION];sessionReturnedCar;(I[C
(MAINTAINING  -( '_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car
(MAINTAINING  -( '_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car

```

<-----End Derivation --

```

ON INSERT Delta IN rentalCharge[RentalCase*Amount] EXECUTE  -- (ECA rule 51)
ALL of INSERT INTO Isn{dety=Amount}
SELECTFROM ((rentalCharge /\ Delta)~;rentalIsPaidQ;'Yes' [YesNo];rentalIs

(TO MAINTAIN  -(rentalCharge~;rentalIsPaidQ;'Yes' [YesNo];rentalIsPaidQ~;r
(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  -(rentalIsPaidQ;'Yes' [YesNo];rentalIsPaidQ~ /\ I[RentalCase]) /\ re
(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)~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ

    (TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rental
    (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]

    (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \/ rentalC
    (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
    (MAINTAINING -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalCharge::Rental

```

<-----End Derivation --

```

ON DELETE Delta FROM rentalCharge[RentalCase*Amount] EXECUTE -- (ECA rule 52)
ALL of ONE OF DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
    SELECTFROM (-((rentalCharge /\ -Delta);(rentalCharge /\ -Delta)~)

    (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[Ren
    DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
    SELECTFROM (-((rentalCharge /\ -Delta);(rentalCharge~ /\ -Delta)~)

    (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[Ren
    DELETE FROM Isn{dety=RentalCase}
    SELECTFROM -((rentalCharge /\ -Delta);(rentalCharge /\ -Delta)~)

    (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[Ren
    (MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]
    ONE OF DELETE FROM rentalBasicCharge[RentalCase*Amount]
    SELECTFROM ((-rentalCharge /\ (rentalBasicCharge;arg1~ /\ rentalP

    (TO MAINTAIN -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;ar
    DELETE FROM arg1[CompRentalCharge*Amount]
    SELECTFROM computedRentalCharge;((-rentalCharge~ /\ computedRenta

    (TO MAINTAIN -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;ar
    DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
    SELECTFROM ((-rentalCharge /\ (rentalBasicCharge;arg1~ /\ rentalP

    (TO MAINTAIN -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;ar
    DELETE FROM arg2[CompRentalCharge*Amount]
    SELECTFROM computedRentalCharge;((-rentalCharge~ /\ computedRenta

    (TO MAINTAIN -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;ar
    DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
    SELECTFROM ((-rentalCharge /\ (rentalBasicCharge;arg1~ /\ rentalP

```

```

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;ar
DELETE FROM arg3[CompRentalCharge*Amount]
      SELECTFROM computedRentalCharge;((-rentalCharge~ /\ computedRental

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;ar
DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
      SELECTFROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;ar
      (MAINTAINING  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ r
(MAINTAINING  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \/\ re
(MAINTAINING  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo

```

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

```

ALL of ONE OF DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
      SELECTFROM (-((rentalCharge /\ -Delta);(rentalCharge /\ -Delta)~) /\ r

      (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCa
DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
      SELECTFROM (-((rentalCharge /\ -Delta);(rentalCharge~ /\ -Delta)) /\

      (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCa
DELETE FROM Isn{detyr=RentalCase}
      SELECTFROM -((rentalCharge /\ -Delta);(rentalCharge /\ -Delta)~) /\ re

      (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCa
(MAINTAINING  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \/\
ONE OF DELETE FROM rentalBasicCharge[RentalCase*Amount]
      SELECTFROM ((-rentalCharge /\ (rentalBasicCharge;arg1~ /\ rentalPenalt

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
DELETE FROM arg1[CompRentalCharge*Amount]
      SELECTFROM computedRentalCharge;((-rentalCharge~ /\ computedRentalChar

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM ((-rentalCharge /\ (rentalBasicCharge;arg1~ /\ rentalPenalt

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
DELETE FROM arg2[CompRentalCharge*Amount]
      SELECTFROM computedRentalCharge;((-rentalCharge~ /\ computedRentalChar

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
      SELECTFROM ((-rentalCharge /\ (rentalBasicCharge;arg1~ /\ rentalPenalt

```

```

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
DELETE FROM arg3[CompRentalCharge*Amount]
      SELECTFROM computedRentalCharge;((-rentalCharge~ /\ computedRentalChar

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
      SELECTFROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\ ar

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
      (MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rental
(MAINTAINING -(rentalIsPaidQ;'Yes' [YesNo];rentalIsPaidQ~ /\ I[RentalCase]) /\ rentalC
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio

```

<-----End Derivation --

```

ON INSERT Delta IN rentalPeriod[RentalCase*Integer] EXECUTE      -- (ECA rule 53)
ALL of INSERT INTO Isn{dety=Integer}
      SELECTFROM ((rentalPeriod \/ Delta)~;(contractedStartDate;earliestDate~

      (TO MAINTAIN  -((rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDrop
      (TO MAINTAIN  -((rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rental
INSERT INTO rentalBasicCharge[RentalCase*Amount]
      SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTari

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

      (TO MAINTAIN  -((rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssued
INSERT INTO Isn{dety=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcIssuedCar;rcIssuedCar~ /\ r
      THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [
      THEN INSERT INTO rentalPeriod[RentalCase]
      SELECTFROM 'a' [RentalCase]*'b' [Int

      (TO MAINTAIN  -(rcIssuedCar;rcIssue
PICK a,b FROM rentalPeriod~;('a' [RentalC
      THEN INSERT INTO ctcNrOfDays[CompTariffe
      SELECTFROM 'b' [CompTariffedCharge]

      (TO MAINTAIN  -(rcIssuedCar;rcIssue
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rent
NEW x:Integer;
      ALL of INSERT INTO rentalPeriod[RentalCase*In
      SELECTFROM 'a' [RentalCase]*'b' [CompTa

```



```

THEN

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NEW x:Amount
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(MAINAINING -(rcIssuedCar;r
(MAINAINING -(rcIssuedCar;rcIssued
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rent
NEW x:Car;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car
SELECTFROM 'a'[RentalCase]*'b'[CompTa

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

(TO MAINTAIN -(rcI
PICK a,b FROM carType~;(
THEN ONE OF ONE NONEMPTY
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(MAINTAINING -(rcIssuedCar;rcIss
NEW x:CarType;
ALL of INSERT INTO carType[Car
SELECTFROM 'x'[Car]*'.

(TO MAINTAIN -(rcIssu
ONE OF ONE NONEMPTY AL
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PICK a,b
THEN INS:
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NEW x:Amount;
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(MAINTAINING -(rcIssuedCar;rcIssuedCar
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(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rent
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rental
PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalT
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger :
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\

```

```

(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPer
(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPer
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Renta
(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~ /\ rcIssuedCar;carType;rentalTariffPer

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

    (TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;c
    INSERT INTO Isn{dety=RentalCase}
    SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcIssuedCar;rcIssuedCar~ /\ rental
    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 -(rcIssuedCar;rcIssuedCar~
    PICK a,b FROM rentalPeriod~;('a'[RentalCase]*
    THEN INSERT INTO ctcNrOfDays[CompTariffedChar
    SELECTFROM 'b'[CompTariffedCharge]*'a'[

    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~
    (MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPer
    NEW x:Integer;
    ALL of INSERT INTO rentalPeriod[RentalCase*Integer]
    SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\
    INSERT INTO ctcNrOfDays[CompTariffedCharge*
    SELECTFROM 'b'[CompTariffedCharge]*'a'[Ren

    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\
    (MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalP
    (MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPer
    (MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;ren

```

```

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~
PICK a,b FROM rcIssuedCar~;('a'[RentalCase]*'
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN INSERT INTO carType[C
SELECTFROM 'a'[Car]*

(TO MAINTAIN -(rcIss
PICK a,b FROM carType~;('a
THEN ONE OF ONE NONEMPTY A
THEN IN
S

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PICK a,
THEN IN
S

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(MAINTAINING -(rcIssu
NEW x:Amount;
ALL of INSERT
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(MAINTAINING
(MAINTAINING -(rcIssu
(MAINTAINING -(rcIssuedCar;rcIssu
NEW x:CarType;
ALL of INSERT INTO carType[Car*
SELECTFROM 'a'[Car]*'b'

(TO MAINTAIN -(rcIssued
ONE OF ONE NONEMPTY ALTE
THEN INSE
SELE

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PICK a,b F
THEN INSE
SELE

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NEW x:Amount;
ALL of INSERT I
SELECTF

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INSERT I
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(MAINAINING -(rc
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(MAINAINING -(rcIssuedCar;rcIs
(MAINAINING -(rcIssuedCar;rcIssu
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPer
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPer
NEW x:Car;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
THEN INSERT INTO carType[Car*
SELECTFROM 'a'[Car]*'b'

(TO MAINTAIN -(rcIssued
PICK a,b FROM carType~;'x'[C
THEN ONE OF ONE NONEMPTY ALTE
THEN INSER
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PICK a,b F
THEN INSER
SELE

(TO M
(MAINAINING -(rc
NEW x:Amount;
ALL of INSERT I
SELECTF

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INSERT I
SELECTF

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```

(MAINAINING -(rc
(MAINAINING -(rcIssuedC
(MAINAINING -(rcIssuedCar;rcIssuedC
NEW x:CarType;
ALL of INSERT INTO carType[Car*Car
SELECTFROM 'x'[Car]*'a'[Re

(TO MAINTAIN -(rcIssuedCar
ONE OF ONE NONEMPTY ALTERNA
THEN INSERT I
SELECTF

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PICK a,b FROM
THEN INSERT I
SELECTF

(TO MAIN
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NEW x:Amount;
ALL of INSERT INTO
SELECTFROM

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INSERT INTO
SELECTFROM

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(MAINAINING -(rcI
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(MAINAINING -(rcIssuedCar;
(MAINAINING -(rcIssuedCar;rcIssue
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(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalP
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPer
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;ren
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeri
PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTariff
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger regul
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Ren
(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[RentalCase
(MAINAINING -(rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rentalPeriod::Renta

```

<-----End Derivation --

```

ON DELETE Delta FROM rentalPeriod[RentalCase*Integer] EXECUTE    -- (ECA rule 54)
ALL of ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
    SELECTFROM ((-rentalPeriod /\ (contractedStartDate;earliestDate~

    (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOfff
DELETE FROM earliestDate[CompNrDays*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[CompNrDays*Date]
    SELECTFROM computedRentalPeriod;((-rentalPeriod~ /\ computedRental

    (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOfff
DELETE FROM computedRentalPeriod[CompNrDays*Integer]
    SELECTFROM (earliestDate;contractedStartDate~ /\ latestDate;rcDro

    (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOfff
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;lat
ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
    SELECTFROM (-(((rentalPeriod /\ -Delta);ctcNrOfDays~ /\ rcIssuedC

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

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

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

    (TO MAINTAIN  -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPer
DELETE FROM Isn{dety=RentalCase}
    SELECTFROM -(((rentalPeriod /\ -Delta);ctcNrOfDays~ /\ rcIssuedCa

    (TO MAINTAIN  -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPer
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Renta

```

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

```

ALL of ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM ((-rentalPeriod /\ (contractedStartDate;earliestDate~ /\ rc

      (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;
DELETE FROM earliestDate[CompNrDays*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[CompNrDays*Date]
      SELECTFROM computedRentalPeriod;((-rentalPeriod~ /\ computedRentalPeri

      (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;
DELETE FROM computedRentalPeriod[CompNrDays*Integer]
      SELECTFROM (earliestDate;contractedStartDate~ /\ latestDate;rcDroppedO

      (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDa
ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
      SELECTFROM (-(((rentalPeriod /\ -Delta);ctcNrOfDays~ /\ rcIssuedCar;ca

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

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

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

      (TO MAINTAIN  -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM (-(((rentalPeriod /\ -Delta);ctcNrOfDays~ /\ rcIssuedCar;car

      (TO MAINTAIN  -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Ren
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[RentalCase

```

<-----End Derivation --

ON INSERT Delta IN rentalBasicCharge[RentalCase*Amount] EXECUTE -- (ECA rule .

```

ALL of INSERT INTO rentalCharge[RentalCase*Amount]
    SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ ren

(TO MAINTAIN -(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\
INSERT INTO Isn{dety=Amount}
    SELECTFROM (rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharg

(TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssued
(TO MAINTAIN -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM U
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[RentalCase*Amount]
            SELECTFROM 'a' [RentalCase]*'b' [Amount]

            (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
        PICK a,b FROM rentalBasicCharge~;('a' [RentalCase]*'b' [Amount]
        THEN INSERT INTO arg1[CompRentalCharge*Amount]
            SELECTFROM 'b' [CompRentalCharge]*'a' [Amount]

            (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
    NEW x:Amount;
        ALL of INSERT INTO rentalBasicCharge[RentalCase*Amount]
            SELECTFROM 'a' [RentalCase]*'b' [CompRentalCharge*Amount]

            (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
        INSERT INTO arg1[CompRentalCharge*Amount]
            SELECTFROM 'b' [CompRentalCharge]*'a' [Amount]

            (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
    (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]*'b' [
        THEN INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
            SELECTFROM 'a' [RentalCase]*'b' [Amount]

            (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
        PICK a,b FROM rentalPenaltyCharge~;('a' [RentalCase]*'b' [Amount]
        THEN INSERT INTO arg2[CompRentalCharge*Amount]
            SELECTFROM 'b' [CompRentalCharge]*'a' [Amount]

            (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
    NEW x:Amount;
        ALL of INSERT INTO rentalPenaltyCharge[RentalCase*Amount]

```

```

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 -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPeri
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
(MAINTAINING -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM UNI renta

```

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

```

ALL of INSERT INTO rentalCharge[RentalCase*Amount]
SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo

```

```

(TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
INSERT INTO Isn{detyp=Amount}
  SELECTFROM (rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg

(TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
(TO MAINTAIN  -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;c
(TO MAINTAIN  -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM UNI re
INSERT INTO Isn{detyp=RentalCase}
  SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalLocationPenaltyCharge;rental
  THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
    THEN INSERT INTO rentalBasicCharge[RentalCase]
      SELECTFROM 'a'[RentalCase]*'b'[Amount]

      (TO MAINTAIN  -(rentalLocationPenaltyCha
      PICK a,b FROM rentalBasicCharge~;('a'[RentalC
      THEN INSERT INTO arg1[CompRentalCharge*Amount]
        SELECTFROM 'b'[CompRentalCharge]*'a'[Am

      (TO MAINTAIN  -(rentalLocationPenaltyCha
      (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
      NEW x:Amount;
      ALL of INSERT INTO rentalBasicCharge[RentalCase*Am
        SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

      (TO MAINTAIN  -(rentalLocationPenaltyCharge
      INSERT INTO arg1[CompRentalCharge*Amount]
      SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

      (TO MAINTAIN  -(rentalLocationPenaltyCharge
      (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
      (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
      (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
      ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
      THEN INSERT INTO rentalPenaltyCharge[RentalCa
        SELECTFROM 'a'[RentalCase]*'b'[Amount]

      (TO MAINTAIN  -(rentalLocationPenaltyCha
      PICK a,b FROM rentalPenaltyCharge~;('a'[Renta
      THEN INSERT INTO arg2[CompRentalCharge*Amount]
        SELECTFROM 'b'[CompRentalCharge]*'a'[Am

      (TO MAINTAIN  -(rentalLocationPenaltyCha
      (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
      NEW x:Amount;
      ALL of INSERT INTO rentalPenaltyCharge[RentalCase*
        SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

```

```

        (TO MAINTAIN -(rentalLocationPenaltyCharge
INSERT INTO arg2[CompRentalCharge*Amount]
SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

        (TO MAINTAIN -(rentalLocationPenaltyCharge
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
        THEN INSERT INTO rentalLocationPenaltyCharge[
        SELECTFROM 'a'[RentalCase]*'b'[Amount]

        (TO MAINTAIN -(rentalLocationPenaltyCha
        PICK a,b FROM rentalLocationPenaltyCharge~;('
        THEN INSERT INTO arg3[CompRentalCharge*Amount]
        SELECTFROM 'b'[CompRentalCharge]*'a'[Am

        (TO MAINTAIN -(rentalLocationPenaltyCha
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
NEW x:Amount;
        ALL of INSERT INTO rentalLocationPenaltyCharge[Ren
        SELECTFROM 'a'[RentalCase]*'b'[CompRentalC

        (TO MAINTAIN -(rentalLocationPenaltyCharge
        INSERT INTO arg3[CompRentalCharge*Amount]
        SELECTFROM 'b'[CompRentalCharge]*'a'[Renta

        (TO MAINTAIN -(rentalLocationPenaltyCharge
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalL
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLoc
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPe
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
        PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\
        THEN BLOCK
        (CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger rental
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
(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~ /\ rcIssuedCar;carType;
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM computedTariffedCharge;((-rentalBasicCharge~ /\ comput

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;
DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM ((-rentalBasicCharge /\ (rentalPeriod;ctcNrOfDays~ /\

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;
DELETE FROM carType[Car*CarType]
SELECTFROM rcIssuedCar~;((-rentalBasicCharge /\ (rentalPeriod;ctc

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;
DELETE FROM rentalTariffPerDay[CarType*Amount]
SELECTFROM carType~;rcIssuedCar~;((-rentalBasicCharge /\ (rentalP

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
SELECTFROM computedTariffedCharge;((-rentalBasicCharge~ /\ comput

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
SELECTFROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTar

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTar
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~ /\ rentalPenaltyCharge;
(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\
(MAINTAINING -(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPenaltyCharge;

```

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

```

ALL of ONE OF DELETE FROM rentalPeriod[RentalCase*Integer]
SELECTFROM ((-rentalBasicCharge /\ (rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM computedTariffedCharge;((-rentalBasicCharge~ /\ computedTariffedCharge;
(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM ((-rentalBasicCharge /\ (rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
DELETE FROM carType[Car*CarType]
SELECTFROM rcIssuedCar~;((-rentalBasicCharge /\ (rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
DELETE FROM rentalTariffPerDay[CarType*Amount]
SELECTFROM carType~;rcIssuedCar~;((-rentalBasicCharge /\ (rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
SELECTFROM computedTariffedCharge;((-rentalBasicCharge~ /\ computedTariffedCharge;
(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
SELECTFROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTariffPerDay;
(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;
ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
SELECTFROM (-(((rentalBasicCharge /\ -Delta);arg1~ /\ rentalPenaltyCharge;
(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
SELECTFROM -(V[RentalCase*CompRentalCharge];(arg1;(rentalBasicCharge~ /\ rentalPenaltyCharge;
(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=RentCase}
SELECTFROM (-(((rentalBasicCharge /\ -Delta);arg1~ /\ rentalPenaltyChar

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
(MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
(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~ /\ rcIssuedCar;carType;exce

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

(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;
(MAINAINING -(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
      (MAINAINING -(rentalExcessPeriod;rentalExces
      (MAINAINING -(rentalExcessPeriod;rentalExcessP
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod~
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
      THEN INSERT INTO rcIssuedCar[RentalCase*
      SELECTFROM 'a'[RentalCase]*'b'[Car

      (TO MAINTAIN -(rentalExcessPeriod;
PICK a,b FROM rcIssuedCar~;('a'[RentalCa
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 - (rentalExcessPeriod;rentalExcessP
(MAINTAINING - (rentalExcessPeriod;rentalExcessP
(MAINTAINING - (rentalExcessPeriod;rentalExcessP
NEW x:CarType;
ALL of INSERT INTO carType
SELECTFROM 'a' [CarType]
WHERE
(TO MAINTAIN - (rentalExcessPeriod;rentalExcessP
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN
THEN

PICK a,b FROM carType~;(
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN
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THEN

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(MAINTAINING
NEW x:Amount
  ALL of INS
      SE.
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SE

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                                (TO
                                (MAINTAINING
                                (MAINTAINING
                                (MAINTAINING -(rent
(MAINTAINING -(rentalExcessPeri
NEW x:CarType;
    ALL of INSERT INTO carType[Car
        SELECTFROM 'x' [Car]*.

```

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(TO MAINTAIN  -(rental
ONE OF ONE NONEMPTY AL
                        THEN INS
                        SE

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      (TO
PICK  a,b
THEN  INS
      SE.

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      (TO
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NEW x:Amount;
  ALL of INSERT
      SELEC

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(MAINTAINING -(
(MAINTAINING -(rentalExcessPer
(MAINTAINING -(rentalExcessPer
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(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod) \
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod) \
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod) \
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod) \
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod /\ I[Re
PICK a,b FROM (ctcNrOfDays;rentalExcessPeriod /\ ctcDailyAmount;e
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod /\ I[RentalCase]) \
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod /\ I[RentalCase]) \ (rent
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod) \ I[Integer] FROM UNI re

```

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

```

ALL of INSERT INTO Isn{detyp=Integer}
  SELECTFROM ((rentalExcessPeriod /\ Delta)~;(rcDroppedOffDate;lastDate~ /\ con

  (TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
  (TO MAINTAIN -(rentalExcessPeriod~;rentalExcessPeriod) \ I[Integer] FROM UNI
  INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
  SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar

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

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

  ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalExcessPeriod;(rentalExcessPe
    THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
      THEN INSERT INTO rentalExcessPeriod[RentalCas
        SELECTFROM 'a'[RentalCase]*'b'[Integer]

        (TO MAINTAIN -(rentalExcessPeriod;renta
        PICK a,b FROM rentalExcessPeriod~;('a'[Rental
        THEN INSERT INTO ctcNrOfDays[CompTariffedChar
          SELECTFROM 'b'[CompTariffedCharge]*'a'[

          (TO MAINTAIN -(rentalExcessPeriod;renta
  (MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod
  NEW x:Integer;
  ALL of INSERT INTO rentalExcessPeriod[RentalCase*I

```

```

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

(TO MAINTAIN -(rentalExcessPeriod;rentalEx
INSERT INTO ctcNrOfDays[CompTariffedCharge*
SELECTFROM 'b'[CompTariffedCharge]*'a'[Ren

(TO MAINTAIN -(rentalExcessPeriod;rentalEx
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeri
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -(rentalExcessPeriod;renta
PICK a,b FROM rcIssuedCar~;('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,
THEN IN
S

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

(TO M
INSERT
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(MAINTAINING -
(MAINTAINING -(rental
(MAINTAINING -(rentalExcessPeriod
NEW x:CarType;
ALL of INSERT INTO carType[Car*
SELECTFROM 'a'[Car]*'b'

```



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      (TO MAINTAIN  -(rentalEx
ONE OF ONE NONEMPTY ALTE
      THEN INSE
      SELE

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      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 rcIssuedCar[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

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      PICK a,b F
      THEN INSE
      SELE

      (TO M
      (MAINTAINING -(re

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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

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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~ /\ rcIssuedCar;carType;excessTariffPe
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/(rentalExc
(MAINAINING -(rentalExcessPeriod~;rentalExcessPeriod) \/(Integer] FROM UNI rentalE

<-----End Derivation --

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```

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[CompNrExcessDays*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[CompNrExcessDays*Date]
SELECTFROM computedNrOfExcessDays;((-rentalExcessPeriod~ /\ compu

(TO MAINTAIN -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;f
DELETE FROM computedNrOfExcessDays[CompNrExcessDays*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~ /\ rcI

(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~ /\ rcIs

(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[CompNrExcessDays*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[CompNrExcessDays*Date]
      SELECTFROM computedNrOfExcessDays;((-rentalExcessPeriod~ /\ computedNr

      (TO MAINTAIN -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstD
DELETE FROM computedNrOfExcessDays[CompNrExcessDays*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~ /\ rcIssued

      (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~ /\ rcIssuedC

      (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 excessTariffPerDay[CarType*Amount] EXECUTE    -- (ECA rule 59
ONE OF INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM ((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;exce

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

```

```

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

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

```

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

```

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

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

      (TO MAINTAIN  -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcIss
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~ /\ rcIssuedCar;carType;excessTariffPe
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
(MAINTAINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI excessTa
(MAINTAINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT excessTar

```

<-----End Derivation --

```

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

```

```

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

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

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

      (TO MAINTAIN  -I[CarType] \/ excessTariffPerDay;I[Amount];excessTariffPerDay~
(MAINTAINING  -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExcessPeriod;rentalExcessPeriod~ /\ I[Amount])
(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~ /\ rcIssuedCar;carType;(excessTariffPerDay /\ -Delta);(excessTariffPerDay /\ -Delta)~)

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

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

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

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

```

<-----End Derivation --

```

ON INSERT Delta IN rentalPenaltyCharge[RentalCase*Amount] EXECUTE      -- (ECA rule)
ALL of INSERT INTO rentalCharge[RentalCase*Amount]
      SELECTFROM  ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalExcessPeriod;rentalExcessPeriod~ /\ I[Amount])

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ I[Amount])
INSERT INTO Isn{detyp=Amount}

```

```

SELECTFROM (rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge~)
(TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge~)
(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rentalExcessPeriod;ctcNrOfDays~)
(TO MAINTAIN -(rentalPenaltyCharge~;(rentalPenaltyCharge) \/ I[Amount] FROM rentalPenaltyCharge)
INSERT INTO Isn{detypr=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]
THEN INSERT INTO rentalBasicCharge[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[CompRentalCharge]

```

```

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
PICK a,b FROM rentalBasicCharge~;('a'[RentalCase]
THEN INSERT INTO arg1[CompRentalCharge*Amount]
SELECTFROM 'b'[CompRentalCharge]*'a'[RentalCase]

```

```

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
NEW x:Amount;
ALL of INSERT INTO rentalBasicCharge[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[CompRentalCharge]

```

```

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
INSERT INTO arg1[CompRentalCharge*Amount]
SELECTFROM 'b'[CompRentalCharge]*'a'[RentalCase]

```

```

(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]

```

```

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
PICK a,b FROM rentalPenaltyCharge~;('a'[RentalCase]
THEN INSERT INTO arg2[CompRentalCharge*Amount]
SELECTFROM 'b'[CompRentalCharge]*'a'[RentalCase]

```

```

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
NEW x:Amount;
ALL of INSERT INTO rentalPenaltyCharge[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[CompRentalCharge]

```

```

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
INSERT INTO arg2[CompRentalCharge*Amount]
SELECTFROM 'b'[CompRentalCharge]*'a'[RentalCase]

```



```

(TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcIss
(TO MAINTAIN -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FROM UN
INSERT INTO Isn{dety=RentCase}
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

```

```

(MAINAINING -(rentalLocationPenaltyCharge;rentalL
(MAINAINING -(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
PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\
THEN BLOCK
(CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger rental
(MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
(MAINAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
(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~ /\ rcIssuedCar;car
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM computedTariffedCharge;((-rentalPenaltyCharge~ /\ comp

(TO MAINTAIN -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;car

```



```
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
```

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

```
ALL of ONE OF DELETE FROM rentalExcessPeriod[RentalCase*Integer]
      SELECTFROM ((-rentalPenaltyCharge /\ (rentalExcessPeriod;ctcNrOfDays~

      (TO MAINTAIN -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
      SELECTFROM computedTariffedCharge;((-rentalPenaltyCharge~ /\ computedT

      (TO MAINTAIN -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType
DELETE FROM rcIssuedCar[RentalCase*Car]
      SELECTFROM ((-rentalPenaltyCharge /\ (rentalExcessPeriod;ctcNrOfDays~

      (TO MAINTAIN -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType
DELETE FROM carType[Car*CarType]
      SELECTFROM rcIssuedCar~;((-rentalPenaltyCharge /\ (rentalExcessPeriod;

      (TO MAINTAIN -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType
DELETE FROM excessTariffPerDay[CarType*Amount]
      SELECTFROM carType~;rcIssuedCar~;((-rentalPenaltyCharge /\ (rentalExce

      (TO MAINTAIN -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
      SELECTFROM computedTariffedCharge;((-rentalPenaltyCharge~ /\ computedT

      (TO MAINTAIN -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
      SELECTFROM (ctcNrOfDays;rentalExcessPeriod~ /\ ctcDailyAmount;excessTa

      (TO MAINTAIN -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType
(MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessT
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=RentalCase}
      SELECTFROM  -((rentalBasicCharge;arg1~ /\ (rentalPenaltyCharge /\ -Delt

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge
      (MAINTAINING  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
(MAINTAINING  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
(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{dety=Amount}
SELECTFROM ((computedLocationPenaltyCharge \/ Delta)~;computedLocationPenalty

(TO MAINTAIN  -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge)
INSERT INTO Isn{dety=DistanceBetweenLocations}
SELECTFROM (Delta;Delta~ /\ I[DistanceBetweenLocations]) - I[DistanceBetweenL

INSERT INTO Isn{dety=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{dety=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{detyp=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 rentalCharge[RentalCase*Amount]
      SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ ren
      (TO MAINTAIN -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ 
INSERT INTO Isn{detyp=Amount}
      SELECTFROM (rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharg
      (TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
      (TO MAINTAIN -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbran
      (TO MAINTAIN -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge)
INSERT INTO Isn{detyp=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rentalLocationPenaltyCharge;(
      THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
      THEN INSERT INTO rentalBasicCharge[Renta
      SELECTFROM 'a'[RentalCase]*'b'[Amo

```

```

        (TO MAINTAIN -(rentalLocationPenal
PICK a,b FROM rentalBasicCharge~;('a'[Re
THEN INSERT INTO arg1[CompRentalCharge*Ar
        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[Rent
        SELECTFROM 'a'[RentalCase]*'b'[Amo

        (TO MAINTAIN -(rentalLocationPenal
PICK a,b FROM rentalPenaltyCharge~;('a'[
        THEN INSERT INTO arg2[CompRentalCharge*Ar
        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*Ar
        SELECTFROM 'b'[CompRentalCharge]*'.

```



```

                                (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
(MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
NEW x:Amount;
    ALL of INSERT INTO rentalLocationPenaltyCharge[rentalLocationPenaltyCharge*Amount]
        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) /\
(MAINAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge)
(MAINAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge)
(MAINAINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch)
(MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge) /\ rentalLocationPenaltyCharge)
(MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge) /\ I[Amount]

```

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

```

ALL of INSERT INTO rentalCharge[RentalCase*Amount]
    SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge)

(TO MAINTAIN -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge)
INSERT INTO Isn{detyp=Amount}
    SELECTFROM (rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge)

(TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge)
(TO MAINTAIN -(rentalLocationPenaltyCharge~;(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch)
(TO MAINTAIN -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) /\ I[Amount]
INSERT INTO Isn{detyp=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'[Amount]

      (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
(MAINTEINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
NEW x:Amount;
      ALL of INSERT INTO rentalBasicCharge[RentalCase*Amount]
      SELECTFROM 'a'[RentalCase]*'b'[CompRentalCharge*Amount]

      (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
      INSERT INTO arg1[CompRentalCharge*Amount]
      SELECTFROM 'b'[CompRentalCharge]*'a'[RentalCase*Amount]

      (TO MAINTAIN -(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*Amount]
      SELECTFROM 'a'[RentalCase]*'b'[Amount]

      (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
      PICK a,b FROM rentalPenaltyCharge-;('a'[RentalCase]
      THEN INSERT INTO arg2[CompRentalCharge*Amount]
      SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

      (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
      (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
      NEW x:Amount;
      ALL of INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
      SELECTFROM 'a'[RentalCase]*'b'[CompRentalCharge*Amount]

      (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
      INSERT INTO arg2[CompRentalCharge*Amount]
      SELECTFROM 'b'[CompRentalCharge]*'a'[RentalCase*Amount]

      (TO MAINTAIN -(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*Amount]
      SELECTFROM 'a'[RentalCase]*'b'[Amount]

      (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)
      PICK a,b FROM rentalLocationPenaltyCharge-;('a'[RentalCase]
      THEN INSERT INTO arg3[CompRentalCharge*Amount]
      SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

      (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge)

```

```

(MAINTEINING -(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
(MAINTEINING -(rentalLocationPenaltyCharge;rentalL
(MAINTEINING -(rentalLocationPenaltyCharge;rentalLoc
(MAINTEINING -(rentalLocationPenaltyCharge;rentalLocationPe
(MAINTEINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCh
PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\
THEN BLOCK
(CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger rental
(MAINTEINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
(MAINTEINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTEINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTEINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(MAINTEINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
(MAINTEINING -(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
(MAINTEINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch

```

```

ONE OF DELETE FROM rcDroppedOffBranch[RentalCase*Branch]
      SELECTFROM (-(rentalLocationPenaltyCharge /\ -Delta);computedLoca

      (TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
DELETE FROM distbranch[DistanceBetweenLocations*Branch]
      SELECTFROM (-(computedLocationPenaltyCharge;(rentalLocationPenaltyCharge;

      (TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM (-(rentalLocationPenaltyCharge /\ -Delta);computedLoca

      (TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
DELETE FROM distbranch[DistanceBetweenLocations*Branch]
      SELECTFROM (-(computedLocationPenaltyCharge;(rentalLocationPenaltyCharge;

      (TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;
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;

(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch;
(MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch;
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge; /\ rentalBasicCharge;

```

----- 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
DELETE FROM distbranch[DistanceBetweenLocations*Branch]
SELECTFROM -(computedLocationPenaltyCharge;(rentalLocationPenaltyChar

(TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
DELETE FROM contractedDropoffBranch[RentalCase*Branch]
SELECTFROM (-((rentalLocationPenaltyCharge /\ -Delta);computedLocation

(TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
DELETE FROM distbranch[DistanceBetweenLocations*Branch]
SELECTFROM -(computedLocationPenaltyCharge;(rentalLocationPenaltyChar

(TO MAINTAIN -(rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch
(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 maxRentalDuration[CarRentalCompany*MaxRentalDuration] EXECUTE
ALL of INSERT INTO rcMaxRentalDuration[RentalCase*MaxRentalDuration]
SELECTFROM (contractedPickupBranch;branchOf;maxRentalDuration /\ -rcMaxR

(TO MAINTAIN -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcM
INSERT INTO Isn{dety=MaxRentalDuration}
SELECTFROM (rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRent

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

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

```

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

```

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

(TO MAINTAIN -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRen

```

```

INSERT INTO Isn{dety=MaxRentalDuration}
  SELECTFROM (rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRentalDur

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

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

<-----End Derivation --

```

```

ON INSERT Delta IN rcMaxRentalDuration[RentalCase*MaxRentalDuration] EXECUTE
ALL of INSERT INTO Isn{dety=MaxRentalDuration}
  SELECTFROM ((rcMaxRentalDuration \/ Delta)~;contractedPickupBranch;branchOf;maxRentalDur

(TO MAINTAIN -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRentalDur
(TO MAINTAIN -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[MaxRentalDuration]
INSERT INTO dateIntervalCompTrigger[Date*Date]
  SELECTFROM (contractedStartDate~;rcMaxRentalDuration;(rcMaxRentalDuration~;rcMaxRentalDurat

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

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;rcMaxRentalDurat
  THEN INSERT INTO contractedStartDate[RentalCase*Date]
    SELECTFROM 'a' [RentalCase]*'b' [Date]

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

          (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration) \/ I[MaxRentalDuration]
          (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration) \/ I[MaxRentalDuration]
          NEW x:Date;
          ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
            SELECTFROM 'a' [Date]*'b' [RentalCase]*'c' [Date]

            (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration) \/ I[MaxRentalDuration]
            INSERT INTO contractedEndDate[RentalCase*Date]

```

```

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

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

      (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 /\ Del

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

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

      (TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration~
      (MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~
NEW x:Date;

```



```

ALL of INSERT INTO dateIntervalCompTrigger[Date*Date]
    SELECTFROM ((contractedStartDate~;rcMaxRentalDuration;(r

    (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[MaxRentalDuration]

```

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

```

ALL of INSERT INTO Isn{detyp=MaxRentalDuration}
    SELECTFROM ((rcMaxRentalDuration \ / Delta)~;contractedPickupBranch;branchOf;m

    (TO MAINTAIN -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRental
    (TO MAINTAIN -(rcMaxRentalDuration~;rcMaxRentalDuration) \ / I[MaxRentalDuri

```

```

INSERT INTO dateIntervalCompTrigger[Date*Date]
  SELECTFROM (contractedStartDate~;rcMaxRentalDuration;(rcMaxRentalDuration /\

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

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcMaxRentalDuration;(rcMaxR
  THEN INSERT INTO contractedStartDate[RentalCase*Date]
    SELECTFROM 'a'[RentalCase]*'b'[Date]

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

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

      (TO MAINTAIN -(rcMaxRentalDuration;rcMa
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDurati
NEW x:Date;
  ALL of INSERT INTO dateIntervalCompTrigger[Date*Da
    SELECTFROM 'a'[Date]*'b'[RentalCase]*'x'[D

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

      (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRe
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDura
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDurati
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEn
NEW x:Date;
  ALL of INSERT INTO contractedStartDate[RentalCase*Date]
    SELECTFROM ((rcMaxRentalDuration;(rcMaxRentalDuration /\ Delt

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

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

```



```

        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate)
(MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate)
NEW x:Date;
    ALL of INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM ((rcMaxRentalDuration;(rcMaxRentalDuration \ / Delta
        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate)
INSERT INTO dateIntervalCompTrigger[Date*Date]
        SELECTFROM 'x'[Date]*((rcMaxRentalDuration;(rcMaxRentalDuration \ / Delta
        (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate)
        (MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate)
        (MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate)
        (MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate \ / c
(MAINAINING  -(contractedPickupBranch;branchOf;maxRentalDuration) \ / rcMaxRentalDuration
(MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ \ / contractedEndDate;contractedPickupBranch
(MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ \ / contractedEndDate;contractedPickupBranch
(MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ \ / contractedEndDate;contractedPickupBranch
(MAINAINING  -(rcMaxRentalDuration;rcMaxRentalDuration~ \ / contractedEndDate;contractedPickupBranch
(MAINAINING  -(rcMaxRentalDuration~;rcMaxRentalDuration) \ / I[MaxRentalDuration] FROM

```

<-----End Derivation --

```

ON DELETE Delta FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration] EXECUTE
ONE OF DELETE FROM contractedPickupBranch[RentalCase*Branch]
        SELECTFROM ((-rcMaxRentalDuration \ / contractedPickupBranch;branchOf;maxRentalDuration)
        (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \ / rcMaxRentalDuration
DELETE FROM branchOf[Branch*CarRentalCompany]
        SELECTFROM contractedPickupBranch~;((-rcMaxRentalDuration \ / contractedPickupBranch;branchOf;maxRentalDuration)
        (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \ / rcMaxRentalDuration
DELETE FROM maxRentalDuration[CarRentalCompany*MaxRentalDuration]
        SELECTFROM branchOf~;contractedPickupBranch~;((-rcMaxRentalDuration \ / contractedPickupBranch;branchOf;maxRentalDuration)
        (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \ / rcMaxRentalDuration
(MAINAINING  -(contractedPickupBranch;branchOf;maxRentalDuration) \ / rcMaxRentalDuration

```

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

```

ONE OF DELETE FROM contractedPickupBranch[RentalCase*Branch]
        SELECTFROM ((-rcMaxRentalDuration \ / contractedPickupBranch;branchOf;maxRentalDuration)
        (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \ / rcMaxRentalDuration
DELETE FROM branchOf[Branch*CarRentalCompany]
        SELECTFROM contractedPickupBranch~;((-rcMaxRentalDuration \ / contractedPickupBranch;branchOf;maxRentalDuration)

```

```

      (TO MAINTAIN  -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRen
DELETE FROM maxRentalDuration[CarRentalCompany*MaxRentalDuration]
      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 71
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 71
ALL of ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
      SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Del

      (TO MAINTAIN  -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
      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
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndD
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;(-(contracted

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
      SELECTFROM contractedStartDate;(-(dateIntervalCompTrigger /\ -Del

      (TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
      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
(MAINAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurati
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM rcMaxRentalDuration;rcMaxRentalDuration~;contractedEnd

```

```

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent.
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
SELECTFROM contractedStartDate;((-dateIntervalCompTrigger /\ contr.

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent.
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
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~;contractedStartDa.

(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 /\ cont.

      (TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRent.
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDurati
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
      SELECTFROM -(contractedStartDate;(dateIntervalCompTrigger /\ -Del

      (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
      SELECTFROM contractedEndDate;(-(dateIntervalCompTrigger~ /\ -Del

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

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

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

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

      (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM -(contractedStartDate;(dateIntervalCompTrigger /\ -Del

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

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

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

      (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contracte
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndDate
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con

```


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

```
ALL of ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Delta));

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedE
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
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*MaxRentalDuration]
SELECTFROM contractedStartDate;(-(dateIntervalCompTrigger /\ -Delta));

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
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*MaxRentalDuration]
SELECTFROM  contractedStartDate;((-dateIntervalCompTrigger /\ contracte

(TO MAINTAIN  -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
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~;contractedStartDate

(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 /\ contracted

(TO MAINTAIN -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDur
(MAINTAINING -(contractedStartDate~;rcMaxRentalDuration;rcMaxRentalDuration~;c
ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
SELECTFROM (-(contractedStartDate;(dateIntervalCompTrigger /\ -Delta))

(TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~;contractedEndD
DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
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 73)
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{detyp=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 74)
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

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
SELECTFROM -(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBas

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM -((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM -(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBas

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~
DELETE FROM Isn{dety=RentalCase}
SELECTFROM -((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge

(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~ /\ rental
(MAINTAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*

```

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

```

ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
SELECTFROM -((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
SELECTFROM -(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBasicCha

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
SELECTFROM -((rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
SELECTFROM -(V[RentalCase*CompRentalCharge];((arg1 /\ -Delta);rentalBasicCha

```

```

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM (-(rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM (-(V[RentalCase*CompRentalCharge];(arg1 /\ -Delta);rentalBasicCha

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM Isn{dety=RentalCase}
SELECTFROM (-(rentalBasicCharge;(arg1 /\ -Delta)~ /\ rentalPenaltyCharge;arg2

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM Isn{dety=CompRentalCharge}
SELECTFROM (-(arg1 /\ -Delta);(arg1 /\ -Delta)~) /\ I[CompRentalCharge]

(TO MAINTAIN -I[CompRentalCharge] \/ arg1;I[Amount];arg1~ FROM UNI arg1::Comp
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
(MAINTAINING -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTAINING -I[CompRentalCharge] \/ arg1;arg1~ FROM TOT arg1::CompRentalCharge*Amount

```

<-----End Derivation --

```

ON INSERT Delta IN arg2[CompRentalCharge*Amount] EXECUTE -- (ECA rule 75)
ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
SELECTFROM (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 \/ Delta)~) /\ I[CompRentalCharge]

(TO MAINTAIN -(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ I[CompRentalCharge]
INSERT INTO Isn{dety=Amount}
SELECTFROM rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 \/ Delta)~) /\ I[CompRentalCharge]

(TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 \/ Delta)~) /\ I[CompRentalCharge]
INSERT INTO Isn{dety=CompRentalCharge}
SELECTFROM (arg3;arg3~ /\ arg2;(arg2 \/ Delta)~) /\ arg1;arg1~ /\ -I[CompRentalCharge]

(TO MAINTAIN -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge]
INSERT INTO Isn{dety=Amount}
SELECTFROM ((arg2 \/ Delta)~;arg2 /\ -I[Amount]) \/ ((arg2 \/ Delta)~;Delta) /\ I[CompRentalCharge]

(TO MAINTAIN -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount
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~ /\ rentalLocationPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge)
(MAINTAINING -(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge;arg2~ /\ rentalLocationPenaltyCharge)

```

```

(MAINAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FR
(MAINAINING -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*

```

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

```

ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
    SELECTFROM (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 \/ Delta)~ /\

    (TO MAINTAIN -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rental
    INSERT INTO Isn{detyp=Amount}
    SELECTFROM rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg

    (TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
    INSERT INTO Isn{detyp=CompRentalCharge}
    SELECTFROM (arg3;arg3~ /\ arg2;(arg2 \/ Delta)~ /\ arg1;arg1~ /\ -I[CompRenta

    (TO MAINTAIN -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge]
    INSERT INTO Isn{detyp=Amount}
    SELECTFROM ((arg2 \/ Delta)~;arg2 /\ -I[Amount]) \/ ((arg2 \/ Delta)~;Delta /\

    (TO MAINTAIN -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*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 -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINAINING -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*Amount

```

<-----End Derivation --

```

ON DELETE Delta FROM arg2[CompRentalCharge*Amount] EXECUTE -- (ECA rule 76)
ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
    SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -I[CompRentalCharge]
    (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 /\ -I[CompRentalCharge]

```



```

(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 /\ -I

(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 /\ -D

(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~ /\ rental
(MAINTAINING  -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINTAINING  -I[CompRentalCharge] \/ arg2;arg2~ FROM TOT arg2::CompRentalCharge*

```

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

```

ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
  SELECTFROM  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -Delta

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
  SELECTFROM  -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ (arg

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
  SELECTFROM  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -Delta

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
  SELECTFROM  -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ (arg

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM rentalBasicCharge[RentalCase*Amount]
  SELECTFROM  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;(arg2 /\ -Delta

(TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re

```

```

DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ (arg

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM Isn{dety=RentalCase}
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 77)
ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
SELECTFROM (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rental

(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~ /\ rentalLocatio

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
      INSERT INTO Isn{detyp=Amount}
      SELECTFROM rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~

      (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
      INSERT INTO Isn{detyp=CompRentalCharge}
      SELECTFROM (arg3;(arg3 \/ Delta)~ /\ arg2;arg2~ /\ arg1;arg1~ /\ -I[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 /\

      (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~ /\ rentalLocatio
      (MAINTAINING  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
      (MAINTAINING  -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FROM UNI
      (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 78)
ONE OF DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
      SELECTFROM (-((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio

      (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~ /\ rentalLocatio

      (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~ /\ rental

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rental
DELETE FROM rentalBasicCharge[RentalCase*Amount]
  SELECTFROM -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ rental

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rental
DELETE FROM Isn{detyp=RentalCase}
  SELECTFROM -(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rental

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rental
DELETE FROM Isn{detyp=CompRentalCharge}
  SELECTFROM -(arg3 /\ -Delta);(arg3 /\ -Delta)~) /\ I[CompRentalCharge]

(TO MAINTAIN -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FROM UNI arg3:
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rental
(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~ /\ rental
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
  SELECTFROM -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ rental

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rental
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
  SELECTFROM -(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rental

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rental
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
  SELECTFROM -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ rental

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rental
DELETE FROM rentalBasicCharge[RentalCase*Amount]
  SELECTFROM -(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rental

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rental
DELETE FROM rentalBasicCharge[RentalCase*Amount]
  SELECTFROM -(V[RentalCase*CompRentalCharge];(arg1;rentalBasicCharge~ /\ rental

(TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rental
DELETE FROM Isn{detyp=RentalCase}
  SELECTFROM -(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rental

```

```

      (TO MAINTAIN  -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ re
DELETE FROM Isn{detyp=CompRentalCharge}
      SELECTFROM -((arg3 /\ -Delta);(arg3 /\ -Delta)~) /\ I[CompRentalCharge]

      (TO MAINTAIN  -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FROM UNI arg3::Comp
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ 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~ /\ ren

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ :
INSERT INTO Isn{detyp=Amount}
      SELECTFROM (rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharg

      (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCh
INSERT INTO Isn{detyp=Amount}
      SELECTFROM ((computedRentalCharge \/ Delta)~;computedRentalCharge /\ -I[

      (TO MAINTAIN  -(computedRentalCharge~;I[CompRentalCharge];computedRentalC
INSERT INTO Isn{detyp=CompRentalCharge}
      SELECTFROM (Delta;Delta~ /\ I[CompRentalCharge]) - I[CompRentalCharge]

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

(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~
(MAINTAINING -(computedRentalCharge~;computedRentalCharge) \/ I[Amount] FROM UNI

```

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

```

ONE OF INSERT INTO rentalCharge[RentalCase*Amount]
      SELECTFROM ((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo

      (TO MAINTAIN  -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ renta
INSERT INTO Isn{detyp=Amount}
      SELECTFROM (rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg

      (TO MAINTAIN  -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
INSERT INTO Isn{detyp=Amount}

```

```

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

(TO MAINTAIN -(computedRentalCharge~;I[CompRentalCharge];computedRentalCharge~
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~ /\ rentalLocation~
(MAINTAINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocation~
(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~

```

----- 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[CompNrDays*Date] EXECUTE -- (ECA rule 81)
ONE OF INSERT INTO rentalPeriod[RentalCase*Integer]
SELECTFROM (contractedStartDate;(earliestDate \/ Delta)~ /\ rcDroppedOffDate;latestDate~) /\

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

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~) /\
INSERT INTO Isn{dety=CompNrDays}
SELECTFROM (earliestDate;(earliestDate \/ Delta)~ /\ latestDate;latestDate~) /\

(TO MAINTAIN -(earliestDate;earliestDate~ /\ latestDate;latestDate~) /\
INSERT INTO projectedRentalPeriod[RentalCase*Integer]

```

```

SELECTFROM (contractedStartDate;(earliestDate \ / Delta)~ /\ contractedEnd

(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=CompNrDays}
SELECTFROM (Delta;Delta~ /\ I[CompNrDays]) - I[CompNrDays]

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[CompNr
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate
(MAINTAINING -(earliestDate~;earliestDate) \ / I[Date] FROM UNI earliestDate::Comp
(MAINTAINING -I[CompNrDays] \ / earliestDate;earliestDate~ FROM TOT earliestDate:

```

----- 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=CompNrDays}
SELECTFROM (earliestDate;(earliestDate \ / Delta)~ /\ latestDate;latestDate~ /

(TO MAINTAIN -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \ / I[Com
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]) \/ ((earliestDate
(TO MAINTAIN -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::
INSERT INTO Isn{detyp=CompNrDays}
SELECTFROM (Delta;Delta~ /\ I[CompNrDays]) - I[CompNrDays]

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

(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[CompNrDays]
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::CompNrDa
(MAINTAINING -I[CompNrDays] \/ earliestDate;earliestDate~ FROM TOT earliestDate::Comp

<-----End Derivation --

```

```

ON DELETE Delta FROM earliestDate[CompNrDays*Date] EXECUTE      -- (ECA rule 82)
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffDate;latestDate~);c

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;latestDate~);c
DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM -(V[RentalCase*CompNrDays];((earliestDate /\ -Delta);contractedStartDate;latestDate~);c

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;latestDate~);c
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffDate;latestDate~);c

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;latestDate~);c
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM -(V[RentalCase*CompNrDays];((earliestDate /\ -Delta);contractedStartDate;latestDate~);c

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;latestDate~);c
DELETE FROM Isn{detyp=RentalCase}
      SELECTFROM -((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffDate;latestDate~);c

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;latestDate~);c
DELETE FROM contractedEndDate[RentalCase*Date]
      SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ contractedStartDate;latestDate~);c

      (TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;latestDate~);c
DELETE FROM contractedEndDate[RentalCase*Date]
      SELECTFROM -(V[RentalCase*CompNrDays];((earliestDate /\ -Delta);contractedStartDate;latestDate~);c

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

```



```

DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ contractedStartDate;contractedStartDate) /\ contractedStartDate) /\ contractedStartDate) /\ contractedStartDate

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

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate) /\ contractedStartDate) /\ contractedStartDate
DELETE FROM Isn{dety=RentalCase}
SELECTFROM -((contractedStartDate;(earliestDate /\ -Delta)~ /\ contractedStartDate;contractedStartDate) /\ contractedStartDate) /\ contractedStartDate

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate) /\ contractedStartDate) /\ contractedStartDate
DELETE FROM Isn{dety=CompNrDays}
SELECTFROM -((earliestDate /\ -Delta);(earliestDate /\ -Delta)~) /\ I[CompNrDays]

(TO MAINTAIN -I[CompNrDays] \/ earliestDate;I[Date];earliestDate~ FROM UNI earliestDate::CompNrDays) /\ I[CompNrDays]
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate) /\ contractedStartDate) /\ contractedStartDate
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contractedStartDate) /\ contractedStartDate) /\ contractedStartDate
(MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::CompNrDays) /\ I[Date]
(MAINTAINING -I[CompNrDays] \/ earliestDate;earliestDate~ FROM TOT earliestDate::CompNrDays) /\ I[CompNrDays]

```

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

```

ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM (-((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffDate;rcDroppedOffDate) /\ rcDroppedOffDate) /\ rcDroppedOffDate) /\ rcDroppedOffDate

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate) /\ contractedStartDate) /\ contractedStartDate
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*CompNrDays];((earliestDate /\ -Delta);contractedStartDate;contractedStartDate) /\ contractedStartDate) /\ contractedStartDate

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

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate) /\ contractedStartDate) /\ contractedStartDate
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*CompNrDays];((earliestDate /\ -Delta);contractedStartDate;contractedStartDate) /\ contractedStartDate) /\ contractedStartDate

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate) /\ contractedStartDate) /\ contractedStartDate
DELETE FROM Isn{dety=RentalCase}
SELECTFROM -((contractedStartDate;(earliestDate /\ -Delta)~ /\ rcDroppedOffDate;rcDroppedOffDate) /\ rcDroppedOffDate) /\ rcDroppedOffDate

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

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

```

```

SELECTFROM (-(V[RentalCase*CompNrDays];((earliestDate /\ -Delta);contractedSt

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

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM (-(V[RentalCase*CompNrDays];((earliestDate /\ -Delta);contractedSt

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
DELETE FROM Isn{dety=RentalCase}
SELECTFROM (-(contractedStartDate;earliestDate /\ -Delta)~ /\ contractedEndD

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
DELETE FROM Isn{dety=CompNrDays}
SELECTFROM (-(earliestDate /\ -Delta);(earliestDate /\ -Delta)~) /\ I[CompNrD

(TO MAINTAIN -I[CompNrDays] \/ earliestDate;I[Date];earliestDate~ FROM UNI ea
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted
(MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::CompNrDa
(MAINTAINING -I[CompNrDays] \/ earliestDate;earliestDate~ FROM TOT earliestDate::Comp

```

<-----End Derivation --

```

ON INSERT Delta IN latestDate[CompNrDays*Date] EXECUTE -- (ECA rule 83)
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=CompNrDays}
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{dety=Integer}
SELECTFROM projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\

(TO MAINTAIN -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
INSERT INTO Isn{dety=Date}

```

```

SELECTFROM ((latestDate \/ Delta)~;latestDate /\ -I[Date]) \/ ((latestDate
(TO MAINTAIN -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::C
INSERT INTO Isn{detyp=CompNrDays}
SELECTFROM (Delta;Delta~ /\ I[CompNrDays]) - I[CompNrDays]

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

(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[CompNr
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate
(MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::CompNrDay
(MAINTAINING -I[CompNrDays] \/ latestDate;latestDate~ FROM TOT latestDate::CompNr

```

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

```

ONE OF INSERT INTO rentalPeriod[RentalCase*Integer]
SELECTFROM (contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(latestDate

(TO MAINTAIN -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
INSERT INTO Isn{detyp=Integer}
SELECTFROM rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate
INSERT INTO Isn{detyp=CompNrDays}
SELECTFROM (earliestDate;earliestDate~ /\ latestDate;(latestDate \/ Delta)~ /\

(TO MAINTAIN -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[CompNrDays]
INSERT INTO projectedRentalPeriod[RentalCase*Integer]
SELECTFROM (contractedStartDate;earliestDate~ /\ contractedEndDate;(latestDate

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

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

(TO MAINTAIN -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::CompNrDays
INSERT INTO Isn{detyp=CompNrDays}
SELECTFROM (Delta;Delta~ /\ I[CompNrDays]) - I[CompNrDays]

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

```

```

(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \/ I[CompNrDays]
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::CompNrDays*Dat
(MAINAINING -I[CompNrDays] \/ latestDate;latestDate~ FROM TOT latestDate::CompNrDays

```

<-----End Derivation --

```

ON DELETE Delta FROM latestDate[CompNrDays*Date] EXECUTE      -- (ECA rule 84)
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*CompNrDays];(earliestDate;contractedStartDate

      (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*CompNrDays];(earliestDate;contractedStartDate

      (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*CompNrDays];(earliestDate;contractedStartDate

      (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*CompNrDays];(earliestDate;contractedStartDate

      (TO MAINTAIN  -(contractedEndDate;contractedEndDate~ /\ contractedStartDa

```

```

DELETE FROM Isn{dety=RentCase}
SELECTFROM -((contractedStartDate;earliestDate~ /\ contractedEndDate;(la

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate
DELETE FROM Isn{dety=CompNrDays}
SELECTFROM -((latestDate /\ -Delta);(latestDate /\ -Delta)~) /\ I[CompNr

(TO MAINTAIN -I[CompNrDays] \/ latestDate;I[Date];latestDate~ FROM UNI 1
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contr
(MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::CompNrDay
(MAINTAINING -I[CompNrDays] \/ latestDate;latestDate~ FROM TOT latestDate::CompNr

```

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

```

ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM -(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(latestDate

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*CompNrDays];(earliestDate;contractedStartDate~ /\

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

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*CompNrDays];(earliestDate;contractedStartDate~ /\

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;cont
DELETE FROM Isn{dety=RentCase}
SELECTFROM -(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;(latestDate

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

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

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

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

```

```

SELECTFROM -(V[RentalCase*CompNrDays];(earliestDate;contractedStartDate~ /\
(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
DELETE FROM Isn{detyp=RentalCase}
SELECTFROM -((contractedStartDate;earliestDate~ /\ contractedEndDate;(latestD

(TO MAINTAIN -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;co
DELETE FROM Isn{detyp=CompNrDays}
SELECTFROM -((latestDate /\ -Delta);(latestDate /\ -Delta)~) /\ I[CompNrDays]

(TO MAINTAIN -I[CompNrDays] \/ latestDate;I[Date];latestDate~ FROM UNI latest
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted
(MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::CompNrDays*Dat
(MAINTAINING -I[CompNrDays] \/ latestDate;latestDate~ FROM TOT latestDate::CompNrDays

```

<-----End Derivation --

```

ON INSERT Delta IN computedRentalPeriod[CompNrDays*Integer] EXECUTE -- (ECA r
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~ /\ rcDrope
INSERT INTO Isn{detyp=Integer}
SELECTFROM ((computedRentalPeriod \/ Delta)~;computedRentalPeriod /\ -I[

(TO MAINTAIN -(computedRentalPeriod~;I[CompNrDays];computedRentalPeriod)
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=CompNrDays}
SELECTFROM (Delta;Delta~ /\ I[CompNrDays]) - I[CompNrDays]

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

(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate
(MAINTAINING -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~ FROM C

```

```

(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~)
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~)
(MAINAINING -(computedRentalPeriod~;computedRentalPeriod) \/ I[Integer] FROM UNI

```

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

```

ONE OF INSERT INTO rentalPeriod[RentalCase*Integer]
      SELECTFROM ((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)

      (TO MAINTAIN -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)
INSERT INTO Isn{detyp=Integer}
      SELECTFROM (rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)

      (TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)
INSERT INTO Isn{detyp=Integer}
      SELECTFROM ((computedRentalPeriod \/ Delta)~;computedRentalPeriod /\ -I[Integer])

      (TO MAINTAIN -(computedRentalPeriod~;I[CompNrDays];computedRentalPeriod) \/ I[CompNrDays]
INSERT INTO projectedRentalPeriod[RentalCase*Integer]
      SELECTFROM ((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~)

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

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

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

(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);computedRentalPeriod)
(MAINAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);computedRentalPeriod)
(MAINAINING -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~ FROM ComputedRentalPeriod
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);computedRentalPeriod)
(MAINAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);computedRentalPeriod)
(MAINAINING -(computedRentalPeriod~;computedRentalPeriod) \/ I[Integer] FROM UNI com

```

<-----End Derivation --

```

ON DELETE Delta FROM computedRentalPeriod[CompNrDays*Integer] EXECUTE -- (ECA
DELETE FROM Isn{detyp=CompNrDays}
      SELECTFROM -((computedRentalPeriod /\ -Delta);(computedRentalPeriod /\ -Delta)~)

      (TO MAINTAIN -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~ FROM ComputedRentalPeriod

```

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

```
DELETE FROM Isn{dety=CompNrDays}
SELECTFROM -((computedRentalPeriod /\ -Delta);(computedRentalPeriod /\ -Delta)~) /\

(TO MAINTAIN -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~ FROM Compu
```

<-----End Derivation --

```
ON INSERT Delta IN ctcNrOfDays[CompTariffedCharge*Integer] EXECUTE -- (ECA ru
ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
SELECTFROM (rentalPeriod;(ctcNrOfDays \/ Delta)~ /\ rcIssuedCar;carType;

(TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalT
INSERT INTO Isn{dety=Amount}
SELECTFROM rentalBasicCharge~;(rentalPeriod;(ctcNrOfDays \/ Delta)~ /\ r

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssued
INSERT INTO rentalPenaltyCharge[RentalCase*Amount]
SELECTFROM (rentalExcessPeriod;(ctcNrOfDays \/ Delta)~ /\ rcIssuedCar;car

(TO MAINTAIN -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;e
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]
```



```

(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPer
(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPer
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar
(MAINAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) \/ I[
(MAINAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::Comp
(MAINAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOf

```

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

```

ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
      SELECTFROM (rentalPeriod;(ctcNrOfDays \/ Delta)~ /\ rcIssuedCar;carType;renta

      (TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariff
      INSERT INTO Isn{detyp=Amount}
      SELECTFROM rentalBasicCharge~;(rentalPeriod;(ctcNrOfDays \/ Delta)~ /\ rcIssu

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

      (TO MAINTAIN -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excess
      INSERT INTO Isn{detyp=Amount}
      SELECTFROM rentalPenaltyCharge~;(rentalExcessPeriod;(ctcNrOfDays \/ Delta)~ /

      (TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcIss
      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{dety=Integer}
SELECTFROM (Delta~;Delta /\ I[Integer]) - I[Integer]

(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
(MAINAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
(MAINAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
(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:

```

<-----End Derivation --

```

ON DELETE Delta FROM ctcNrOfDays[CompTariffedCharge*Integer] EXECUTE -- (ECA :
ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM -((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcIssuedCar;carTy

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

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

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

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM Isn{dety=RentalCase}
SELECTFROM -((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcIssuedCar;carTy

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

(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)~ /\ rcIssuedCar

(TO MAINTAIN -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase])

```

```

DELETE FROM contractedCarType[RentalCase*CarType]
  SELECTFROM -((projectedRentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ contract

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

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

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

(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ projectedRentalPe
DELETE FROM Isn{dety=RentalCase}
  SELECTFROM -((projectedRentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ contract

(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ projectedRentalPe
DELETE FROM Isn{dety=CompTariffedCharge}
  SELECTFROM -((ctcNrOfDays /\ -Delta);(ctcNrOfDays /\ -Delta)~) /\ I[Comp

(TO MAINTAIN -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays;
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Rental
(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 ctcNrOfDays

```

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

```

ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
  SELECTFROM -((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcIssuedCar;carType;r

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Re
DELETE FROM rcIssuedCar[RentalCase*Car]
  SELECTFROM -(V[RentalCase*CompTariffedCharge];((ctcNrOfDays /\ -Delta);renta

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

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Re
DELETE FROM rentalPeriod[RentalCase*Integer]
  SELECTFROM -(V[RentalCase*CompTariffedCharge];((ctcNrOfDays /\ -Delta);renta

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Re

```

```

DELETE FROM Isn{dety=RentCase}
SELECTFROM -((rentalPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcIssuedCar;carType;re

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Re
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
SELECTFROM -((rentalExcessPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcIssuedCar;car

(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=RentCase}
SELECTFROM -((rentalExcessPeriod;(ctcNrOfDays /\ -Delta)~ /\ rcIssuedCar;carT

(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=RentCase}
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 -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[RentalCase]
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/( rentalExc
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
(MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) \/( I[Integer] FROM UNI ctcNrOfDays::CompTari
(MAINTAINING -I[CompTariffedCharge] \/( ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOfDays:

```

<-----End Derivation --


```

ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
      SELECTFROM (rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;Amount)
      (TO MAINTAIN -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;Amount)
      INSERT INTO Isn{detyp=Amount}
      SELECTFROM rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;Amount)

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

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

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

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

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

      (TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay;Amount)
      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]

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

      (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;Amount)
      (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;Amount)
      (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPerDay;Amount)
      (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPerDay;Amount)
      (MAINTAINING -(ctcDailyAmount;ctcDailyAmount~ /\ ctcNrOfDays;ctcNrOfDays~) /\ I[CompTariffedCharge]
      (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay;Amount)
      (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffPerDay;Amount)
      (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 rcIssuedCar[RentalCase*Car]
      SELECTFROM (-(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTa

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

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

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

      (TO MAINTAIN  -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\
DELETE FROM Isn{dety=RentalCase}
      SELECTFROM (-(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTa

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

      (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~ /\ rcIssuedCar;carType;exc

      (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{detyp=RentalCase}
  SELECTFROM -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;re

(TO MAINTAIN -(contractedCarType;contractedCarType~ /\ projectedRentalPe
DELETE FROM Isn{detyp=CompTariffedCharge}
  SELECTFROM -((ctcDailyAmount /\ -Delta);(ctcDailyAmount /\ -Delta)~) /\

(TO MAINTAIN -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amount];ctcDaily
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Renta
(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 ----->

```

ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
  SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPe

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

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Re
DELETE FROM rentalPeriod[RentalCase*Integer]
  SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPe

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

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Re
DELETE FROM Isn{detyp=RentalCase}
  SELECTFROM -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPe

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

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

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

(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 -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[RentalCase
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/ (rentalExc
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
(MAINTAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmount::
(MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT ctcDai

```

<-----End Derivation --

```

ON INSERT Delta IN computedTariffedCharge[CompTariffedCharge*Amount] EXECUTE
ONE OF INSERT INTO rentalBasicCharge[RentalCase*Amount]
SELECTFROM ((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTari

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

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

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

```

```

(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~ /\ rcIssuedCar;carType;rentalTariffPer
(MAINTAINING  -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPer
(MAINTAINING  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar
(MAINTAINING  -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar
(MAINTAINING  -I[CompTariffedCharge] /\ computedTariffedCharge;computedTariffedCh
(MAINTAINING  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTar
(MAINTAINING  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTar
(MAINTAINING  -(computedTariffedCharge~;computedTariffedCharge) /\ I[Amount] FROM

```

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

```

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

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

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

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

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

```

```

      (TO MAINTAIN  -(computedTariffedCharge~;I[CompTariffedCharge];computedTariffed
INSERT INTO projectedBasicCharge[RentalCase*Amount]
      SELECTFROM ((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa

      (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;renta
INSERT INTO Isn{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~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
      (MAINTAINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
      (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
      (MAINTAINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
      (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[CompNrExcessDays*Date] EXECUTE      -- (ECA rule 93)
      ONE OF INSERT INTO rentalExcessPeriod[RentalCase*Integer]
      SELECTFROM (rcDroppedOffDate;lastDate~ /\ contractedEndDate;(firstDate \

```

```

      (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compNrExcessDays)
      INSERT INTO Isn{dety=Integer}
      SELECTFROM rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compNrExcessDays)

      (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compNrExcessDays)
      INSERT INTO Isn{dety=CompNrExcessDays}
      SELECTFROM (lastDate;lastDate~ /\ firstDate;(firstDate \/ Delta)~ /\ -I[CompNrExcessDays])

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

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

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

      (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compNrExcessDays)
      (MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compNrExcessDays)
      (MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[CompNrExcessDays]
      (MAINTAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::CompNrExcessDays
      (MAINTAINING -I[CompNrExcessDays] \/ firstDate;firstDate~ FROM TOT firstDate::CompNrExcessDays

```

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

```

ONE OF INSERT INTO rentalExcessPeriod[RentalCase*Integer]
      SELECTFROM (rcDroppedOffDate;lastDate~ /\ contractedEndDate;(firstDate \/ Delta)~ /\ -I[CompNrExcessDays])

      (TO MAINTAIN  -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compNrExcessDays)
      INSERT INTO Isn{dety=Integer}
      SELECTFROM rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compNrExcessDays)

      (TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);compNrExcessDays)
      INSERT INTO Isn{dety=CompNrExcessDays}
      SELECTFROM (lastDate;lastDate~ /\ firstDate;(firstDate \/ Delta)~ /\ -I[CompNrExcessDays])

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

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

      INSERT INTO Isn{dety=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[CompNrExcessDays] FROM
(MAINAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::CompNrExcessDays*
(MAINAINING -I[CompNrExcessDays] \/ firstDate;firstDate~ FROM TOT firstDate::CompNrEx

<-----End Derivation --

```

```

ON DELETE Delta FROM firstDate[CompNrExcessDays*Date] EXECUTE    -- (ECA rule 94
ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM (-((contractedEndDate;(firstDate /\ -Delta)~ /\ rcDroppedOffDate;

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM -(V[RentalCase*CompNrExcessDays];((firstDate /\ -Delta);cont

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
DELETE FROM contractedEndDate[RentalCase*Date]
      SELECTFROM (-((contractedEndDate;(firstDate /\ -Delta)~ /\ rcDroppedOffDate;

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
DELETE FROM contractedEndDate[RentalCase*Date]
      SELECTFROM -(V[RentalCase*CompNrExcessDays];((firstDate /\ -Delta);cont

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
DELETE FROM Isn{detyp=RentalCase}
      SELECTFROM -((contractedEndDate;(firstDate /\ -Delta)~ /\ rcDroppedOffDate;

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
DELETE FROM Isn{detyp=CompNrExcessDays}
      SELECTFROM -((firstDate /\ -Delta);(firstDate /\ -Delta)~) /\ I[CompNrEx

      (TO MAINTAIN -I[CompNrExcessDays] \/ firstDate;I[Date];firstDate~ FROM U
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
(MAINAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::CompNrExcess
(MAINAINING -I[CompNrExcessDays] \/ firstDate;firstDate~ FROM TOT firstDate::Con

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

```

```

ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM (-((contractedEndDate;(firstDate /\ -Delta)~ /\ rcDroppedOffDate;l

      (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contra
DELETE FROM rcDroppedOffDate[RentalCase*Date]
      SELECTFROM -(V[RentalCase*CompNrExcessDays];((firstDate /\ -Delta);contracte

```

```

      (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*CompNrExcessDays];((firstDate /\ -Delta);contracte

      (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=CompNrExcessDays}
      SELECTFROM  -((firstDate /\ -Delta);(firstDate /\ -Delta)~) /\ I[CompNrExcessD

      (TO MAINTAIN  -I[CompNrExcessDays] \/ firstDate;I[Date];firstDate~ FROM UNI fi
(MAINTAINING  -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINTAINING  -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::CompNrExcessDays*
(MAINTAINING  -I[CompNrExcessDays] \/ firstDate;firstDate~ FROM TOT firstDate::CompNrE

```

<-----End Derivation --

```

ON INSERT Delta IN lastDate[CompNrExcessDays*Date] EXECUTE      -- (ECA rule 95)
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=CompNrExcessDays}
      SELECTFROM  (lastDate;(lastDate \/ Delta)~ /\ firstDate;firstDate~ /\ -I[

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

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

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[CompNrExcessDays]
(MAINAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::CompNrExcessDay
(MAINAINING -I[CompNrExcessDays] \/ lastDate;lastDate~ FROM TOT lastDate::CompNr

```

----- 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=CompNrExcessDays}
      SELECTFROM (lastDate;(lastDate \/ Delta)~ /\ firstDate;firstDate~ /\ -I[CompN

      (TO MAINTAIN -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[CompNrExcessD
INSERT INTO Isn{detyp=Date}
      SELECTFROM ((lastDate \/ Delta)~;lastDate /\ -I[Date]) \/ ((lastDate \/ Delta

      (TO MAINTAIN -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::CompNrExcess
INSERT INTO Isn{detyp=CompNrExcessDays}
      SELECTFROM (Delta;Delta~ /\ I[CompNrExcessDays]) - I[CompNrExcessDays]

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[CompNrExcessDays] FRO
(MAINAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::CompNrExcessDays*Dat
(MAINAINING -I[CompNrExcessDays] \/ lastDate;lastDate~ FROM TOT lastDate::CompNrExce

```

<-----End Derivation --

```

ON DELETE Delta FROM lastDate[CompNrExcessDays*Date] EXECUTE -- (ECA rule 96)
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*CompNrExcessDays];(firstDate;contractedEndDat

      (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*CompNrExcessDays];(firstDate;contractedEndDate;

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
DELETE FROM Isn{detyp=RentalCase}
SELECTFROM -((contractedEndDate;firstDate~ /\ rcDroppedOffDate;(lastDate /\

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;c
DELETE FROM Isn{detyp=CompNrExcessDays}
SELECTFROM -((lastDate /\ -Delta);(lastDate /\ -Delta)~) /\ I[CompNrExcessDays]

(TO MAINTAIN -I[CompNrExcessDays] \/ lastDate;I[Date];lastDate~ FROM UNI lastDate;
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate;
(MAINTAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::CompNrExcessDays*Date;
(MAINTAINING -I[CompNrExcessDays] \/ lastDate;lastDate~ FROM TOT lastDate::CompNrExcessDays;

```

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

```

ONE OF DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM -((contractedEndDate;firstDate~ /\ rcDroppedOffDate;(lastDate /\

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate;
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*CompNrExcessDays];(firstDate;contractedEndDate~ /\

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate;
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM -((contractedEndDate;firstDate~ /\ rcDroppedOffDate;(lastDate /\

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate;
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM -(V[RentalCase*CompNrExcessDays];(firstDate;contractedEndDate~ /\

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate;
DELETE FROM Isn{detyp=RentalCase}
SELECTFROM -((contractedEndDate;firstDate~ /\ rcDroppedOffDate;(lastDate /\

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate;
DELETE FROM Isn{detyp=CompNrExcessDays}
SELECTFROM -((lastDate /\ -Delta);(lastDate /\ -Delta)~) /\ I[CompNrExcessDays]

(TO MAINTAIN -I[CompNrExcessDays] \/ lastDate;I[Date];lastDate~ FROM UNI lastDate;
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndDate;
(MAINTAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::CompNrExcessDays*Date;
(MAINTAINING -I[CompNrExcessDays] \/ lastDate;lastDate~ FROM TOT lastDate::CompNrExcessDays;

```


<-----End Derivation --

```

ON INSERT Delta IN computedNrOfExcessDays[CompNrExcessDays*Integer] EXECUTE --
ONE OF INSERT INTO rentalExcessPeriod[RentalCase*Integer]
      SELECTFROM ((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~)

      (TO MAINTAIN -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~)
INSERT INTO Isn{dety=Integer}
      SELECTFROM (rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEndD

      (TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
INSERT INTO Isn{dety=Integer}
      SELECTFROM ((computedNrOfExcessDays \/ Delta)~;computedNrOfExcessDays /\

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

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

(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedNrOfExcessDays
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedNrOfExcessDays
(MAINTAINING -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfExcessDays
(MAINTAINING -(computedNrOfExcessDays~;computedNrOfExcessDays) \/ I[Integer] FROM

```

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

```

ONE OF INSERT INTO rentalExcessPeriod[RentalCase*Integer]
      SELECTFROM ((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedNrOfExcessDays

      (TO MAINTAIN -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedNrOfExcessDays
INSERT INTO Isn{dety=Integer}
      SELECTFROM (rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedEndD

      (TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
INSERT INTO Isn{dety=Integer}
      SELECTFROM ((computedNrOfExcessDays \/ Delta)~;computedNrOfExcessDays /\ -I[I

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

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

(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedNrOfExcessDays

```

```

(MAINTEINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINTEINING -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfExcessDays~ F
(MAINTEINING -(computedNrOfExcessDays~;computedNrOfExcessDays) \/ I[Integer] FROM UNI

<-----End Derivation --

```

```

ON DELETE Delta FROM computedNrOfExcessDays[CompNrExcessDays*Integer] EXECUTE
DELETE FROM Isn{dety=CompNrExcessDays}
SELECTFROM -((computedNrOfExcessDays /\ -Delta);(computedNrOfExcessDays /\ -Del

(TO MAINTAIN -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfExcessD

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

```

```

DELETE FROM Isn{dety=CompNrExcessDays}
SELECTFROM -((computedNrOfExcessDays /\ -Delta);(computedNrOfExcessDays /\ -Delta)~)

(TO MAINTAIN -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfExcessDays~

<-----End Derivation --

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```

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~ /\ contractedDropoffBranch
NEW x:Amount;
      ALL of INSERT INTO rentalLocationPenaltyCharge[RentalCase*Amount]
      SELECTFROM (rcDroppedOffBranch;(distbranch \/ Delta)~ /\ cont

      (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDr
INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocat
      SELECTFROM ((distbranch \/ Delta);rcDroppedOffBranch~ /\ (dis

      (TO MAINTAIN  -(rcDroppedOffBranch;distbranch~ /\ contractedDr

```

```

        (MAINTAINING -(rcDroppedOffBranch;distbranch~ /\ 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 --

```

```

        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;contractedC

THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [

```
THEN INSERT INTO projectedRentalPeriod[R
```

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

```
(TO MAINTAIN  -(contractedCarType;c
```

```
PICK a,b FROM projectedRentalPeriod~;('a
```

```
THEN INSERT INTO ctcNrOfDays[CompTariffe
```

```
SELECTFROM 'b' [CompTariffedCharge]:
```

```
(TO MAINTAIN  -(contractedCarType;c
```

(MAINTEINING -(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
```

```
(MAINTAINING -(contractedCarType;contractedCar
```

```
(MAINTAINING -(contractedCarType;contractedCarT
```

```
(MAINTAINING -(contractedCarType;contractedCarType~ /\
```

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [

```
THEN INSERT INTO contractedCarType[Rental]
```

```
SELECT FROM 'a' [RentalCase]*'b' [Car'
```

```
(TO MAINTAIN  -(contractedCarType;c
```

```
PICK a,b FROM contractedCarType~; ('a' [Re
```

THEN ONE OF ONE NONEMPTY ALTERNATIVE OF 1

```

THEN INSERT INTO rents

```

SELECTFROM 'a' [

(TO MAINTAIN - (

PICK a,b FROM rentalT;

THEN INSERT INTO ctcD

SELECTFROM 'b' [c

(TO MAINTAIN - (

(MAINTRAINING -(contractedCar'

```
NEW x:Amount;
```

ALL of INSERT INTO rentalT:

(TO MAINTAIN - (cont)

```
INSERT INTO ctcDaily
```

SELECTFROM 'b' [Com]

```

                                (TO MAINTAIN -(con
                                (MAINTAINING -(contractedCar
                                (MAINTAINING -(contractedCar
                                (MAINTAINING -(contractedCarType;con
                                (MAINTAINING -(contractedCarType;contractedCarType
NEW x:CarType;
    ALL of INSERT INTO contractedCarType[RentalCase]
        SELECTFROM 'a'[RentalCase]*'b'[CompTar
                                (TO MAINTAIN -(contractedCarType;cont
                                ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
                                THEN INSERT INTO rentalTar
                                    SELECTFROM 'a'[Car
                                (TO MAINTAIN -(con
                                PICK a,b FROM rentalTari
                                THEN INSERT INTO ctcDaily
                                    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
                                (MAINTAINING -(contractedCarT
                                (MAINTAINING -(contractedCarType
                                (MAINTAINING -(contractedCarType;contr
                                (MAINTAINING -(contractedCarType;contractedCar
                                (MAINTAINING -(contractedCarType;contractedCarT
                                (MAINTAINING -(contractedCarType;contractedCarType~ /\
                                (MAINTAINING -(contractedCarType;contractedCarType~ /\ projec
                                PICK a,b FROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount
                                THEN BLOCK
                                (CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
                                (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPer
                                (MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate
                                (MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;proj
                                (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTar
                                (MAINTAINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTar
                                (MAINTAINING -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Integer] FROM

```

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

```

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;contrac
(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[CompNrDays*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[CompNrDays*Date]
SELECTFROM computedRentalPeriod;((-projectedRentalPeriod~ /\ comp

(TO MAINTAIN -((contractedStartDate;earliestDate~ /\ contractedEn
DELETE FROM computedRentalPeriod[CompNrDays*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[CompNrDays*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[CompNrDays*Date]
      SELECTFROM  computedRentalPeriod;((-projectedRentalPeriod~ /\ computedR

      (TO MAINTAIN  -((contractedStartDate;earliestDate~ /\ contractedEndDate
DELETE FROM computedRentalPeriod[CompNrDays*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;rentalTa

      (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

```

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      (TO MAINTAIN  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP
(MAINTAINING  -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTariffP

```

<-----End Derivation --

```

ON INSERT Delta IN rcUserRequestedQ[RentalCase*YesNo] EXECUTE      -- (ECA rule 10
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNo]
      THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
      SELECTFROM 'a'[RentalCase]*'b'[Branch]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
PICK a,b FROM contractedPickupBranch~;((rcUserRequestedQ;'Yes'[YesNo]
      THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
      SELECTFROM 'b'[RentalCase]*'a'[Branch]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
(MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
NEW x:Branch;
      INSERT INTO contractedPickupBranch[RentalCase*Branch]
      SELECTFROM ((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)

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

      (TO MAINTAIN  -(contractedPickupBranch~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNo]
      THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM 'a'[RentalCase]*'b'[Branch]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
PICK a,b FROM contractedDropoffBranch~;((rcUserRequestedQ;'Yes'[YesNo]
      THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM 'b'[RentalCase]*'a'[Branch]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
(MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
INSERT INTO Isn{dety=Branch}
      SELECTFROM (contractedDropoffBranch~;rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)

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

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
PICK a,b FROM contractedStartDate~;((rcUserRequestedQ;'Yes'[YesNo]

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        THEN INSERT INTO contractedStartDate[RentalCase*Date]
            SELECTFROM 'b'[RentalCase]*'a'[Date]

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Date])
        (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Date])
        NEW x:Date;
        INSERT INTO contractedStartDate[RentalCase*Date]
            SELECTFROM ((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Date])
        (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Date])
        INSERT INTO Isn{dety=Date}
            SELECTFROM (contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)

        (TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Date])
        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)
        THEN INSERT INTO contractedEndDate[RentalCase*Date]
            SELECTFROM 'a'[RentalCase]*'b'[Date]

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Date])
        PICK a,b FROM contractedEndDate~;((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)
        THEN INSERT INTO contractedEndDate[RentalCase*Date]
            SELECTFROM 'b'[RentalCase]*'a'[Date]

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Date])
        (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Date])
        INSERT INTO Isn{dety=Date}
            SELECTFROM (contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)

        (TO MAINTAIN -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Date])
        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)
        THEN INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM 'a'[RentalCase]*'b'[CarType]

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*CarType])
        PICK a,b FROM contractedCarType~;((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)
        THEN INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM 'b'[RentalCase]*'a'[CarType]

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*CarType])
        (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*CarType])
        NEW x:CarType;
        INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM ((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*CarType])
        (MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*CarType])
        INSERT INTO Isn{dety=CarType}
            SELECTFROM (contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)

```

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(TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];rcUserRe
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNo]
      THEN INSERT INTO rcDriver[RentalCase*Person]
        SELECTFROM 'a'[RentalCase]*'b'[Person]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
PICK a,b FROM rcDriver~;((rcUserRequestedQ;'Yes'[YesNo];(rcUserReq
      THEN INSERT INTO rcDriver[RentalCase*Person]
        SELECTFROM 'b'[RentalCase]*'a'[Person]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
NEW x:Person;
      INSERT INTO rcDriver[RentalCase*Person]
        SELECTFROM ((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
      INSERT INTO Isn{dety=Person}
        SELECTFROM (rcDriver~;rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\

      (TO MAINTAIN  -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
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'[YesNo];rcUserRequestedQ~
PICK a,b FROM rcRenter~;((rcUserRequestedQ;'Yes'[YesNo];(rcUserReq
      THEN INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM 'b'[RentalCase]*'a'[Person]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
      INSERT INTO Isn{dety=Person}
        SELECTFROM (rcRenter~;rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\

      (TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
      INSERT INTO Isn{dety=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])

```



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(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])

```

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

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ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNo];(rcU
    THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM 'a'[RentalCase]*'b'[Branch]

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

    (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
NEW x:Branch;
    INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM ((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)~ /\

    (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalC
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
INSERT INTO Isn{detyp=Branch}
    SELECTFROM (contractedPickupBranch~;rcUserRequestedQ;'Yes'[YesNo];(rcUserRequ

(TO MAINTAIN -(contractedPickupBranch~;rcUserRequestedQ;'Yes'[YesNo];rcUserRe
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNo];(rcU
    THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
        SELECTFROM 'a'[RentalCase]*'b'[Branch]

    (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
PICK a,b FROM contractedDropoffBranch~;((rcUserRequestedQ;'Yes'[YesNo];
    THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
        SELECTFROM 'b'[RentalCase]*'a'[Branch]

    (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
INSERT INTO Isn{detyp=Branch}
    SELECTFROM (contractedDropoffBranch~;rcUserRequestedQ;'Yes'[YesNo];(rcUserReq

(TO MAINTAIN -(contractedDropoffBranch~;rcUserRequestedQ;'Yes'[YesNo];rcUserRe

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ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNo];(rcU
      THEN INSERT INTO contractedStartDate[RentalCase*Date]
            SELECTFROM 'a'[RentalCase]*'b'[Date]

      (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
PICK a,b FROM contractedStartDate~;((rcUserRequestedQ;'Yes'[YesNo];(rcU
      THEN INSERT INTO contractedStartDate[RentalCase*Date]
            SELECTFROM 'b'[RentalCase]*'a'[Date]

      (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
NEW x:Date;
      INSERT INTO contractedStartDate[RentalCase*Date]
            SELECTFROM ((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ \/\ Delta)~ /\

      (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalC
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
INSERT INTO Isn{dety=Date}
      SELECTFROM (contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];(rcUserRequest

(TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserReque
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNo];(rcU
      THEN INSERT INTO contractedEndDate[RentalCase*Date]
            SELECTFROM 'a'[RentalCase]*'b'[Date]

      (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
PICK a,b FROM contractedEndDate~;((rcUserRequestedQ;'Yes'[YesNo];(rcUse
      THEN INSERT INTO contractedEndDate[RentalCase*Date]
            SELECTFROM 'b'[RentalCase]*'a'[Date]

      (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
INSERT INTO Isn{dety=Date}
      SELECTFROM (contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];(rcUserRequested

(TO MAINTAIN -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNo];(rcU
      THEN INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM 'a'[RentalCase]*'b'[CarType]

      (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
PICK a,b FROM contractedCarType~;((rcUserRequestedQ;'Yes'[YesNo];(rcUse
      THEN INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM 'b'[RentalCase]*'a'[CarType]

      (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
NEW x:CarType;
      INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM ((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ \/\ Delta)~ /\

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      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalC
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
INSERT INTO Isn{dety=CarType}
      SELECTFROM (contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ~ /\
      Delta)~ /\ I[YesNo]) - I[YesNo]

      (TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequeste
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNo];(rcU
      THEN INSERT INTO rcDriver[RentalCase*Person]
      SELECTFROM 'a' [RentalCase]*'b' [Person]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
      PICK a,b FROM rcDriver~;((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequeste
      THEN INSERT INTO rcDriver[RentalCase*Person]
      SELECTFROM 'b' [RentalCase]*'a' [Person]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
NEW x:Person;
      INSERT INTO rcDriver[RentalCase*Person]
      SELECTFROM ((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delta)~ /\
      Delta)~ /\ I[YesNo]) - I[YesNo]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalC
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
INSERT INTO Isn{dety=Person}
      SELECTFROM (rcDriver~;rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delt
      Delta)~ /\ I[YesNo]) - I[YesNo]

      (TO MAINTAIN  -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcDr
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcUserRequestedQ;'Yes'[YesNo];(rcU
      THEN INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM 'a' [RentalCase]*'b' [Person]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
      PICK a,b FROM rcRenter~;((rcUserRequestedQ;'Yes'[YesNo];(rcUserRequeste
      THEN INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM 'b' [RentalCase]*'a' [Person]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
INSERT INTO Isn{dety=Person}
      SELECTFROM (rcRenter~;rcUserRequestedQ;'Yes'[YesNo];(rcUserRequestedQ /\ Delt
      Delta)~ /\ I[YesNo]) - I[YesNo]

      (TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcRe
INSERT INTO Isn{dety=RentalCase}
      SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

      (MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) /\ c

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(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ c
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ c
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ c
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ c
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ c
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ c
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ c
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ c
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ c
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ c
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ r
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ r
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ r
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ r
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ r
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ r
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ r
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase)) \/\ r

```

<-----End Derivation --

```

ON DELETE Delta FROM rcUserRequestedQ[RentalCase*YesNo] EXECUTE -- (ECA rule
ALL of DELETE FROM sessionNewUserRC[SESSION*RentalCase]
    SELECTFROM '_SESSION'[SESSION];(-(sessionNewUserRC;(rcUserRequestedQ /\

    (TO MAINTAIN -('_SESSION'[SESSION];sessionNewUserRC) \/\ sessionNewUserRC
ONE OF DELETE FROM sessionNewUserRC[SESSION*RentalCase]
    SELECTFROM '_SESSION'[SESSION];sessionNewUserRC;(-(V[RentalCase*Y

    (TO MAINTAIN -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUs
DELETE FROM sessionNewUserRC[SESSION*RentalCase]
    SELECTFROM '_SESSION'[SESSION];sessionNewUserRC;(-(rcUserRequest

    (TO MAINTAIN -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUs
    (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \/\
(MAINAINING -('_SESSION'[SESSION];sessionNewUserRC) \/\ sessionNewUserRC;rcUserR
(MAINAINING -('_SESSION'[SESSION];sessionNewUserRC) \/\ sessionNewUserRC;rcUserR

```

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

```

ALL of DELETE FROM sessionNewUserRC[SESSION*RentalCase]
    SELECTFROM '_SESSION'[SESSION];(-(sessionNewUserRC;(rcUserRequestedQ /\ -Delt

    (TO MAINTAIN -('_SESSION'[SESSION];sessionNewUserRC) \/\ sessionNewUserRC;rcUs
ONE OF DELETE FROM sessionNewUserRC[SESSION*RentalCase]
    SELECTFROM '_SESSION'[SESSION];sessionNewUserRC;(-(V[RentalCase*YesNo]

    (TO MAINTAIN -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
DELETE FROM sessionNewUserRC[SESSION*RentalCase]
    SELECTFROM '_SESSION'[SESSION];sessionNewUserRC;(-(rcUserRequestedQ /

```

```

        (TO MAINTAIN  -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
        (MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \ / rcUs
(MAINTAINING -(('_SESSION'[SESSION];sessionNewUserRC) \ / sessionNewUserRC;rcUserReques
(MAINTAINING -(('_SESSION'[SESSION];sessionNewUserRC) \ / sessionNewUserRC;rcUserReques

```

<-----End Derivation --

```

ON INSERT Delta IN rcBranchRequestedQ[RentalCase*YesNo] EXECUTE      -- (ECA rule
ALL of INSERT INTO Isn{dety=Branch}
        SELECTFROM (contractedPickupBranch~;rcBranchRequestedQ;'Yes'[YesNo];(rcBr

        (TO MAINTAIN  -(contractedPickupBranch~;rcBranchRequestedQ;'Yes'[YesNo];r
        (TO MAINTAIN  -(contractedDropoffBranch~;rcBranchRequestedQ;'Yes'[YesNo];
        (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequest
INSERT INTO Isn{dety=Date}
        SELECTFROM (contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];(rcBran

        (TO MAINTAIN  -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBr
        (TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBran
INSERT INTO Isn{dety=CarType}
        SELECTFROM (contractedCarType~;rcBranchRequestedQ;'Yes'[YesNo];(rcBranch

        (TO MAINTAIN  -(contractedCarType~;rcBranchRequestedQ;'Yes'[YesNo];rcBran
INSERT INTO Isn{dety=Person}
        SELECTFROM (rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];(rcBranchRequested

        (TO MAINTAIN  -(rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest
        (TO MAINTAIN  -(rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest
        (TO MAINTAIN  -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBran
INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];(rcBranchR

        (TO MAINTAIN  -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranch
INSERT INTO Isn{dety=RentalCase}
        SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcBranchRequestedQ;'Yes'
        THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
                SELECTFROM 'a'[RentalCase]*'b'[Branch]

                (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBran
PICK a,b FROM contractedPickupBranch~;((rcBranchRequestedQ;
THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM 'b'[RentalCase]*'a'[Branch]

```

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        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
NEW x:Branch;
        INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM ((rcBranchRequestedQ;'Yes'[YesNo];(rcBranchRequestedQ~

        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
        (MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcBranchRequestedQ;'Yes
        THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
        SELECTFROM 'a'[RentalCase]*'b'[Branch]

        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
        PICK a,b FROM contractedDropoffBranch~;((rcBranchRequestedQ;'Yes
        THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
        SELECTFROM 'b'[RentalCase]*'a'[Branch]

        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
NEW x:Branch;
        INSERT INTO contractedDropoffBranch[RentalCase*Branch]
        SELECTFROM ((rcBranchRequestedQ;'Yes'[YesNo];(rcBranchRequestedQ~

        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
        (MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcBranchRequestedQ;'Yes
        THEN INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[Date]

        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
        PICK a,b FROM contractedStartDate~;((rcBranchRequestedQ;'Yes
        THEN INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM 'b'[RentalCase]*'a'[Date]

        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
NEW x:Date;
        INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM ((rcBranchRequestedQ;'Yes'[YesNo];(rcBranchRequestedQ~

        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
        (MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcBranchRequestedQ;'Yes
        THEN INSERT INTO contractedEndDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[Date]

```



```

(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest

```

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

```

ALL of INSERT INTO Isn{dety=Branch}
    SELECTFROM (contractedPickupBranch~;rcBranchRequestedQ;'Yes'[YesNo];(rcBranchReq

    (TO MAINTAIN -(contractedPickupBranch~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
    (TO MAINTAIN -(contractedDropoffBranch~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
    (TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
INSERT INTO Isn{dety=Date}
    SELECTFROM (contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];(rcBranchRequestedQ /\

    (TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ /\
    (TO MAINTAIN -(contractedEndDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ /\
INSERT INTO Isn{dety=CarType}
    SELECTFROM (contractedCarType~;rcBranchRequestedQ;'Yes'[YesNo];(rcBranchRequestedQ /\

    (TO MAINTAIN -(contractedCarType~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ /\
INSERT INTO Isn{dety=Person}
    SELECTFROM (rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];(rcBranchRequestedQ /\

    (TO MAINTAIN -(rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ /\
    (TO MAINTAIN -(rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ /\
    (TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchRequestedQ /\
INSERT INTO contractedPickupBranch[RentalCase*Branch]
    SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];(rcBranchRequestedQ /\

    (TO MAINTAIN -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ /\
INSERT INTO Isn{dety=RentalCase}
    SELECTFROM (Delta;Delta~ /\ I[RentalCase]) - I[RentalCase]

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

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ /\
    THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM 'a'[RentalCase]*'b'[Branch]

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

        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ /\

```

```

(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I
NEW x:Branch;
    INSERT INTO contractedPickupBranch[RentalCase*Branch]
    SELECTFROM ((rcBranchRequestedQ;'Yes'[YesNo];(rcBranchRequestedQ \

    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /
    (MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I
    (MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcBranchRequestedQ;'Yes'[Ye
    THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
    SELECTFROM 'a'[RentalCase]*'b'[Branch]

    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
    PICK a,b FROM contractedDropoffBranch~;((rcBranchRequestedQ;'Yes'
    THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
    SELECTFROM 'b'[RentalCase]*'a'[Branch]

    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
    (MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I
NEW x:Branch;
    INSERT INTO contractedDropoffBranch[RentalCase*Branch]
    SELECTFROM ((rcBranchRequestedQ;'Yes'[YesNo];(rcBranchRequestedQ \

    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /
    (MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I
    (MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcBranchRequestedQ;'Yes'[Ye
    THEN INSERT INTO contractedStartDate[RentalCase*Date]
    SELECTFROM 'a'[RentalCase]*'b'[Date]

    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
    PICK a,b FROM contractedStartDate~;((rcBranchRequestedQ;'Yes'[Ye
    THEN INSERT INTO contractedStartDate[RentalCase*Date]
    SELECTFROM 'b'[RentalCase]*'a'[Date]

    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
    (MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I
NEW x:Date;
    INSERT INTO contractedStartDate[RentalCase*Date]
    SELECTFROM ((rcBranchRequestedQ;'Yes'[YesNo];(rcBranchRequestedQ \

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

    (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
    PICK a,b FROM contractedEndDate~;((rcBranchRequestedQ;'Yes'[YesN

```

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THEN INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'b' [RentalCase]*'a' [Date]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
(MAINAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I
NEW x:Date;
INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM ((rcBranchRequestedQ;'Yes' [YesNo];(rcBranchRequestedQ /\

(TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /
(MAINAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I
(MAINAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I[Rental
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcBranchRequestedQ;'Yes' [Ye
THEN INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM 'a' [RentalCase]*'b' [CarType]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
PICK a,b FROM contractedCarType~;((rcBranchRequestedQ;'Yes' [YesN
THEN INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM 'b' [RentalCase]*'a' [CarType]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
(MAINAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I
NEW x:CarType;
INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM ((rcBranchRequestedQ;'Yes' [YesNo];(rcBranchRequestedQ /\

(TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /
(MAINAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I
(MAINAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I[Rental
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcBranchRequestedQ;'Yes' [Ye
THEN INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM 'a' [RentalCase]*'b' [Person]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
PICK a,b FROM rcDriver~;((rcBranchRequestedQ;'Yes' [YesNo];(rcBra
THEN INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM 'b' [RentalCase]*'a' [Person]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
(MAINAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I
NEW x:Person;
INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM ((rcBranchRequestedQ;'Yes' [YesNo];(rcBranchRequestedQ /\

(TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /
(MAINAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I
(MAINAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I[Rental
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcBranchRequestedQ;'Yes' [Ye
THEN INSERT INTO rcRenter[RentalCase*Person]

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

(TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
PICK a,b FROM rcRenter~;((rcBranchRequestedQ;'Yes' [YesNo];rcBra
THEN INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM 'b' [RentalCase]*'a' [Person]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I
NEW x:Person;
INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM ((rcBranchRequestedQ;'Yes' [YesNo];(rcBranchRequestedQ /\

(TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I[Rental
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((rcDriver;rcDriver~ /\ rcBra
THEN INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM 'a' [RentalCase]*'b' [Person]

(TO MAINTAIN -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Y
PICK a,b FROM rcRenter~;((rcDriver;rcDriver~ /\ rcBranchRequeste
THEN INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM 'b' [RentalCase]*'a' [Person]

(TO MAINTAIN -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Y
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes' [YesNo];rc
NEW x:Person;
INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM ((rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes' [YesNo];(

(TO MAINTAIN -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes' [YesNo]
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes' [YesNo];rc
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes' [YesNo];rcBranchR
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [RentalCase])
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequeste
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequeste

```

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(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~)
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~)

```

<-----End Derivation --

```

ON DELETE Delta FROM rcBranchRequestedQ[RentalCase*YesNo] EXECUTE      -- (ECA rule 110)
ALL of DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
      SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC;(rcBranchRequestedQ /\
      SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(V[RentalCase*YesNo]
      (TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;
      ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
      SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(V[RentalCase*YesNo]
      (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC)
      DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
      SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcBranchRequestedQ /\
      (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC)
      (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC) \/
      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranchRequestedQ /\
      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranchRequestedQ /\

```

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

```

ALL of DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
      SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC;(rcBranchRequestedQ /\
      SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(V[RentalCase*YesNo]
      (TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;
      ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
      SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(V[RentalCase*YesNo]
      (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC)
      DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
      SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcBranchRequestedQ /\
      (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC)
      (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC) \/
      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranchRequestedQ /\
      (MAINTAINING -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranchRequestedQ /\

```

<-----End Derivation --

```

ON INSERT Delta IN sessionUser[SESSION*Person] EXECUTE      -- (ECA rule 111)
ALL of INSERT INTO Isn{dety=Person}
      SELECTFROM ((sessionUser \/ Delta)~;sessionUser /\ -I[Person]) \/ ((sessionUser

```

```

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

(MAINTAINING -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUser::SESS

```

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

```

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

        (TO MAINTAIN  -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUser::S
INSERT INTO Isn{dety=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 113)
ALL of INSERT INTO rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se

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

        (TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt
        (TO MAINTAIN  -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionTo
INSERT INTO Isn{dety=SESSION}
        SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINTAINING -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionToday::SES

```

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

```

ALL of INSERT INTO rcDroppedOffDate[RentalCase*Date]
        SELECTFROM (rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session

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

```

```

      (TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carA
      (TO MAINTAIN  -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionToday::
      INSERT INTO Isn{dety=SESSION}
      SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

      (MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
      (MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
      (MAINTAINING -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionToday::SESSION*

<-----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 '
      PICK a,b FROM 'Yes' [Y
      THEN BLOCK
      (CANNOT CHANGE V
      (MAINTAINING -(' _SESSION' [SE
      NEW x:YesNo;
      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:YesNo;
  ALL of INSERT INTO rcUserRequestedQ[RentalCas
    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 BLOCK
          (CANNOT CHANGE V[Yes
    (MAINTAINING -(' _SESSION' [SESSI
    NEW x:YesNo;
      ALL of BLOCK
        (CANNOT CHANGE 'Yes' [Y
        BLOCK
        (CANNOT CHANGE V[YesNo
      (MAINTAINING -(' _SESSION' [SES
      (MAINTAINING -(' _SESSION' [SESSI
      (MAINTAINING -(' _SESSION' [SESSION];ses
      (MAINTAINING -(' _SESSION' [SESSION];sessionNew
      (MAINTAINING -(' _SESSION' [SESSION];sessionNewUs
      (MAINTAINING -(' _SESSION' [SESSION];sessionNewUserRC) \
    (MAINTAINING -(' _SESSION' [SESSION];sessionNewUserRC) \ / sessionNew
NEW x:RentalCase;
  ALL of INSERT INTO sessionNewUserRC[SESSION*RentalCase]
    SELECTFROM ((' _SESSION' [SESSION];sessionNewUserRC /\ -(s

    (TO MAINTAIN -(' _SESSION' [SESSION];sessionNewUserRC) \ /
    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [Ren
      THEN INSERT INTO rcUserRequestedQ[RentalCas
        SELECTFROM 'a' [RentalCase]*'b' [YesNo]

    (TO MAINTAIN -(' _SESSION' [SESSION];se
    PICK a,b FROM rcUserRequestedQ~;('x' [Rental
    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
    (MAINTAINING -(' _SESSION' [SESSI
    NEW x:YesNo;
      ALL of BLOCK
        (CANNOT CHANGE 'Yes' [Y
        BLOCK
        (CANNOT CHANGE V[YesNo
      (MAINTAINING -(' _SESSION' [SES
      (MAINTAINING -(' _SESSION' [SESSI

```



```

PICK a,b FROM 'Yes' [YesNo]; ('x' [YesNo]*(((sessionNewUserRC;
THEN BLOCK
(CANNOT CHANGE V[YesNo*RentalCase] FROM Submission)
(MAINTAINING -(sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC)
(MAINTAINING -(sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC)
(MAINTAINING -(sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC)
(MAINTAINING -(sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC) \
(MAINTAINING -('_SESSION' [SESSION];sessionNewUserRC) \ sessionNewUserRC;rcUserRequestedQ
(MAINTAINING -('_SESSION' [SESSION];sessionNewUserRC) \ sessionNewUserRC;rcUserRequestedQ
(MAINTAINING -(sessionNewUserRC;sessionNewUserRC~) \ I[SESSION] FROM INJ sessionNewUserRC
(MAINTAINING -(sessionNewUserRC~;sessionNewUserRC) \ I[RentalCase] FROM UNI sessionNewUserRC

```

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

```

ALL of INSERT INTO Isn{dety=SESSION}
SELECTFROM (sessionNewUserRC;(sessionNewUserRC \ Delta)~ /\ -I[SESSION]) \
(TO MAINTAIN -(sessionNewUserRC;sessionNewUserRC~) \ I[SESSION] FROM INJ sessionNewUserRC
INSERT INTO Isn{dety=RentalCase}
SELECTFROM ((sessionNewUserRC \ Delta)~;sessionNewUserRC /\ -I[RentalCase])
(TO MAINTAIN -(sessionNewUserRC~;sessionNewUserRC) \ I[RentalCase] FROM UNI sessionNewUserRC
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION' [SESSION];sessionNewUserRC)
THEN INSERT INTO sessionNewUserRC[SESSION*RentalCase]
SELECTFROM 'a' [SESSION]*'b' [RentalCase]
(TO MAINTAIN -('_SESSION' [SESSION];sessionNewUserRC) \ sessionNewUserRC
PICK a,b FROM sessionNewUserRC~; (('_SESSION' [SESSION];sessionNewUserRC)
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]
THEN INSERT INTO rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM 'a' [RentalCase]*'b' [YesNo]
(TO MAINTAIN -('_SESSION' [SESSION];sessionNewUserRC) \ sessionNewUserRC
PICK a,b FROM rcUserRequestedQ~; ('a' [RentalCase]
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]
THEN BLOCK
(CANNOT CHANGE 'Yes' [YesNo])
PICK a,b FROM 'Yes' [YesNo]
THEN BLOCK
(CANNOT CHANGE V[YesNo*RentalCase] FROM Submission)
(MAINTAINING -('_SESSION' [SESSION];sessionNewUserRC)
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [YesNo])
BLOCK
(CANNOT CHANGE V[YesNo*RentalCase] FROM Submission)
(MAINTAINING -('_SESSION' [SESSION];sessionNewUserRC)
(MAINTAINING -('_SESSION' [SESSION];sessionNewUserRC)

```

```

(MAINTEINING -(' _SESSION' [SESSION];sessi
(MAINTEINING -(' _SESSION' [SESSION];sessionNewUserRC)
NEW x:YesNo;
  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' [YesNo];('
    THEN BLOCK
      (CANNOT CHANGE V[YesNo*R
  (MAINTEINING -(' _SESSION' [SESSION];s
  NEW x:YesNo;
    ALL of BLOCK
      (CANNOT CHANGE 'Yes' [YesNo]
      BLOCK
      (CANNOT CHANGE V[YesNo*Rent
      (MAINTEINING -(' _SESSION' [SESSION]
      (MAINTEINING -(' _SESSION' [SESSION];s
      (MAINTEINING -(' _SESSION' [SESSION];sessionN
      (MAINTEINING -(' _SESSION' [SESSION];sessionNewUserR
      (MAINTEINING -(' _SESSION' [SESSION];sessionNewUserRC)
      (MAINTEINING -(' _SESSION' [SESSION];sessionNewUserRC) \\/ ses
  (MAINTEINING -(' _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' [YesNo]

  (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' [YesNo];('
    THEN BLOCK
      (CANNOT CHANGE V[YesNo*R
  (MAINTEINING -(' _SESSION' [SESSION];s
  NEW x:YesNo;
    ALL of BLOCK
      (CANNOT CHANGE 'Yes' [YesNo]
      BLOCK
      (CANNOT CHANGE V[YesNo*Rent
      (MAINTEINING -(' _SESSION' [SESSION]

```

```

(MAINTEINING -('_SESSION' [SESSION];s
(MAINTEINING -('_SESSION' [SESSION];sessionN
(MAINTEINING -('_SESSION' [SESSION];sessionNewUserRC) \
NEW x:YesNo;
ALL of INSERT INTO rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM 'x' [RentalCase]*((('_SESSION' [SESSI

(TO MAINTAIN -('_SESSION' [SESSION];sessionNew
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'
THEN BLOCK
(CANNOT CHANGE 'Yes' [YesNo] FROM S
PICK a,b FROM 'Yes' [YesNo];('x' [YesNo]*
THEN BLOCK
(CANNOT CHANGE V[YesNo*RentalCase]
(MAINTEINING -('_SESSION' [SESSION];sessionNewU
(MAINTEINING -('_SESSION' [SESSION];sessionNewUserRC)
(MAINTEINING -('_SESSION' [SESSION];sessionNewUserRC) \
(MAINTEINING -('_SESSION' [SESSION];sessionNewUserRC) \
(MAINTEINING -('_SESSION' [SESSION];sessionNewUserRC) \
(MAINTEINING -('_SESSION' [SESSION];sessionNewUserRC) \
(MAINTEINING -('_SESSION' [SESSION];sessionNewUserRC) \
(MAINTEINING -('_SESSION' [SESSION];sessionNewUserRC;rcUse
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((sessionNewUserRC \
THEN INSERT INTO rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM 'a' [RentalCase]*'b' [YesNo]

(TO MAINTAIN -(sessionNewUserRC~;'_SESSION' [SESSION];sessi
PICK a,b FROM rcUserRequestedQ~;(((sessionNewUserRC \
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [YesNo]
THEN BLOCK
(CANNOT CHANGE 'Yes' [YesNo] FROM Submit
PICK a,b FROM 'Yes' [YesNo];('a' [YesNo]*'b' [Re
THEN BLOCK
(CANNOT CHANGE V[YesNo*RentalCase] FROM
(MAINTEINING -(sessionNewUserRC~;'_SESSION' [SESSION]
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [YesNo] FROM Submit ren
BLOCK
(CANNOT CHANGE V[YesNo*RentalCase] FROM Sub
(MAINTEINING -(sessionNewUserRC~;'_SESSION' [SESSIO
(MAINTEINING -(sessionNewUserRC~;'_SESSION' [SESSION]
(MAINTEINING -(sessionNewUserRC~;'_SESSION' [SESSION];sessio
(MAINTEINING -(sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC)
NEW x:YesNo;
ALL of INSERT INTO rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM (((sessionNewUserRC \
Delta)~;'_SESSION' [SESSION]

(TO MAINTAIN -(sessionNewUserRC~;'_SESSION' [SESSION];sessionN
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [YesNo]*(((sessi
THEN BLOCK

```

```

(CANNOT CHANGE 'Yes'[YesNo] FROM Submit rental req
PICK a,b FROM 'Yes'[YesNo];('x'[YesNo]*(((sessionNewUserRC
THEN BLOCK
(CANNOT CHANGE V[YesNo*RentalCase] FROM Submit ren
(MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNe
(MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC
(MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
(MAINTAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \ / rcUs
(MAINTAINING -(('_SESSION'[SESSION];sessionNewUserRC) \ / sessionNewUserRC;rcUserReques
(MAINTAINING -(('_SESSION'[SESSION];sessionNewUserRC) \ / sessionNewUserRC;rcUserReques
(MAINTAINING -(sessionNewUserRC;sessionNewUserRC~) \ / I[SESSION] FROM INJ sessionNewU
(MAINTAINING -(sessionNewUserRC~;sessionNewUserRC) \ / I[RentalCase] FROM UNI sessionN

```

<-----End Derivation --

```

ON DELETE Delta FROM sessionNewUserRC[SESSION*RentalCase] EXECUTE -- (ECA rule
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 117)
ALL of INSERT INTO contractedPickupBranch[RentalCase*Branch]
SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRe

(TO MAINTAIN -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranch
INSERT INTO Isn{detyp=Branch}
SELECTFROM (contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequest
(TO MAINTAIN -(rcDroppedOffBranch~;rcIssuedCar;(I[Car] /\ -(carAvailable
(TO MAINTAIN -(sessionBranch~;sessionBranch) \ / I[Branch] FROM UNI sessi
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
SELECTFROM (rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));se

(TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~))

```

```

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

(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINAINING -(sessionBranch~;sessionBranch) \/ I[Branch] FROM UNI sessionBranch

```

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

```

ALL of INSERT INTO contractedPickupBranch[RentalCase*Branch]
  SELECTFROM ((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest

(TO MAINTAIN -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequ
INSERT INTO Isn{dety=Branch}
  SELECTFROM (contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'
(TO MAINTAIN -(rcDroppedOffBranch~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;ca
(TO MAINTAIN -(sessionBranch~;sessionBranch) \/ I[Branch] FROM UNI sessionBra
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
  SELECTFROM (rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session

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

(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~)
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~)
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINAINING -(sessionBranch~;sessionBranch) \/ I[Branch] FROM UNI sessionBranch::SES

```

<-----End Derivation --

```

ON INSERT Delta IN sessionNewBranchRC[SESSION*RentalCase] EXECUTE -- (ECA rule
ALL of INSERT INTO contractedPickupBranch[RentalCase*Branch]
  SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq

(TO MAINTAIN -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranch
INSERT INTO Isn{dety=Branch}
  SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;

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

```

```

(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];se
THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM 'a' [SESSION]*'b' [RentalCase]

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

(TO MAINTAIN -(' _SESSION' [SESSION]
PICK a,b FROM rcBranchRequestedQ~;('a' [R
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
THEN BLOCK
(CANNOT CHANGE '
PICK a,b FROM 'Yes' [Y
THEN BLOCK
(CANNOT CHANGE V
(MAINTAINING -(' _SESSION' [SE
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHANGE 'Yes
BLOCK
(CANNOT CHANGE V[Yes
(MAINTAINING -(' _SESSION' [
(MAINTAINING -(' _SESSION' [SE
(MAINTAINING -(' _SESSION' [SESSION];
(MAINTAINING -(' _SESSION' [SESSION];sessionNewBr
NEW x:YesNo;
ALL of INSERT INTO rcBranchRequestedQ[RentalC
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 BLOCK
(CANNOT CHANGE V[Yes
(MAINTAINING -(' _SESSION' [SESI
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [Y
BLOCK
(CANNOT CHANGE V[YesNo

```



```

SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequeste

(TO MAINTAIN -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequ
INSERT INTO Isn{detyp=Branch}
SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'
INSERT INTO Isn{detyp=RentalCase}
SELECTFROM ((sessionNewBranchRC \/ Delta)~;sessionNewBranchRC /\ -I[RentalCas

(TO MAINTAIN -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] FROM
INSERT INTO Isn{detyp=SESSION}
SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((' _SESSION' [SESSION];session
THEN INSERT INTO sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM 'a' [SESSION]*'b' [RentalCase]

(TO MAINTAIN -(' _SESSION' [SESSION];sessionNewBranchRC) \/
PICK a,b FROM sessionNewBranchRC~;((' _SESSION' [SESSION];sessionN
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [Renta
THEN INSERT INTO rcBranchRequestedQ[RentalCas
SELECTFROM 'a' [RentalCase]*'b' [YesNo]

(TO MAINTAIN -(' _SESSION' [SESSION];sess
PICK a,b FROM rcBranchRequestedQ~;('a' [Rental
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN BLOCK
(CANNOT CHANGE 'Yes' [
PICK a,b FROM 'Yes' [YesNo]
THEN BLOCK
(CANNOT CHANGE V[YesN
(MAINTAINING -(' _SESSION' [SESSION
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [Yes
BLOCK
(CANNOT CHANGE V[YesNo*R
(MAINTAINING -(' _SESSION' [SESSI
(MAINTAINING -(' _SESSION' [SESSION
(MAINTAINING -(' _SESSION' [SESSION];sessi
(MAINTAINING -(' _SESSION' [SESSION];sessionNewBranchR
NEW x:YesNo;
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' [YesNo];(
THEN BLOCK
(CANNOT CHANGE V[YesNo*R
(MAINTAINING -('_SESSION' [SESSION];s
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [YesNo]
BLOCK
(CANNOT CHANGE V[YesNo*Rent
(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 /\ -(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' [YesNo]

(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' [YesNo];(
THEN BLOCK
(CANNOT CHANGE V[YesNo*R
(MAINTAINING -('_SESSION' [SESSION];s
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [YesNo]
BLOCK
(CANNOT CHANGE V[YesNo*Rent
(MAINTAINING -('_SESSION' [SESSION]
(MAINTAINING -('_SESSION' [SESSION];s
(MAINTAINING -('_SESSION' [SESSION];sessionN
(MAINTAINING -('_SESSION' [SESSION];sessionNewBranchRC)
NEW x:YesNo;
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'[YesNo] FROM S
PICK a,b FROM 'Yes'[YesNo];('x'[YesNo]*
THEN BLOCK
(CANNOT CHANGE V[YesNo*RentalCase]
(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 \\/ Delt
THEN INSERT INTO rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM 'a'[RentalCase]*'b'[YesNo]

(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'[YesNo] FROM Submit
PICK a,b FROM 'Yes'[YesNo];('a'[YesNo]*'b'[Re
THEN BLOCK
(CANNOT CHANGE V[YesNo*RentalCase] FROM
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHANGE 'Yes'[YesNo] FROM Submit bra
BLOCK
(CANNOT CHANGE V[YesNo*RentalCase] FROM Sub
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESS
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION]
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sess
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
NEW x:YesNo;
ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM (((sessionNewBranchRC \\/ Delta)~;'_SESSION'[SESSION]

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];session
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNo]*(((sessi
THEN BLOCK
(CANNOT CHANGE 'Yes'[YesNo] FROM Submit branch ren
PICK a,b FROM 'Yes'[YesNo];('x'[YesNo]*(((sessionNewBra
THEN BLOCK
(CANNOT CHANGE V[YesNo*RentalCase] FROM Submit bra
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];session
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC) \\/
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC) \\/ sessionNewBranchRC;rcBranch
(MAINAINING -('_SESSION'[SESSION];sessionNewBranchRC) \\/ sessionNewBranchRC;rcBranch

```

```

(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~)
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~)
(MAINTEINING -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] FROM UNI sess

<-----End Derivation --

ON DELETE Delta FROM sessionNewBranchRC[SESSION*RentalCase] EXECUTE -- (ECA r
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC /\ -Delta);rcBranchReques

(TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rc

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

DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM '_SESSION'[SESSION];(-(sessionNewBranchRC /\ -Delta);rcBranchRequestedQ;

(TO MAINTAIN -('_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch

<-----End Derivation --

ON INSERT Delta IN sessionReturnedCar[SESSION*Car] EXECUTE -- (ECA rule 121)
ALL of INSERT INTO Isn{dety=Car}
SELECTFROM ((sessionReturnedCar \/ Delta)~;'_SESSION'[SESSION];sessionRe

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar
(TO MAINTAIN -(sessionReturnedCar~;sessionReturnedCar) \/ I[Car] FROM UN
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
SELECTFROM rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));(se

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

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

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

(TO MAINTAIN -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt
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 sessionReturnedCar[SESSION*Car]
        SELECTFROM 'a' [SESSION]*'b' [Car]

      (TO MAINTAIN -(' _SESSION' [SESSION];sessionReturnedCar
PICK a,b FROM sessionReturnedCar~; ((' _SESSION' [SESSION];ses
THEN ALL of INSERT INTO Isn{detyp=Car}
      SELECTFROM 'a' [Car]*'b' [Car]

      (TO MAINTAIN -(' _SESSION' [SESSION];sessionRetu
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
      THEN INSERT INTO rcIssuedCar[Rent
        SELECTFROM 'b' [RentalCase]*

      (TO MAINTAIN -(' _SESSION' [S
PICK a,b FROM rcIssuedCar; ('a' [Ca
THEN ONE OF ONE NONEMPTY ALTERNAT
      THEN ALL of IN
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      S

      (TO
      (MAINTAIN
PICK a,b FROM
      THEN INSERT IN
        SELECTFR

      (TO MAINT.
      (MAINTAINING -(' _SESS
NEW x:RentalCase;
      ALL of ALL of INSE
        SELE

      (TO M
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      (TO M
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INSERT INTO :
        SELECTFROM

      (TO MAINTAIN
      (MAINTAINING -(' _SE
      (MAINTAINING -(' _SESS
      (MAINTAINING -(' _SESSION' [SE

```

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(MAINTEINING -('_SESSION'[SESSION];sessi
NEW x:RentalCase;
    ALL of INSERT INTO rcIssuedCar[RentalC
        SELECTFROM 'x'[RentalCase]*'b'

        (TO MAINTAIN -('_SESSION'[SESS
        ONE OF ONE NONEMPTY ALTERNATIVE
            THEN ALL of INSERT
                SELE

                (TO M
                DELET
                SELE

                (TO M
                (MAINTAINING
                PICK a,b FROM (re
                THEN INSERT INTO :
                SELECTFROM

                (TO MAINTAIN
                (MAINTAINING -('_SESSION
                NEW x:RentalCase;
                ALL of ALL of INSERT I
                SELECTF

                (TO MAIN
                DELETE F
                SELECTF

                (TO MAIN
                (MAINTAINING -(
                INSERT INTO rcI
                SELECTFROM 'x'

                (TO MAINTAIN -
                (MAINTAINING -('_SESSI
                (MAINTAINING -('_SESSION
                (MAINTAINING -('_SESSION'[SESSION]
                (MAINTAINING -('_SESSION'[SESSION];ses
                (MAINTAINING -('_SESSION'[SESSION];sessi
                (MAINTAINING -('_SESSION'[SESSION];sessionRetur
                (MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar)
                (MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar) \ / sessionR
NEW x:Car;
    ALL of INSERT INTO sessionReturnedCar[SESSION*Car]
        SELECTFROM ((('_SESSION'[SESSION];sessionReturnedCar /\ -

        (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar) \
        INSERT INTO Isn{dety=Car}

```

```

SELECTFROM 'x'[Car]*(('_SESSION'[SESSION];sessionReturnedCar)\
(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar)\
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Car]
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'b'[RentalCase]*'a'[Car]

(TO MAINTAIN -('_SESSION'[SESSION];se
PICK a,b FROM rcIssuedCar;('x'[Car]*(('_SES
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN ALL of INSERT INTO :
SELECTFROM

(TO MAINTAIN
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SELECTFROM

(TO MAINTAIN
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PICK a,b FROM (rentalHas
THEN INSERT INTO rcIssue
SELECTFROM 'a'[Ren

(TO MAINTAIN -('__S
(MAINTAINING -('__SESSION'[SESSI
NEW x:RentalCase;
ALL of ALL of INSERT INTO ren
SELECTFROM 'a'

(TO MAINTAIN -
DELETE FROM ren
SELECTFROM 'a'

(TO MAINTAIN -
(MAINTAINING -('__SESSI
INSERT INTO rcIssuedCar
SELECTFROM 'x'[Rental

(TO MAINTAIN -('__SESS
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(MAINTAINING -('__SESSION'[SESSION];ses
(MAINTAINING -('__SESSION'[SESSION];sessionReturned
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*((sessionRetu

(TO MAINTAIN -('__SESSION'[SESSION];sessi
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a
THEN ALL of INSERT INTO ren

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SELECTFROM 'a'

(TO MAINTAIN -
DELETE FROM ren
SELECTFROM 'a'

(TO MAINTAIN -
(MAINTAINING -('_SESSI
PICK a,b FROM (rentalHasBee
THEN INSERT INTO rcIssuedCar
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 rcIssuedCar[R
SELECTFROM 'x'[RentalCas

(TO MAINTAIN -('_SESSION
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(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar) \
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar) \ session
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar) \ sessionReturned
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionReturnedCar \
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'b'[RentalCase]*'a'[Car]

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION]
PICK a,b FROM rcIssuedCar;(((sessionReturnedCar \ Delta)~;
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
THEN ALL of INSERT INTO rentalHasBeenSta
SELECTFROM 'a'[RentalCase]*

(TO MAINTAIN -(sessionRetur
DELETE FROM rentalHasBeenEnd
SELECTFROM 'a'[RentalCase]*

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        (TO MAINTAIN -(sessionReturnedCar~;
        (MAINTAINING -(sessionReturnedCar~;
        PICK a,b FROM (rentalHasBeenStarted~ /\
        THEN INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]

        (TO MAINTAIN -(sessionReturnedCar~;
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];
        NEW x:RentalCase;
        ALL of ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]

        (TO MAINTAIN -(sessionReturnedCar~;
        DELETE FROM rentalHasBeenEnded[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]

        (TO MAINTAIN -(sessionReturnedCar~;
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];
        INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'x'[RentalCase]*'a'[RentalCase]

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];
        NEW x:RentalCase;
        ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'x'[RentalCase]*((sessionReturnedCar~;'_SESSION'[SESSION];

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCase]
        THEN ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]

        (TO MAINTAIN -(sessionReturnedCar~;
        DELETE FROM rentalHasBeenEnded[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]

        (TO MAINTAIN -(sessionReturnedCar~;
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];
        PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenEnded~ /\
        THEN INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];
        NEW x:RentalCase;
        ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
        SELECTFROM 'x'[RentalCase]*(((sessionReturnedCar~;'_SESSION'[SESSION];

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NEW x:Yes;
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NEW x:RentalCase;
ALL of ALL of INSERT INTO :
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ONE OF ONE NONEMPTY
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NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car
SELECTFROM 'x' [RentalCase]*'b' [Car]*'

(TO MAINTAIN -('_SESSION' [SESSION];se
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK

THEN ALL of INSERT INTO :
SELECTFROM

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PICK a,b FROM (rentalHas
THEN ONE OF ONE NONEMPTY
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NEW x:YesNo;
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NEW x:RentalCase;
ALL of ALL of INSERT INTO ren
SELECTFROM 'x'

(TO MAINTAIN -
DELETE FROM ren
SELECTFROM 'x'

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NEW x:RentalCase;
ALL of ALL of INSERT INTO ren
SELECTFROM 'a'

(TO MAINTAIN -
DELETE FROM ren
SELECTFROM 'a'

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NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x' [RentalCase]*(((I[Car] /\ .
(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'

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 PICK a,b FROM (rentalHasBee
 THEN ONE OF ONE NONEMPTY AL
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ALL of INSERT INTO rentalHasBeen
SELECTFROM 'x' [RentalCas

(TO MAINTAIN -( '_SESSION
DELETE FROM rentalHasBeen
SELECTFROM 'x' [RentalCas

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NEW x:YesNo;
ALL of INSERT INTO rentalIsPa
SELECTFROM 'x'[Rental

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ONE OF ONE NONEMPTY AL
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THEN BLO
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NEW x:YesNo;
ALL of BLOCK
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(MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION]
(MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionRetu
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*(((I[Car] /\ -(carAvailableAt

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];s
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Ren
THEN ALL of INSERT INTO rentalHasBeenStarte
SELECTFROM 'a'[RentalCase]*'b'

(TO MAINTAIN -(sessionReturned
DELETE FROM rentalHasBeenEnded[
SELECTFROM 'a'[RentalCase]*'b'

(TO MAINTAIN -(sessionReturned
(MAINTAINING -(sessionReturnedCar~;'_S
PICK a,b FROM (rentalHasBeenStarted~ /\ -re

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(MAINAINING -( '_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;
(MAINAINING -( '_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINAINING -(sessionReturnedCar~;sessionReturnedCar) \/ I[Car] FROM UNI session

```

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

```

ALL of INSERT INTO Isn{dety=Car}
    SELECTFROM ((sessionReturnedCar \/ Delta)~;'_SESSION' [SESSION];sessionReturnedCar)
    (TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar) \/
    (TO MAINTAIN -(sessionReturnedCar~;sessionReturnedCar) \/ I[Car] FROM UNI sessionReturnedCar
    INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
    SELECTFROM rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));(sessionReturnedCar~;
    (TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionReturnedCar
    INSERT INTO Isn{dety=Branch}
    SELECTFROM rcDroppedOffBranch~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));
    (TO MAINTAIN -(rcDroppedOffBranch~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));
    INSERT INTO rcDroppedOffDate[RentalCase*Date]
    SELECTFROM rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));(sessionReturnedCar~;
    (TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionReturnedCar
    INSERT INTO Isn{dety=Date}
    SELECTFROM rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));
    (TO MAINTAIN -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));
    INSERT INTO Isn{dety=SESSION}
    SELECTFROM (Delta;Delta~ /\ I[SESSION]) - I[SESSION]

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (( '_SESSION' [SESSION];sessionReturnedCar)
    THEN INSERT INTO sessionReturnedCar[SESSION*Car]
    SELECTFROM 'a' [SESSION]*'b' [Car]

    (TO MAINTAIN -( '_SESSION' [SESSION];sessionReturnedCar) \/
    PICK a,b FROM sessionReturnedCar~;(( '_SESSION' [SESSION];sessionReturnedCar)
    THEN ALL of INSERT INTO Isn{dety=Car}
    SELECTFROM 'a' [Car]*'b' [Car]

    (TO MAINTAIN -( '_SESSION' [SESSION];sessionReturnedCar)
    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [SESSION]*'b' [Car]
    THEN INSERT INTO rcIssuedCar[RentalCase*Car]
    SELECTFROM 'b' [RentalCase]*'a' [Car]

```

```

        (TO MAINTAIN -(' _SESSION' [SESSION
PICK a,b FROM rcIssuedCar;('a' [Car]*'b
THEN ONE OF ONE NONEMPTY ALTERNATIVE O
        THEN ALL of INSERT
        SELECT

        (TO MAI
DELETE
SELECT

        (TO MAI
        (MAINTAINING -
PICK a,b FROM (rent
THEN INSERT INTO rc
        SELECTFROM 'a

        (TO MAINTAIN
        (MAINTAINING -(' _SESSION' [
NEW x:RentalCase;
        ALL of ALL of INSERT INT
        SELECTFRO

        (TO MAINTA
DELETE FRO
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        (TO MAINTA
        (MAINTAINING -(' _
INSERT INTO rcIss
        SELECTFROM 'x' [R

        (TO MAINTAIN -('
        (MAINTAINING -(' _SESSION
        (MAINTAINING -(' _SESSION' [
        (MAINTAINING -(' _SESSION' [SESSION
        (MAINTAINING -(' _SESSION' [SESSION];sessionRet
NEW x:RentalCase;
        ALL of INSERT INTO rcIssuedCar[RentalCase*C
        SELECTFROM 'x' [RentalCase]*'b' [Car]

        (TO MAINTAIN -(' _SESSION' [SESSION];
ONE OF ONE NONEMPTY ALTERNATIVE OF P
        THEN ALL of INSERT INT
        SELECTFRO

        (TO MAINTA
DELETE FRO
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(MAINTEINING -( '_
PICK a,b FROM (rentalH
THEN INSERT INTO rcIss
SELECTFROM 'a' [R

(TO MAINTAIN -( '_
(MAINTEINING -( '_SESSION' [SES
NEW x:RentalCase;
ALL of ALL of INSERT INTO r
SELECTFROM '

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DELETE FROM r
SELECTFROM '

(TO MAINTAIN
(MAINTEINING -( '_SES
INSERT INTO rcIssued
SELECTFROM 'x' [Rent

(TO MAINTAIN -( '_SE
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(MAINTEINING -( '_SESSION' [SESSION];sessionReturnedCar
(MAINTEINING -( '_SESSION' [SESSION];sessionReturnedCar) \ / s
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NEW x:Car;
ALL of INSERT INTO sessionReturnedCar [SESSION*Car]
SELECTFROM (( '_SESSION' [SESSION];sessionReturnedCar /\ -(sess

(TO MAINTAIN -( '_SESSION' [SESSION];sessionReturnedCar) \ / ses
INSERT INTO Isn{dety=Car}
SELECTFROM 'x' [Car]*(( '_SESSION' [SESSION];sessionReturnedCar

(TO MAINTAIN -( '_SESSION' [SESSION];sessionReturnedCar) \ / ses
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [Car]*(( '_
THEN INSERT INTO rcIssuedCar [RentalCase*Car]
SELECTFROM 'b' [RentalCase]*'a' [Car]

(TO MAINTAIN -( '_SESSION' [SESSION];session
PICK a,b FROM rcIssuedCar;('x' [Car]*(( '_SESSION'
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
THEN ALL of INSERT INTO renta
SELECTFROM 'a' [R

(TO MAINTAIN -( '_
DELETE FROM renta

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SELECTFROM 'a' [R

      (TO MAINTAIN -( '_SESSION
      (MAINTAINING -( '_SESSION
PICK a,b FROM (rentalHasBeenS
THEN INSERT INTO rcIssuedCar[
      SELECTFROM 'a' [RentalCa

      (TO MAINTAIN -( '_SESSIO
(MAINTAINING -( '_SESSION' [SESSION];s
NEW x:RentalCase;
      ALL of ALL of INSERT INTO rentalHa
      SELECTFROM 'a' [Rent

      (TO MAINTAIN -( '_SE
DELETE FROM rentalHa
      SELECTFROM 'a' [Rent

      (TO MAINTAIN -( '_SE
      (MAINTAINING -( '_SESSION' [S
INSERT INTO rcIssuedCar[Ren
      SELECTFROM 'x' [RentalCase]

      (TO MAINTAIN -( '_SESSION' [
      (MAINTAINING -( '_SESSION' [SESSION]
      (MAINTAINING -( '_SESSION' [SESSION];s
      (MAINTAINING -( '_SESSION' [SESSION];sessionR
(MAINTAINING -( '_SESSION' [SESSION];sessionReturnedCar)
NEW x:RentalCase;
      ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
      SELECTFROM 'x' [RentalCase]*((sessionReturnedC

      (TO MAINTAIN -( '_SESSION' [SESSION];sessionRet
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 rcIssuedCar[Ren
      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 rcIssuedCar[Rental
SELECTFROM 'x'[RentalCase]*'x

(TO MAINTAIN -( '_SESSION'[SES
(MAINTAINING -( '_SESSION'[SESSION];se
(MAINTAINING -( '_SESSION'[SESSION];sess
(MAINTAINING -( '_SESSION'[SESSION];sessionRetu
(MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar
(MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar)
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(MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar) \\/ sessionRetu
(MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar) \\/ sessionReturn
(MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar) \\/ sessionReturnedCar;
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (((sessionReturnedCar \\/ Delt
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'b'[RentalCase]*'a'[Car]

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];ses
PICK a,b FROM rcIssuedCar;(((sessionReturnedCar \\/ Delta)~;'_SES
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 -(sessionReturnedCa
DELETE FROM rentalHasBeenEnded[Re
SELECTFROM 'a'[RentalCase]*'b'[R

(TO MAINTAIN -(sessionReturnedCa
(MAINTAINING -(sessionReturnedCar~;'_SES
PICK a,b FROM (rentalHasBeenStarted~ /\ -rent
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -(sessionReturnedCar~;'_SE
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSIO
NEW x:RentalCase;
ALL of ALL of INSERT INTO rentalHasBeenStarted[Ren
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -(sessionReturnedCar~;
DELETE FROM rentalHasBeenEnded[Renta
SELECTFROM 'a'[RentalCase]*'b'[Car]

```

```

        (TO MAINTAIN -(sessionReturnedCar~;
        (MAINTAINING -(sessionReturnedCar~;'_SESSIO
        INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'x'[RentalCase]*'a'[RentalCase]

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSI
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESS
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSIO
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sess
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedC
        NEW x:RentalCase;
        ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'x'[RentalCase]*((sessionReturnedCar~;'_SESSION'[S

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessio
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCa
        THEN ALL of INSERT INTO rentalHasBeenStarted[Rent
        SELECTFROM 'a'[RentalCase]*'b'[Rent

        (TO MAINTAIN -(sessionReturnedCar~;
        DELETE FROM rentalHasBeenEnded[Renta
        SELECTFROM 'a'[RentalCase]*'b'[Rent

        (TO MAINTAIN -(sessionReturnedCar~;
        (MAINTAINING -(sessionReturnedCar~;'_SESSIO
        PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalH
        THEN INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSI
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];
        NEW x:RentalCase;
        ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Re
        SELECTFROM 'x'[RentalCase]*(((sessionReturned

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'
        DELETE FROM rentalHasBeenEnded[RentalCase*Rent
        SELECTFROM 'x'[RentalCase]*(((sessionReturned

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'
        INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'x'[RentalCase]*'x'[RentalCase]*((

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];session
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturne
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedC

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(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar) \
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (('_SESSION'[SESSION];session
    THEN INSERT INTO sessionReturnedCar[SESSION*Car]
        SELECTFROM 'a'[SESSION]*'b'[Car]

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```

    (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[C
PICK a,b FROM sessionReturnedCar~;(('_SESSION'[SESSION];sessionR
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Car]*
    THEN INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'b'[RentalCase]*'a'[Car]

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```

    (TO MAINTAIN -('_SESSION'[SESSION];sess
PICK a,b FROM rcIssuedCar;('a'[Car]*'b'[Car])
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
    THEN ALL of INSERT INTO re
        SELECTFROM 'a

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    (TO MAINTAIN
DELETE FROM re
SELECTFROM 'a

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    (TO MAINTAIN
    (MAINTAINING -('_SESS
PICK a,b FROM (rentalHasBe
THEN ONE OF ONE NONEMPTY A
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(MAINTAINING -('_SESSION' [SESSION
NEW x:RentalCase;
    ALL of ALL of INSERT INTO renta
                                SELECTFROM 'a' [R
                                (TO MAINTAIN -('
                                DELETE FROM renta
                                SELECTFROM 'a' [R
                                (TO MAINTAIN -('
                                (MAINTAINING -('_SESSION
                                ONE OF ONE NONEMPTY ALTE
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                                PICK a,b F
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PICK a,b F
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(MAINTAINING -('_SESSION' [SESSION];s
NEW x:RentalCase;
ALL of ALL of INSERT INTO rentalHa
SELECTFROM 'x' [Rent
(TO MAINTAIN -('_SE
DELETE FROM rentalHa
SELECTFROM 'x' [Rent
(TO MAINTAIN -('_SE

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(MAINTEINING -( '_SESSION' [S
ONE OF ONE NONEMPTY ALTERNA
THEN INSERT I
SELECTF

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PICK a,b FROM
THEN ONE OF O

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NEW x:YesNo;
ALL of INSERT INTO
SELECTFROM

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(MAINTEINING -( '_SESSION' [SESSION];sessionR
(MAINTEINING -( '_SESSION' [SESSION];sessionReturned

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(TO MAIN
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                                (MAINTAINING - ('_
                                (MAINTAINING - ('_SESSION
(MAINTAINING - ('_SESSION' [SESSION]; s
NEW x:RentalCase;

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ALL of ALL of INSERT INTO rentalHa
SELECTFROM 'a'[Rent
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(TO MAINTAIN -( '_SE
DELETE FROM rentalHa
SELECTFROM 'a' [Rent
```

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      (TO MAINTAIN -('_SE
(MAINTAINING -('_SESSION'[S
ONE OF ONE NONEMPTY ALTERNA
      THEN INSERT I
      SELECTF

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      (TO MAIN
PICK a,b FROM
THEN ONE OF 0

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(TO MAINTAIN
PICK a,b FROM
THEN ONE OF ONE

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(MAINTAINING
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NEW x:YesNo;
ALL of INSERT INTO
SELECTFROM

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(MAINTAINING -('_S
(MAINTAINING -('_SES
(MAINTAINING -('_SESSION' [S
(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


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        (TO MAINTAIN  -(sessionReturnedCar~;'_SESSION'[SESSION];ses
PICK a,b FROM rcIssuedCar;(((sessionReturnedCar \ / Delta)~;'_SES
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  -(sessionReturnedCa
DELETE FROM rentalHasBeenEnded[Re
        SELECTFROM 'a'[RentalCase]*'b'[R

        (TO MAINTAIN  -(sessionReturnedCa
        (MAINTAINING -(sessionReturnedCar~;'_SES
PICK a,b FROM (rentalHasBeenStarted~ /\ -rent
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
        THEN INSERT INTO rentalIsP
                SELECTFROM 'a'[Renta

        (TO MAINTAIN  -(sessi
PICK a,b FROM rentalIsPaid
THEN ONE OF ONE NONEMPTY A
                THEN BL
                        (C
                                PICK a,
                                THEN BL
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                                        (MAINTAINING -
                                                NEW x:YesNo;
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                                                                                        (MAINTAINING
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                                                                                                        (MAINTAINING -(sessio
(MAINTAINING -(sessionReturnedCar
NEW x:YesNo;
        ALL of INSERT INTO rentalIsPaid
                SELECTFROM 'a'[RentalCa

        (TO MAINTAIN  -(sessionR
ONE OF ONE NONEMPTY ALTE
                THEN BLOCK
                        (CANN
                                PICK a,b F
                                THEN BLOCK
                                (CANN
                                        (MAINTAINING -(se
                                                NEW x:YesNo;
                                                        ALL of BLOCK

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(MAINAINING -(sessionReturnedCar
(MAINAINING -(sessionReturnedCar~;'_SES
(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSIO
NEW x:RentalCase;
ALL of ALL of INSERT INTO rentalHasBeenStarted[Ren
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -(sessionReturnedCar~;
DELETE FROM rentalHasBeenEnded[Renta
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -(sessionReturnedCar~;
(MAINAINING -(sessionReturnedCar~;'_SESSIO
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
THEN INSERT INTO rentalIsPaid
SELECTFROM 'a'[RentalCa

(TO MAINTAIN -(sessionR
PICK a,b FROM rentalIsPaidQ~;
THEN ONE OF ONE NONEMPTY ALTE
THEN BLOCK
(CANN
PICK a,b F
THEN BLOCK
(CANN
(MAINAINING -(se
NEW x:YesNo;
ALL of BLOCK
(CANNOT
BLOCK
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(MAINAINING -(
(MAINAINING -(se
(MAINAINING -(sessionRe
(MAINAINING -(sessionReturnedCar~;'
NEW x:YesNo;
ALL of INSERT INTO rentalIsPaidQ[R
SELECTFROM 'x'[RentalCase]

(TO MAINTAIN -(sessionRetu
ONE OF ONE NONEMPTY ALTERNA
THEN BLOCK
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PICK a,b FROM
THEN BLOCK
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NEW x:YesNo;
ALL of BLOCK
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BLOCK
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(MAINAINING -(sessionRetur
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(MAINAINING -(sessionReturnedCar~;'
(MAINAINING -(sessionReturnedCar~;'_SESSION'
(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESS
(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sess
(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedC
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*(((I[Car] /\ -(carAvailableAt;carA

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessio
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCa
THEN ALL of INSERT INTO rentalHasBeenStarted[Rent
SELECTFROM 'a'[RentalCase]*'b'[Rent

(TO MAINTAIN -(sessionReturnedCar~;
DELETE FROM rentalHasBeenEnded[Renta
SELECTFROM 'a'[RentalCase]*'b'[Rent

(TO MAINTAIN -(sessionReturnedCar~;
(MAINAINING -(sessionReturnedCar~;'_SESSION'
PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalH
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
THEN INSERT INTO rentalIsPaid
SELECTFROM 'a'[RentalCa

(TO MAINTAIN -(sessionR
PICK a,b FROM rentalIsPaidQ~;
THEN ONE OF ONE NONEMPTY ALTE
THEN BLOCK
(CANN
PICK a,b F
THEN BLOCK
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(MAINAINING -(se
NEW x:YesNo;
ALL of BLOCK

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BLOCK
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(MAINTAINING -(sessionRe
(MAINTAINING -(sessionReturnedCar~;'
NEW x:YesNo;
ALL of INSERT INTO rentalIsPaidQ[R
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -(sessionRetu
ONE OF ONE NONEMPTY ALTERNA
THEN BLOCK
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PICK a,b FROM
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NEW x:YesNo;
ALL of BLOCK
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BLOCK
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(MAINTAINING -(sessionRetur
(MAINTAINING -(sessionReturnedCar~
(MAINTAINING -(sessionReturnedCar~;'
(MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION];
NEW x:RentalCase;
ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Re
SELECTFROM 'x'[RentalCase]*(((sessionReturned

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'
DELETE FROM rentalHasBeenEnded[RentalCase*Rent
SELECTFROM 'x'[RentalCase]*(((sessionReturned

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FR
THEN INSERT INTO rentalIsPaidQ[R
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -(sessionRetu
PICK a,b FROM rentalIsPaidQ~;('x
THEN ONE OF ONE NONEMPTY ALTERNA
THEN BLOCK
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PICK a,b FROM

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THEN BLOCK
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NEW x:YesNo;
ALL of BLOCK
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(MAINTAINING -(sessionRetur
(MAINTAINING -(sessionReturnedCar~;'_SE
NEW x:YesNo;
ALL of INSERT INTO rentalIsPaidQ[Rent
SELECTFROM 'x'[RentalCase]*'x

(TO MAINTAIN -(sessionReturne
ONE NONEMPTY ALTERNATIVE OF PI
THEN BLOCK
(CANNOT CHANGE 'Ye
PICK a,b FROM 'Yes'[Yes
THEN BLOCK
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(MAINTAINING -(sessionReturned
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(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturne
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(MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar) \ / sessionReturnedCar;(I[Car]
(MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar) \ / sessionReturnedCar;(I[Car]
(MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car
(MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(sessionReturnedCar~;sessionReturnedCar) \ / I[Car] FROM UNI sessionRetu

```

<-----End Derivation --

```

ON DELETE Delta FROM sessionReturnedCar[SESSION*Car] EXECUTE -- (ECA rule 122
ALL of DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar /\ -Delta);(I[Car]

```

```

(TO MAINTAIN -(' _SESSION' [SESSION];sessionReturnedCar) \ / sessionReturnedCar
ONE OF DELETE FROM sessionReturnedCar [SESSION*Car]
      SELECTFROM ' _SESSION' [SESSION];(-(sessionReturnedCar /\ -Delta);

(TO MAINTAIN -(' _SESSION' [SESSION];sessionReturnedCar;(I[Car] /\
DELETE FROM Isn{dety=Car}
      SELECTFROM sessionReturnedCar~;' _SESSION' [SESSION];(-(sessionRet

(TO MAINTAIN -(' _SESSION' [SESSION];sessionReturnedCar;(I[Car] /\
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;' _SE
      THEN INSERT INTO carAvailableAt [Car*Branch]
            SELECTFROM 'a' [Car]*'b' [Branch]

            (TO MAINTAIN -(' _SESSION' [SESSION];sessionReturnedCar
            PICK a,b FROM carAvailableAt~;sessionReturnedCar~;' _SESSION
            THEN INSERT INTO carAvailableAt [Car*Branch]
                  SELECTFROM 'b' [Car]*'a' [Branch]

            (TO MAINTAIN -(' _SESSION' [SESSION];sessionReturnedCar
(MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -
NEW x:Branch;
      INSERT INTO carAvailableAt [Car*Branch]
            SELECTFROM (sessionReturnedCar~;' _SESSION' [SESSION];(-(session

      (TO MAINTAIN -(' _SESSION' [SESSION];sessionReturnedCar;(I[Car] /\
      (MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -
      (MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAva
(MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar) \ / sessionReturnedCar;(I[
(MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt

```

```

ALL of DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar /\ -Delta);I[Car] /\ r

(TO MAINTAIN -(' _SESSION'[SESSION];sessionReturnedCar) \/ sessionReturnedCar;
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar /\ -Delta);rcIss

(TO MAINTAIN -(' _SESSION'[SESSION];sessionReturnedCar;I[Car] /\ -(car
DELETE FROM Isn{dety=Car}
      SELECTFROM sessionReturnedCar~;' _SESSION'[SESSION];(-(sessionReturned

(TO MAINTAIN -(' _SESSION'[SESSION];sessionReturnedCar;I[Car] /\ -(car
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;' _SESSION
      THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'a'[Car]*'b'[Branch]

```

```

        (TO MAINTAIN  -('_SESSION' [SESSION];sessionReturnedCar;(I[C
PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION' [SES
THEN INSERT INTO carAvailableAt [Car*Branch]
        SELECTFROM 'b' [Car]*'a' [Branch]

        (TO MAINTAIN  -('_SESSION' [SESSION];sessionReturnedCar;(I[C
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carA
NEW x:Branch;
        INSERT INTO carAvailableAt [Car*Branch]
        SELECTFROM (sessionReturnedCar~;'_SESSION' [SESSION];(-(sessionRetur

        (TO MAINTAIN  -('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(c
        (MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carA
        (MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailabl
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar) \/ sessionReturnedCar;(I[Car]
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car

```

<-----End Derivation --

```

ON INSERT Delta IN Isn{dety=Branch} EXECUTE      -- (ECA rule 123)
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]
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

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----- 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~
(MAINTAINING -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
(MAINTAINING -I[Branch] \/ branchLocation;I[Location];branchLocation~ FROM UNI
NEW x:Location;
      INSERT INTO branchLocation[Branch*Location]
      SELECTFROM (I[Branch] /\ -(branchLocation;branchLocation~))*'x' [Location]

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

<-----End Derivation --

```

```

ON DELETE Delta FROM Isn{detyp=Branch} EXECUTE      -- (ECA rule 124)
BLOCK
(CANNOT CHANGE V[Branch*Branch] FROM Completeness of distance table)

```

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

```

BLOCK
(CANNOT CHANGE V[Branch*Branch] FROM Completeness of distance table)

```

<-----End Derivation --

```

ON INSERT Delta IN Isn{detyp=CarRentalCompany} EXECUTE      -- (ECA rule 125)
ONE OF INSERT INTO Isn{detyp=CarRentalCompany}
      SELECTFROM 'EU-Rent' [CarRentalCompany];branchOf~;branchOf /\ -I[CarRenta

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

```

```

INSERT INTO Isn{detyp=CarRentalCompany}
  SELECTFROM branchOf~;branchOf;'EU-Rent'[CarRentalCompany] /\ -I[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 126)
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*MaxRentalDuration]
SELECTFROM Delta;V[CarRentalCompany*MaxRentalDuration]

(MAINTAINING -branchOf \/ branchOf; 'EU-Rent' [CarRentalCompany] FROM EURent branch
(MAINTAINING -branchOf \/ branchOf; 'EU-Rent' [CarRentalCompany] FROM EURent branch
(MAINTAINING -branchOf \/ branchOf; 'EU-Rent' [CarRentalCompany] FROM EURent branch
(MAINTAINING -branchOf \/ branchOf; 'EU-Rent' [CarRentalCompany] FROM EURent branch
(MAINTAINING -branchOf \/ branchOf; 'EU-Rent' [CarRentalCompany] FROM EURent branch
(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*MaxRentalDuration]
SELECTFROM Delta;V [CarRentalCompany*MaxRentalDuration]

(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 DELETE Delta FROM Isn{dety=Date} EXECUTE  -- (ECA rule 128)
ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM rcUserRequestedQ; 'Yes' [YesNo];rcUserRequestedQ~;contractedSta

(TO MAINTAIN  -(contractedStartDate~;rcUserRequestedQ; 'Yes' [YesNo];rcUserR
DELETE FROM rcUserRequestedQ [RentalCase*YesNo]
SELECTFROM contractedStartDate; (-I[Date] /\ contractedStartDate~;rcUserR

(TO MAINTAIN  -(contractedStartDate~;rcUserRequestedQ; 'Yes' [YesNo];rcUserR
DELETE FROM rcUserRequestedQ [RentalCase*YesNo]

```

```

SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcUserR

(TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserR
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedSta

(TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserR
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcUserR

(TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserR
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcUserR

(TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserR
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;contracte

(TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBr
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcBranch

(TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBr
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcBranch

(TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBr
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;contracte

(TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBr
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcBranch

(TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBr
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcBranch

(TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBr
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedEnd

(TO MAINTAIN -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRe
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcUserReque

(TO MAINTAIN -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRe
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcUserReque

```

```

(TO MAINTAIN  -(contractedEndDate~;rcUserRequestedQ;'Yes' [YesNo];rcUserRe
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~;contractedEnd

(TO MAINTAIN  -(contractedEndDate~;rcUserRequestedQ;'Yes' [YesNo];rcUserRe
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcUserReque

(TO MAINTAIN  -(contractedEndDate~;rcUserRequestedQ;'Yes' [YesNo];rcUserRe
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcUserReque

(TO MAINTAIN  -(contractedEndDate~;rcUserRequestedQ;'Yes' [YesNo];rcUserRe
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~;contracte

(TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes' [YesNo];rcBranc
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcBranchReq

(TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes' [YesNo];rcBranc
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcBranchReq

(TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes' [YesNo];rcBranc
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~;contracte

(TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes' [YesNo];rcBranc
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcBranchReq

(TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes' [YesNo];rcBranc
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcBranchReq

(TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes' [YesNo];rcBranc
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));ses

(TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt
DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;rcIssuedCar;(

(TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt
DELETE FROM Isn{dety=Car}
SELECTFROM rcIssuedCar~;rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;

(TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcIssuedCar~;rcDroppedOffDate;(

```



```

THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'a'[Car]*'b'[Branch]

      (TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(car
PICK a,b FROM carAvailableAt~;rcIssuedCar~;rcDroppedOffDate;(-I[Da
THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'b'[Car]*'a'[Branch]

      (TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(car
(MAINTAINING -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;
NEW x:Branch;
      INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM (rcIssuedCar~;rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate

      (TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailable
(MAINTAINING -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;
DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM sessionToday;(-I[Date] /\ sessionToday~;sessionReturnedCar;(I

      (TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt
DELETE FROM sessionToday[SESSION*Date]
      SELECTFROM sessionReturnedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt

      (TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;contract

      (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
DELETE FROM earliestDate[CompNrDays*Date]
      SELECTFROM earliestDate;(-I[Date] /\ earliestDate~;earliestDate)

      (TO MAINTAIN  -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestD
DELETE FROM latestDate[CompNrDays*Date]
      SELECTFROM latestDate;(-I[Date] /\ latestDate~;latestDate)

      (TO MAINTAIN  -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::C
DELETE FROM firstDate[CompNrExcessDays*Date]
      SELECTFROM firstDate;(-I[Date] /\ firstDate~;firstDate)

      (TO MAINTAIN  -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::Comp
DELETE FROM lastDate[CompNrExcessDays*Date]
      SELECTFROM lastDate;(-I[Date] /\ lastDate~;lastDate)

```

```

      (TO MAINTAIN  -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::CompNrE
DELETE FROM sessionToday[SESSION*Date]
      SELECTFROM sessionToday;(-I[Date] /\ sessionToday~;sessionToday)

      (TO MAINTAIN  -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionTo
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM V[RentalCase*Date];Delta

DELETE FROM contractedEndDate[RentalCase*Date]
      SELECTFROM V[RentalCase*Date];Delta

DELETE FROM dateIntervalIsWithinMaxRentalDuration[Date*Date]
      SELECTFROM Delta;V[Date*Date]

DELETE FROM dateIntervalIsWithinMaxRentalDuration[Date*Date]
      SELECTFROM V[Date*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[CompNrDays*Date]
      SELECTFROM V[CompNrDays*Date];Delta

DELETE FROM latestDate[CompNrDays*Date]
      SELECTFROM V[CompNrDays*Date];Delta

DELETE FROM firstDate[CompNrExcessDays*Date]
      SELECTFROM V[CompNrExcessDays*Date];Delta

DELETE FROM lastDate[CompNrExcessDays*Date]
      SELECTFROM V[CompNrExcessDays*Date];Delta

DELETE FROM sessionToday[SESSION*Date]
      SELECTFROM V[SESSION*Date];Delta

(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINTAINING -(contractedStartDate~;contractedStartDate) \/ I[Date] FROM UNI con
(MAINTAINING -(contractedEndDate~;contractedEndDate) \/ I[Date] FROM UNI contrac
(MAINTAINING -(rcDroppedOffDate~;rcDroppedOffDate) \/ I[Date] FROM UNI rcDropped

```

```

(MAINTEINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::CompNrDays]
(MAINTEINING -I[CompNrDays] \/ earliestDate;earliestDate~ FROM TOT earliestDate::CompNrDays]
(MAINTEINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::CompNrDays]
(MAINTEINING -I[CompNrDays] \/ latestDate;latestDate~ FROM TOT latestDate::CompNrDays]
(MAINTEINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::CompNrExcessDays]
(MAINTEINING -I[CompNrExcessDays] \/ firstDate;firstDate~ FROM TOT firstDate::CompNrExcessDays]
(MAINTEINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::CompNrExcessDays]
(MAINTEINING -I[CompNrExcessDays] \/ lastDate;lastDate~ FROM TOT lastDate::CompNrExcessDays]
(MAINTEINING -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionToday::SessionDays]

```

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

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ONE OF DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedStartDate[RentalCase*Date]

      (TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedStartDate[RentalCase*Date])
      DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
      SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedStartDate[RentalCase*Date])

      (TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedStartDate[RentalCase*Date])
      DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
      SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedStartDate[RentalCase*Date])

      (TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedStartDate[RentalCase*Date])
      DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedStartDate[RentalCase*Date]

      (TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedStartDate[RentalCase*Date])
      DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedStartDate[RentalCase*Date])

      (TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedStartDate[RentalCase*Date])
      DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedStartDate[RentalCase*Date])

      (TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedStartDate[RentalCase*Date])
      DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;contractedStartDate[RentalCase*Date]

      (TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;contractedStartDate[RentalCase*Date])
      DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
      SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;contractedStartDate[RentalCase*Date])

      (TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;contractedStartDate[RentalCase*Date])
      DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
      SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;contractedStartDate[RentalCase*Date])

      (TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;contractedStartDate[RentalCase*Date])
      DELETE FROM rcBranchRequestedQ[RentalCase*Date]
      SELECTFROM rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;contractedStartDate[RentalCase*Date]

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DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;contractedStar

(TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchR
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcBranchRequ

(TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchR
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;rcBranchRequ

(TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchR
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedEndDate;

(TO MAINTAIN -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcUserRequestedQ

(TO MAINTAIN -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcUserRequestedQ

(TO MAINTAIN -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedEndDate;

(TO MAINTAIN -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcUserRequestedQ

(TO MAINTAIN -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcUserRequestedQ

(TO MAINTAIN -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;contractedEndD

(TO MAINTAIN -(contractedEndDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcBranchRequeste

(TO MAINTAIN -(contractedEndDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcBranchRequeste

(TO MAINTAIN -(contractedEndDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;contractedEndD

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(TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcBranchRequeste

(TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM contractedEndDate;(-I[Date] /\ contractedEndDate~;rcBranchRequeste

(TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
DELETE FROM rcDroppedOffDate[RentalCase*Date]
SELECTFROM rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionR

(TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carA
DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;rcIssuedCar;(I[Car

(TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carA
DELETE FROM Isn{dety=Car}
SELECTFROM rcIssuedCar~;rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;rcIss

(TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carA
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcIssuedCar~;rcDroppedOffDate;(-I[Da
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'a'[Car]*'b'[Branch]

(TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvai
PICK a,b FROM carAvailableAt~;rcIssuedCar~;rcDroppedOffDate;(-I[Date] /\
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'b'[Car]*'a'[Branch]

(TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvai
(MAINTAINING -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAv
NEW x:Branch;
INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM (rcIssuedCar~;rcDroppedOffDate;(-I[Date] /\ rcDroppedOffDate~;rc

(TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;car
(MAINTAINING -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAv
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM sessionToday;(-I[Date] /\ sessionToday~;sessionReturnedCar;(I[Car]

(TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carA
DELETE FROM sessionToday[SESSION*Date]
SELECTFROM sessionReturnedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~);r

(TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carA
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM contractedStartDate;(-I[Date] /\ contractedStartDate~;contractedSt

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

(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[CompNrDays*Date]
SELECTFROM earliestDate;(-I[Date] /\ earliestDate~;earliestDate)

(TO MAINTAIN -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::
DELETE FROM latestDate[CompNrDays*Date]
SELECTFROM latestDate;(-I[Date] /\ latestDate~;latestDate)

(TO MAINTAIN -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::CompNr
DELETE FROM firstDate[CompNrExcessDays*Date]
SELECTFROM firstDate;(-I[Date] /\ firstDate~;firstDate)

(TO MAINTAIN -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::CompNrExc
DELETE FROM lastDate[CompNrExcessDays*Date]
SELECTFROM lastDate;(-I[Date] /\ lastDate~;lastDate)

(TO MAINTAIN -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::CompNrExcess
DELETE FROM sessionToday[SESSION*Date]
SELECTFROM sessionToday;(-I[Date] /\ sessionToday~;sessionToday)

(TO MAINTAIN -(sessionToday~;sessionToday) \/ I[Date] FROM UNI sessionToday::
DELETE FROM contractedStartDate[RentalCase*Date]
SELECTFROM V[RentalCase*Date];Delta

DELETE FROM contractedEndDate[RentalCase*Date]
SELECTFROM V[RentalCase*Date];Delta

DELETE FROM dateIntervalIsWithinMaxRentalDuration[Date*Date]
SELECTFROM Delta;V[Date*Date]

DELETE FROM dateIntervalIsWithinMaxRentalDuration[Date*Date]
SELECTFROM V[Date*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

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DELETE FROM earliestDate[CompNrDays*Date]
SELECTFROM V[CompNrDays*Date];Delta

DELETE FROM latestDate[CompNrDays*Date]
SELECTFROM V[CompNrDays*Date];Delta

DELETE FROM firstDate[CompNrExcessDays*Date]
SELECTFROM V[CompNrExcessDays*Date];Delta

DELETE FROM lastDate[CompNrExcessDays*Date]
SELECTFROM V[CompNrExcessDays*Date];Delta

DELETE FROM sessionToday[SESSION*Date]
SELECTFROM V[SESSION*Date];Delta

(MAINTEINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ c
(MAINTEINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTEINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ c
(MAINTEINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTEINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTEINING -(contractedStartDate~;contractedStartDate) \/\ I[Date] FROM UNI contract
(MAINTEINING -(contractedEndDate~;contractedEndDate) \/\ I[Date] FROM UNI contractedEn
(MAINTEINING -(rcDroppedOffDate~;rcDroppedOffDate) \/\ I[Date] FROM UNI rcDroppedOffDa
(MAINTEINING -(earliestDate~;earliestDate) \/\ I[Date] FROM UNI earliestDate::CompNrDa
(MAINTEINING -I[CompNrDays] \/\ earliestDate;earliestDate~ FROM TOT earliestDate::Comp
(MAINTEINING -(latestDate~;latestDate) \/\ I[Date] FROM UNI latestDate::CompNrDays*Dat
(MAINTEINING -I[CompNrDays] \/\ latestDate;latestDate~ FROM TOT latestDate::CompNrDays
(MAINTEINING -(firstDate~;firstDate) \/\ I[Date] FROM UNI firstDate::CompNrExcessDays*
(MAINTEINING -I[CompNrExcessDays] \/\ firstDate;firstDate~ FROM TOT firstDate::CompNrE
(MAINTEINING -(lastDate~;lastDate) \/\ I[Date] FROM UNI lastDate::CompNrExcessDays*Dat
(MAINTEINING -I[CompNrExcessDays] \/\ lastDate;lastDate~ FROM TOT lastDate::CompNrExce
(MAINTEINING -(sessionToday~;sessionToday) \/\ I[Date] FROM UNI sessionToday::SESSION*

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<-----End Derivation --

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ON INSERT Delta IN Isn{detypr=RentalCase} EXECUTE      -- (ECA rule 129)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];
      THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
      SELECTFROM 'a'[RentalCase]*'b'[Branch]

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

      (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTEINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
NEW x:Branch;

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INSERT INTO contractedPickupBranch[RentalCase*Branch]
SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo]
THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
SELECTFROM 'a'[RentalCase]*'b'[Branch]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
PICK a,b FROM contractedPickupBranch~;(rcBranchRequestedQ;'Yes'[Yes
THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
SELECTFROM 'b'[RentalCase]*'a'[Branch]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];
THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
SELECTFROM 'a'[RentalCase]*'b'[Branch]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequested
PICK a,b FROM contractedDropoffBranch~;(rcUserRequestedQ;'Yes'[Yes
THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
SELECTFROM 'b'[RentalCase]*'a'[Branch]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequested
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo]
THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
SELECTFROM 'a'[RentalCase]*'b'[Branch]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
PICK a,b FROM contractedDropoffBranch~;(rcBranchRequestedQ;'Yes'[Y
THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
SELECTFROM 'b'[RentalCase]*'a'[Branch]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];
THEN INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM 'a'[RentalCase]*'b'[Date]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequested
PICK a,b FROM contractedStartDate~;(rcUserRequestedQ;'Yes'[YesNo];
THEN INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM 'b'[RentalCase]*'a'[Date]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequested
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
NEW x:Date;

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INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo]
THEN INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM 'a'[RentalCase]*'b'[Date]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
PICK a,b FROM contractedStartDate~;(rcBranchRequestedQ;'Yes'[YesNo];rc
THEN INSERT INTO contractedStartDate[RentalCase*Date]
SELECTFROM 'b'[RentalCase]*'a'[Date]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];
THEN INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'a'[RentalCase]*'b'[Date]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequested
PICK a,b FROM contractedEndDate~;(rcUserRequestedQ;'Yes'[YesNo];rc
THEN INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'b'[RentalCase]*'a'[Date]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequested
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo]
THEN INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'a'[RentalCase]*'b'[Date]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
PICK a,b FROM contractedEndDate~;(rcBranchRequestedQ;'Yes'[YesNo];rc
THEN INSERT INTO contractedEndDate[RentalCase*Date]
SELECTFROM 'b'[RentalCase]*'a'[Date]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];
THEN INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM 'a'[RentalCase]*'b'[CarType]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequested
PICK a,b FROM contractedCarType~;(rcUserRequestedQ;'Yes'[YesNo];rc
THEN INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM 'b'[RentalCase]*'a'[CarType]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequested
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
NEW x:CarType;

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INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo]
THEN INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM 'a'[RentalCase]*'b'[CarType]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
PICK a,b FROM contractedCarType~;(rcBranchRequestedQ;'Yes'[YesNo];
THEN INSERT INTO contractedCarType[RentalCase*CarType]
SELECTFROM 'b'[RentalCase]*'a'[CarType]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];
THEN INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM 'a'[RentalCase]*'b'[Person]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequested
PICK a,b FROM rcDriver~;(rcUserRequestedQ;'Yes'[YesNo];rcUserReque
THEN INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM 'b'[RentalCase]*'a'[Person]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequested
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
NEW x:Person;
INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo]
THEN INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM 'a'[RentalCase]*'b'[Person]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
PICK a,b FROM rcDriver~;(rcBranchRequestedQ;'Yes'[YesNo];rcBranchR
THEN INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM 'b'[RentalCase]*'a'[Person]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
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'[YesNo];rcUserRequested
PICK a,b FROM rcRenter~;(rcUserRequestedQ;'Yes'[YesNo];rcUserReque

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THEN INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM 'b'[RentalCase]*'a'[Person]

(TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed
THEN INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM 'a'[RentalCase]*'b'[Person]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed
PICK a,b FROM rcRenter~;(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed
THEN INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM 'b'[RentalCase]*'a'[Person]

(TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenProcessed
THEN INSERT INTO carAvailableAt[Car*Branch]
SELECTFROM 'b'[Car]*'a'[Branch]

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

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

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

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenProcessed
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenProcessed
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenProcessed
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed
THEN INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM 'a'[RentalCase]*'b'[Person]

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed
PICK a,b FROM rcDriver~;(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed
THEN INSERT INTO rcDriver[RentalCase*Person]
SELECTFROM 'b'[RentalCase]*'a'[Person]

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase] /\ rentalHasBeenProcessed

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THEN INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM 'a'[RentalCase]*'b'[Person]

      (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
PICK a,b FROM rcRenter~;(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
THEN INSERT INTO rcRenter[RentalCase*Person]
      SELECTFROM 'b'[RentalCase]*'a'[Person]

      (TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
      SELECTFROM rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedQ;'Yes'[YesNo];rcKeysHandedOverQ~

(TO MAINTAIN -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedQ;'Yes'[YesNo];rcKeysHandedOverQ~
INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
      SELECTFROM rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranchQ;'Yes'[YesNo];rentalIsPaidQ~

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranchQ;'Yes'[YesNo];rentalIsPaidQ~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranchQ;'Yes'[YesNo];rentalIsPaidQ~
      THEN INSERT INTO rentalCharge[RentalCase*Amount]
      SELECTFROM 'a'[RentalCase]*'b'[Amount]

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranchQ;'Yes'[YesNo];rentalIsPaidQ~
PICK a,b FROM rentalCharge~;(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranchQ;'Yes'[YesNo];rentalIsPaidQ~
THEN INSERT INTO rentalCharge[RentalCase*Amount]
      SELECTFROM 'b'[RentalCase]*'a'[Amount]

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranchQ;'Yes'[YesNo];rentalIsPaidQ~
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]
NEW x:Amount;
      INSERT INTO rentalCharge[RentalCase*Amount]
      SELECTFROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]

      (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcMaxRentalDuration;rcMaxRentalDuration~ /\ I[RentalCase]
      THEN INSERT INTO contractedStartDate[RentalCase*Date]
      SELECTFROM 'a'[RentalCase]*'b'[Date]

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

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

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        (TO MAINTAIN -(rcMaxRentalDuration;rcMaxR
(MAINAINING -(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;rcMaxRentalDuri
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration
        (MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ co
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndD
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rentalLocationPenaltyCharge;re
    THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
        THEN INSERT INTO rentalBasicCharge[RentalCase*Date]
            SELECTFROM 'a'[RentalCase]*'b'[Amount]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocat
        PICK a,b FROM rentalBasicCharge~;('a'[RentalCase*Date]
        THEN INSERT INTO arg1[CompRentalCharge*Amount]
            SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocat
(MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge;rentalLocat
NEW x:Amount;
    ALL of INSERT INTO rentalBasicCharge[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[CompRentalCharge*Amount]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocat
        INSERT INTO arg1[CompRentalCharge*Amount]
            SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocat
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge;rentalLocat
        (MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge;rentalLocat
(MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge;rentalLocat
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase*Date]
    THEN INSERT INTO rentalPenaltyCharge[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[Amount]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocat
        PICK a,b FROM rentalPenaltyCharge~;('a'[RentalCase*Date]
        THEN INSERT INTO arg2[CompRentalCharge*Amount]
            SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

        (TO MAINTAIN -(rentalLocationPenaltyCharge;rentalLocat
(MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge;rentalLocat

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SELECTFROM 'b'[CompTariffedCharge]

(TO MAINTAIN -(rcIssuedCar;rcIssuee
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rent
NEW x:Integer;
ALL of INSERT INTO rentalPeriod[RentalCase*In
SELECTFROM 'a'[RentalCase]*'b'[CompTa

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

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ re
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rent
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
THEN INSERT INTO rcIssuedCar[RentalCase*
SELECTFROM 'a'[RentalCase]*'b'[Car

(TO MAINTAIN -(rcIssuedCar;rcIssuee
PICK a,b FROM rcIssuedCar~;('a'[RentalCa
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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(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalCase*CarType;
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalCase*CarType;
NEW x:CarType;
ALL of INSERT INTO carType
SELECTFROM 'a'[CarType]

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalCase*CarType;
ONE OF ONE NONEMPTY
THEN

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THEN

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

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalCase*CarType;
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN INSERT INTO carType
SELECTFROM 'a'[CarType]

(TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\ rentalCase*CarType;
PICK a,b FROM carType~;
THEN ONE OF ONE NONEMPTY
THEN

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THEN

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(MAINTAINING
NEW x:Amount
  ALL of INS
      SE
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(MAINTAINING -(rcIssuedCar;rcIs
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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 -(rcIssu
ONE OF ONE NONEMPTY AL
THEN INS
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NEW x:Amount;

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(MAINTAINING -(rcIssuedCar;rcIssuedCar
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(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ re
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rent
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rental
PICK a,b FROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalT
THEN BLOCK
(CANNOT CHANGE V[CompTariffedCharge*RentalCase] FROM Trigger
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ 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[RentalCase]
SELECTFROM 'a'[RentalCase]*'b'[Int

(TO MAINTAIN -(rentalExcessPeriod;
PICK a,b FROM rentalExcessPeriod~;('a'[R
THEN INSERT INTO ctcNrOfDays[CompTariffedCharge]
SELECTFROM 'b'[CompTariffedCharge]

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

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

(TO MAINTAIN -(rentalExcessPeriod;rentalExcessPeriod~
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod~
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod~
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod~
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
THEN INSERT INTO rcIssuedCar[RentalCase]*'b'[CarType]
SELECTFROM 'a'[RentalCase]*'b'[CarType]

(TO MAINTAIN -(rentalExcessPeriod;rentalExcessPeriod~
PICK a,b FROM rcIssuedCar~;('a'[RentalCase]*'b'[CarType]
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
THEN INSERT INTO carType[CarType]
SELECTFROM 'a'[RentalCase]*'b'[CarType]

(TO MAINTAIN -(rentalExcessPeriod;rentalExcessPeriod~
PICK a,b FROM carType[CarType]
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
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(MAINTAINING -(rentalExcessP
NEW x:CarType;
ALL of INSERT INTO carType
SELECTFROM 'a' [Car

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(MAINTAINING -(rentalExcessP
(MAINTAINING -(rentalExcessP
(MAINTAINING -(rentalExcessPeriod;r
(MAINTAINING -(rentalExcessPeriod;rentalExcessP

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NEW x:Car;
  ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
    SELECTFROM 'a'[RentalCase]*'b'[CompTa

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

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

          PICK
          THEN

          (MAINTAINING
          NEW x:Amount
          ALL of INS
          SE

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          INS
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          (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

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

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

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

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

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate)
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractDate
PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedOffDate)
THEN BLOCK
(CANNOT CHANGE V[CompNrExcessDays*RentalCase] FROM Trigger ex
(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]*'b' [Date]
THEN INSERT INTO contractedStartDate[RentalCase]*'b' [Date]
SELECTFROM 'a' [RentalCase]*'b' [Date]

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

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

(TO MAINTAIN -(contractedEndDate;contractedEndDate)
INSERT INTO earliestDate[CompNrDays]*'a' [RentalCase]*'b' [Date]
SELECTFROM 'b' [CompNrDays]*'a' [RentalCase]*'b' [Date]

(TO MAINTAIN -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate)
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\

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ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [
    THEN INSERT INTO contractedEndDate[RentalCase]
        SELECTFROM 'a' [RentalCase]*'b' [Date]

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

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

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

            (TO MAINTAIN -(contractedEndDate;contractedEndDate;
        (MAINTAINING -(contractedEndDate;contractedEndDate;
        (MAINTAINING -(contractedEndDate;contractedEndDate~ /\
        (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contra
        PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;con
        THEN BLOCK
        (CANNOT CHANGE V[CompNrDays*RentalCase] FROM Trigger projected
        (MAINTAINING -(contractedEndDate;contractedEndDate~ /\ 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' [
            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]

            (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;

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

(TO MAINTAIN -(contractedCarType;contractedCarType;
PICK a,b FROM rentalCase
THEN INSERT INTO ctcDailyRate
SELECTFROM 'b' [CarType]*'a' [RentalCase]

(TO MAINTAIN -(contractedCarType;contractedCarType;
(MAINAINING -(contractedCarType;contractedCarType;
NEW x:Amount;
ALL of INSERT INTO rentalCase
SELECTFROM 'a' [RentalCase]*'b' [CarType]

(TO MAINTAIN -(contractedCarType;contractedCarType;
INSERT INTO ctcDailyRate
SELECTFROM 'b' [CarType]*'a' [RentalCase]

(TO MAINTAIN -(contractedCarType;contractedCarType;
(MAINAINING -(contractedCarType;contractedCarType;
(MAINAINING -(contractedCarType;contractedCarType;
(MAINAINING -(contractedCarType;contractedCarType;
(MAINAINING -(contractedCarType;contractedCarType;
NEW x:CarType;
ALL of INSERT INTO contractedCarType[RentalCase]
SELECTFROM 'a' [RentalCase]*'b' [CarType]

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

(TO MAINTAIN -(contractedCarType;contractedCarType;
PICK a,b FROM rentalCase
THEN INSERT INTO ctcDailyRate
SELECTFROM 'b' [CarType]*'a' [RentalCase]

(TO MAINTAIN -(contractedCarType;contractedCarType;
(MAINAINING -(contractedCarType;contractedCarType;
NEW x:Amount;
ALL of INSERT INTO rentalCase

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(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]
(MAINAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised);
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;
(MAINAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;r
(MAINAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \/\ re
(MAINAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;con
(MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ renta
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contrac
(MAINAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[Renta
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/\ (rent
(MAINAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contracte
(MAINAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contr
(MAINAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;pro
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
(MAINAINING -(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest
(MAINAINING -(I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest

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

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ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUser
    THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM 'a'[RentalCase]*'b'[Branch]

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

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
NEW x:Branch;
    INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalC
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcB
    THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM 'a'[RentalCase]*'b'[Branch]

        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
PICK a,b FROM contractedPickupBranch~;(rcBranchRequestedQ;'Yes'[YesNo];
    THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
        SELECTFROM 'b'[RentalCase]*'a'[Branch]

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        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
(MAINAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase*
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
        THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
                SELECTFROM 'a' [RentalCase]*'b' [Branch]

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
PICK a,b FROM contractedDropoffBranch~;(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
        THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
                SELECTFROM 'b' [RentalCase]*'a' [Branch]

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
        THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
                SELECTFROM 'a' [RentalCase]*'b' [Branch]

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
PICK a,b FROM contractedDropoffBranch~;(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
        THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
                SELECTFROM 'b' [RentalCase]*'a' [Branch]

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
(MAINAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase*
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
        THEN INSERT INTO contractedStartDate[RentalCase*Date]
                SELECTFROM 'a' [RentalCase]*'b' [Date]

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
PICK a,b FROM contractedStartDate~;(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
        THEN INSERT INTO contractedStartDate[RentalCase*Date]
                SELECTFROM 'b' [RentalCase]*'a' [Date]

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*
NEW x:Date;
        INSERT INTO contractedStartDate[RentalCase*Date]
                SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*
(MAINAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
        THEN INSERT INTO contractedStartDate[RentalCase*Date]
                SELECTFROM 'a' [RentalCase]*'b' [Date]

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
PICK a,b FROM contractedStartDate~;(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
        THEN INSERT INTO contractedStartDate[RentalCase*Date]
                SELECTFROM 'b' [RentalCase]*'a' [Date]

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        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase*Date]
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
        THEN INSERT INTO contractedEndDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[Date]

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

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Date]
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
        THEN INSERT INTO contractedEndDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[Date]

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

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase*CarType]
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
        THEN INSERT INTO contractedCarType[RentalCase*CarType]
        SELECTFROM 'a'[RentalCase]*'b'[CarType]

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
PICK a,b FROM contractedCarType~;(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
        THEN INSERT INTO contractedCarType[RentalCase*CarType]
        SELECTFROM 'b'[RentalCase]*'a'[CarType]

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*CarType]
NEW x:CarType;
        INSERT INTO contractedCarType[RentalCase*CarType]
        SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*CarType]

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*CarType]
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*CarType]
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
        THEN INSERT INTO contractedCarType[RentalCase*CarType]
        SELECTFROM 'a'[RentalCase]*'b'[CarType]

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
PICK a,b FROM contractedCarType~;(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\
        THEN INSERT INTO contractedCarType[RentalCase*CarType]
        SELECTFROM 'b'[RentalCase]*'a'[CarType]

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        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
(MAINAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUse
        THEN INSERT INTO rcDriver[RentalCase*Person]
                SELECTFROM 'a'[RentalCase]*'b'[Person]

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

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
NEW x:Person;
        INSERT INTO rcDriver[RentalCase*Person]
                SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalC
(MAINAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcB
        THEN INSERT INTO rcDriver[RentalCase*Person]
                SELECTFROM 'a'[RentalCase]*'b'[Person]

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
PICK a,b FROM rcDriver~;(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReques
        THEN INSERT INTO rcDriver[RentalCase*Person]
                SELECTFROM 'b'[RentalCase]*'a'[Person]

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
(MAINAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUse
        THEN INSERT INTO rcRenter[RentalCase*Person]
                SELECTFROM 'a'[RentalCase]*'b'[Person]

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
PICK a,b FROM rcRenter~;(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ
        THEN INSERT INTO rcRenter[RentalCase*Person]
                SELECTFROM 'b'[RentalCase]*'a'[Person]

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcB
        THEN INSERT INTO rcRenter[RentalCase*Person]
                SELECTFROM 'a'[RentalCase]*'b'[Person]

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
PICK a,b FROM rcRenter~;(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReques
        THEN INSERT INTO rcRenter[RentalCase*Person]
                SELECTFROM 'b'[RentalCase]*'a'[Person]

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        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
(MAINAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedPickupBranch~;(I[RentalCa
        THEN INSERT INTO carAvailableAt[Car*Branch]
                SELECTFROM 'b'[Car]*'a'[Branch]

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

        (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasB
(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~;(I[RentalCase] /\ renta

        (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBe
        (MAINAINING  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromis
(MAINAINING  -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKe
        THEN INSERT INTO rcDriver[RentalCase*Person]
                SELECTFROM 'a'[RentalCase]*'b'[Person]

        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
PICK a,b FROM rcDriver~;(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
        THEN INSERT INTO rcDriver[RentalCase*Person]
                SELECTFROM 'b'[RentalCase]*'a'[Person]

        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
(MAINAINING  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCa
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKe
        THEN INSERT INTO rcRenter[RentalCase*Person]
                SELECTFROM 'a'[RentalCase]*'b'[Person]

        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
PICK a,b FROM rcRenter~;(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
        THEN INSERT INTO rcRenter[RentalCase*Person]
                SELECTFROM 'b'[RentalCase]*'a'[Person]

        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
(MAINAINING  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCa
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;r

        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedC

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INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
  SELECTFROM rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;rc

(TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;rc
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rentalIsPaidQ;'Yes'[YesNo];rentalIs
  THEN INSERT INTO rentalCharge[RentalCase*Amount]
    SELECTFROM 'a'[RentalCase]*'b'[Amount]

    (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[Ren
  PICK a,b FROM rentalCharge~;(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~
  THEN INSERT INTO rentalCharge[RentalCase*Amount]
    SELECTFROM 'b'[RentalCase]*'a'[Amount]

    (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[Ren
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \
NEW x:Amount;
  INSERT INTO rentalCharge[RentalCase*Amount]
    SELECTFROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase] /\ -

    (TO MAINTAIN -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase])
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcMaxRentalDuration;rcMaxRentalDura
  THEN INSERT INTO contractedStartDate[RentalCase*Date]
    SELECTFROM 'a'[RentalCase]*'b'[Date]

    (TO MAINTAIN -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contra
  PICK a,b FROM contractedStartDate~;(rcMaxRentalDuration;rcMaxRentalDura
  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

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(MAINAINING -(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
(MAINAINING -(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
        (MAINAINING -(rentalLocationPenaltyCharge;rentalL
        (MAINAINING -(rentalLocationPenaltyCharge;rentalLoc
(MAINAINING -(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
(MAINAINING -(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
        (MAINAINING -(rentalLocationPenaltyCharge;rentalL
        (MAINAINING -(rentalLocationPenaltyCharge;rentalLoc
(MAINAINING -(rentalLocationPenaltyCharge;rentalLocationPe
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
    THEN INSERT INTO rentalLocationPenaltyCharge[

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

(TO MAINTAIN -(rentalLocationPenaltyCharge;
PICK a,b FROM rentalLocationPenaltyCharge~;('
THEN INSERT INTO arg3[CompRentalCharge*Amount]
SELECTFROM 'b' [CompRentalCharge]*'a' [Am

(TO MAINTAIN -(rentalLocationPenaltyCharge
(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
PICK a,b FROM (arg1;rentalBasicCharge~ /\ arg2;rentalPenaltyCharge~ /\
THEN BLOCK
(CANNOT CHANGE V[CompRentalCharge*RentalCase] FROM Trigger rental
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ ren
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDroppedOffDate;rcDroppedOffDate~
THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [Renta
THEN INSERT INTO contractedStartDate[RentalCa
SELECTFROM 'a' [RentalCase]*'b' [Date]

(TO MAINTAIN -(rcDroppedOffDate;rcDropp
PICK a,b FROM contractedStartDate~;('a' [Renta
THEN INSERT INTO earliestDate[CompNrDays*Date]
SELECTFROM 'b' [CompNrDays]*'a' [Date]

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

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

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

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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[CompNrDays*Date]
        SELECTFROM 'b'[CompNrDays]*'a'[Date]

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

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\
INSERT INTO latestDate[CompNrDays*Date]
        SELECTFROM 'b'[CompNrDays]*'a'[RentalCase]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
PICK a,b FROM (earliestDate;contractedStartDate~ /\ latestDate;rcDroppedOffDate~ /\
THEN BLOCK
    (CANNOT CHANGE V[CompNrDays*RentalCase] FROM Trigger rental period
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedStartDate~ /\
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcIssuedCar;rcIssuedCar~ /\ rentalPeriod
    THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase*Integer]
        THEN INSERT INTO rentalPeriod[RentalCase*Integer]
            SELECTFROM 'a'[RentalCase]*'b'[Integer]

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

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

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

        (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod

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(MAINTEINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPer
(MAINTEINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;ren
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
    THEN INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]

    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~
PICK a,b FROM rcIssuedCar~;('a'[RentalCase]*'
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
    THEN INSERT INTO carType[C
        SELECTFROM 'a'[Car]*

    (TO MAINTAIN -(rcIss
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;
    ALL of INSERT
    SELE

    (TO M
INSERT
SELE

    (TO M
(MAINTEINING
(MAINTEINING -
(MAINTEINING -(rcIssu
(MAINTEINING -(rcIssuedCar;rcIssu
NEW x:CarType;
    ALL of INSERT INTO carType[Car*
        SELECTFROM 'a'[Car]*'b'

    (TO MAINTAIN -(rcIssued
ONE OF ONE NONEMPTY ALTE
    THEN INSERT
    SELE

    (TO M
PICK a,b F
THEN INSERT

```

```

SELECT
    (TO M
    (MAINTAINING -(rc
    NEW x:Amount;
    ALL of INSERT I
    SELECTF

    (TO MAIN
    INSERT I
    SELECTF

    (TO MAIN
    (MAINTAINING -(
    (MAINTAINING -(rc
    (MAINTAINING -(rcIssuedC
    (MAINTAINING -(rcIssuedCar;rcIs
    (MAINTAINING -(rcIssuedCar;rcIssu
    (MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPer
    (MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPer
    NEW x:Car;
    ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
    SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

    (TO MAINTAIN -(rcIssuedCar;rcIssuedCar~ /\
    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
    THEN INSERT INTO carType[Car*
    SELECTFROM 'a'[Car]*'b'

    (TO MAINTAIN -(rcIssued
    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 -(rc
    NEW x:Amount;
    ALL of INSERT I
    SELECTF

    (TO MAIN
    INSERT I
    SELECTF

```



```

PICK a,b FROM rentalExcessPeriod~;('a'[Rental
THEN INSERT INTO ctcNrOfDays[CompTariffedChar
SELECTFROM 'b'[CompTariffedCharge]*'a'[

(TO MAINTAIN -(rentalExcessPeriod;renta
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod
NEW x:Integer;
ALL of INSERT INTO rentalExcessPeriod[RentalCase*I
SELECTFROM 'a'[RentalCase]*'b'[CompTariffe

(TO MAINTAIN -(rentalExcessPeriod;rentalEx
INSERT INTO ctcNrOfDays[CompTariffedCharge*
SELECTFROM 'b'[CompTariffedCharge]*'a'[Ren

(TO MAINTAIN -(rentalExcessPeriod;rentalEx
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeri
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -(rentalExcessPeriod;renta
PICK a,b FROM rcIssuedCar~;('a'[RentalCase]*'
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN INSERT INTO carType[C
SELECTFROM 'a'[Car]*

(TO MAINTAIN -(renta
PICK a,b FROM carType~;('a
THEN ONE OF ONE NONEMPTY A
THEN IN
S

(T
PICK a,
THEN IN
S

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

(TO M
INSE
SELE

(TO M

```

```

(MAINAINING
(MAINAINING
(MAINAINING -(rental
(MAINAINING -(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
(MAINAINING -(re
NEW x:Amount;
ALL of INSERT I
SELECTF

(TO MAIN
INSERT I
SELECTF

(TO MAIN
(MAINAINING -(
(MAINAINING -(re
(MAINAINING -(rentalExc
(MAINAINING -(rentalExcessPeri
(MAINAINING -(rentalExcessPeriod
(MAINAINING -(rentalExcessPeriod;rental
(MAINAINING -(rentalExcessPeriod;rentalExcessPeriod
NEW x:Car;
ALL of INSERT INTO rcIssuedCar[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
        (MAINTAINING -(
        (MAINTAINING -(re
        (MAINTAINING -(rentalExc
        (MAINTAINING -(rentalExcessPeriod;re
        NEW x:CarType;
        ALL of INSERT INTO carType[Car*Car
        SELECTFROM 'x'[Car]*'a'[Re

        (TO MAINTAIN -(rentalExces
        ONE OF ONE NONEMPTY ALTERNA
        THEN INSERT I
        SELECTF

        (TO MAIN
        PICK a,b FROM
        THEN INSERT I
        SELECTF

        (TO MAIN
        (MAINTAINING -(renta
        NEW x:Amount;
        ALL of INSERT INTO
        SELECTFROM

        (TO MAINTAI
        INSERT INTO
        SELECTFROM

        (TO MAINTAI
        (MAINTAINING -(ren
        (MAINTAINING -(renta
        (MAINTAINING -(rentalExcess
        (MAINTAINING -(rentalExcessPeriod;

```

```

(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
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[CompNrExcessDays*D
SELECTFROM 'b'[CompNrExcessDays]*'a'[Da

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

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

(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*
SELECTFROM 'a'[RentalCase]*'b'[Date]

(TO MAINTAIN -(rcDroppedOffDate;rcDropp
PICK a,b FROM rcDroppedOffDate~;'a'[RentalCa
THEN INSERT INTO lastDate[CompNrExcessDays*Da
SELECTFROM 'b'[CompNrExcessDays]*'a'[Da

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

(TO MAINTAIN -(rcDroppedOffDate;rcDroppedO

```

```

INSERT INTO lastDate[CompNrExcessDays*Date]
SELECTFROM 'b'[CompNrExcessDays]*'a'[RentalCase]

        (TO MAINTAIN -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contra
        (MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEnd
PICK a,b FROM (firstDate;contractedEndDate~ /\ lastDate;rcDroppedOffDate~
THEN BLOCK
        (CANNOT CHANGE V[CompNrExcessDays*RentalCase] FROM Trigger excess
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEnd
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;contractedEnd
PICK a,b FROM contractedStartDate~;'a'[RentalCase]
THEN INSERT INTO earliestDate[CompNrDays*Date]
        SELECTFROM 'b'[CompNrDays]*'a'[Date]

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

        (TO MAINTAIN -(contractedEndDate;contractedEnd
INSERT INTO earliestDate[CompNrDays*Date]
        SELECTFROM 'b'[CompNrDays]*'a'[RentalCase]

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

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

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

```

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        (TO MAINTAIN -(contractedEndDate;contracte
INSERT INTO latestDate[CompNrDays*Date]
        SELECTFROM 'b'[CompNrDays]*'a'[RentalCase]

        (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[CompNrDays*RentalCase] FROM Trigger projected ren
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;con
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (contractedCarType;contractedCarType
        THEN ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Renta
        THEN INSERT INTO projectedRentalPeriod[Rental
        SELECTFROM 'a'[RentalCase]*'b'[Integer]

        (TO MAINTAIN -(contractedCarType;contra
PICK a,b FROM projectedRentalPeriod~;('a'[Ren
        THEN INSERT INTO ctcNrOfDays[CompTariffedChar
        SELECTFROM 'b'[CompTariffedCharge]*'a'[

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

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

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

        (TO MAINTAIN -(contractedCarType;contra
PICK a,b FROM contractedCarType~;('a'[RentalC
        THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
        THEN INSERT INTO rentalTar
        SELECTFROM 'a'[CarTy

        (TO MAINTAIN -(contr
PICK a,b FROM rentalTariff

```

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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;contracte
      (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
(MAINTAINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;p
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDriver;rcDriver~ /\ rcBranchReque
THEN INSERT INTO rcRenter[RentalCase*Person]
SELECTFROM 'a' [RentalCase]*'b' [Person]

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

(TO MAINTAIN -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[Yes
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchR
INSERT INTO contractedPickupBranch[RentalCase*Branch]
SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequeste

(TO MAINTAIN -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequ
INSERT INTO Isn{detyp=Branch}
SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ c
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ c
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ c
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ c
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ c
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ r
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ r
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(contractedPickupBranch~;(I[RentalCase] /\ rentalHasBeenPromised);contr
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]) \/\
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]) \/\
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;rcIss
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;rcDrop
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \/\ rentalC
(MAINTAINING -(rcMaxRentalDuration;rcMaxRentalDuration~ /\ contractedEndDate;contract
(MAINTAINING -(rentalLocationPenaltyCharge;rentalLocationPenaltyCharge~ /\ rentalPena
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedStartDate;contractedSt
(MAINTAINING -(rcIssuedCar;rcIssuedCar~ /\ rentalPeriod;rentalPeriod~ /\ I[RentalCase
(MAINTAINING -(rentalExcessPeriod;rentalExcessPeriod~ /\ I[RentalCase]) \/\ (rentalExc
(MAINTAINING -(rcDroppedOffDate;rcDroppedOffDate~ /\ contractedEndDate;contractedEndD
(MAINTAINING -(contractedEndDate;contractedEndDate~ /\ contractedStartDate;contracted

```

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(MAINTEINING -(contractedCarType;contractedCarType~ /\ projectedRentalPeriod;projecte
(MAINTEINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/ r
(MAINTEINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequeste
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~)
(MAINTEINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~)

```

<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=RentalCase} EXECUTE      -- (ECA rule 130)
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]
      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 rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];Delete

DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
      SELECTFROM Delta;V[RentalCase*YesNo]

DELETE FROM rcIssuedCar[RentalCase*Car]
      SELECTFROM Delta;V[RentalCase*Car]

DELETE FROM rentalHasBeenStarted[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 rentalHasBeenEnded[RentalCase*RentalCase]
SELECTFROM Delta;V[RentalCase*RentalCase] \ / V[RentalCase*RentalCase];De

DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
SELECTFROM Delta;V[RentalCase*YesNo]

DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM Delta;V[RentalCase*Amount]

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 rcMaxRentalDuration[RentalCase*MaxRentalDuration]
SELECTFROM Delta;V[RentalCase*MaxRentalDuration]

DELETE FROM projectedRentalPeriod[RentalCase*Integer]
SELECTFROM Delta;V[RentalCase*Integer]

DELETE FROM projectedBasicCharge[RentalCase*Amount]
SELECTFROM Delta;V[RentalCase*Amount]

DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM Delta;V[RentalCase*YesNo]

DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM Delta;V[RentalCase*YesNo]

```



```
(MAINTAINING -(sessionNewUserRC~;sessionNewUserRC) \/ I[RentalCase] FROM UNI ses
(MAINTAINING -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] FROM UNI
```

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

```
ALL of DELETE FROM sessionNewUserRC[SESSION*RentalCase]
      SELECTFROM sessionNewUserRC;(-I[RentalCase] /\ sessionNewUserRC~;sessionNewUs

      (TO MAINTAIN -(sessionNewUserRC~;sessionNewUserRC) \/ I[RentalCase] FROM UNI
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
      SELECTFROM sessionNewBranchRC;(-I[RentalCase] /\ sessionNewBranchRC~;sessionN

      (TO MAINTAIN -(sessionNewBranchRC~;sessionNewBranchRC) \/ I[RentalCase] FROM
DELETE FROM contractedStartDate[RentalCase*Date]
      SELECTFROM Delta;V[RentalCase*Date]

DELETE FROM contractedEndDate[RentalCase*Date]
      SELECTFROM Delta;V[RentalCase*Date]

DELETE FROM contractedCarType[RentalCase*CarType]
      SELECTFROM Delta;V[RentalCase*CarType]

DELETE FROM contractedPickupBranch[RentalCase*Branch]
      SELECTFROM Delta;V[RentalCase*Branch]

DELETE FROM contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM Delta;V[RentalCase*Branch]

DELETE FROM rcRenter[RentalCase*Person]
      SELECTFROM Delta;V[RentalCase*Person]

DELETE FROM rcDriver[RentalCase*Person]
      SELECTFROM Delta;V[RentalCase*Person]

DELETE FROM rentalHasBeenPromised[RentalCase*RentalCase]
      SELECTFROM Delta;V[RentalCase*RentalCase] \/ V[RentalCase*RentalCase];Delta

DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
      SELECTFROM Delta;V[RentalCase*YesNo]

DELETE FROM rcIssuedCar[RentalCase*Car]
      SELECTFROM Delta;V[RentalCase*Car]

DELETE FROM rentalHasBeenStarted[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 rentalHasBeenEnded[RentalCase*RentalCase]
SELECTFROM Delta;V[RentalCase*RentalCase] \ / V[RentalCase*RentalCase];Delta

DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
SELECTFROM Delta;V[RentalCase*YesNo]

DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM Delta;V[RentalCase*Amount]

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 rcMaxRentalDuration[RentalCase*MaxRentalDuration]
SELECTFROM Delta;V[RentalCase*MaxRentalDuration]

DELETE FROM projectedRentalPeriod[RentalCase*Integer]
SELECTFROM Delta;V[RentalCase*Integer]

DELETE FROM projectedBasicCharge[RentalCase*Amount]
SELECTFROM Delta;V[RentalCase*Amount]

DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM Delta;V[RentalCase*YesNo]

DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM Delta;V[RentalCase*YesNo]

(MAINTEINING -(sessionNewUserRC~;sessionNewUserRC) \ / I[RentalCase] FROM UNI sessionN
(MAINTEINING -(sessionNewBranchRC~;sessionNewBranchRC) \ / I[RentalCase] FROM UNI sess

<-----End Derivation --

```

```

ON DELETE Delta FROM Isn{dety=Person} EXECUTE      -- (ECA rule 132)
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 rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcDriver;(-I[

      (TO MAINTAIN  -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
      SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcUserRequestedQ;'Yes'[YesN

      (TO MAINTAIN  -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
      SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcUserRequestedQ;'Yes'[YesN

      (TO MAINTAIN  -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
DELETE FROM rcDriver[RentalCase*Person]
      SELECTFROM rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcDriver;(-I[

      (TO MAINTAIN  -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
DELETE FROM rcDriver[RentalCase*Person]
      SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcUserRequestedQ;'Yes'[YesN

      (TO MAINTAIN  -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
DELETE FROM rcDriver[RentalCase*Person]
      SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcUserRequestedQ;'Yes'[YesN

      (TO MAINTAIN  -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
DELETE FROM rcDriver[RentalCase*Person]
      SELECTFROM rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;rcDriver;

      (TO MAINTAIN  -(rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
      SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcBranchRequestedQ;'Yes'[Ye

      (TO MAINTAIN  -(rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
      SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcBranchRequestedQ;'Yes'[Ye

      (TO MAINTAIN  -(rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest
DELETE FROM rcDriver[RentalCase*Person]
      SELECTFROM rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;rcDriver;

      (TO MAINTAIN  -(rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest

```



```

(TO MAINTAIN  -(rcRenter~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequest
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcBranchRequestedQ;'Yes' [Yes

(TO MAINTAIN  -(rcRenter~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequest
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rcDriver;(-

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOver
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes' [Yes

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOver
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes' [Yes

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOver
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rcDriver;(-

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOver
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes' [Yes

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOver
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes' [Yes

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOver
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rcRenter;(-

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOver
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes' [Yes

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOver
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes' [Yes

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOver
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rcRenter;(-

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOver
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes' [Yes

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOver

```

```

DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes'[Yes]

(TO MAINTAIN -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOver
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcDriver;rcDriver~;rcRenter;(-I[Person] /\ rcRenter~;rcDriver

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranch
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranch
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranch
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcDriver;rcDriver~;rcRenter;(-I[Person] /\ rcRenter~;rcDriver

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

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranch
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranch
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

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

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranch
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranch
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranch
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcRenter)

(TO MAINTAIN -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::Rental
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcDriver)

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(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 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

(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLicense)
(MAINTAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLicense)
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Person])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase*Person])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Person])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase*Person])
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase*Person])
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase*Person])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase*Person])
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase*Person])
(MAINTAINING -(rcRenter~;rcRenter) \/ I[Person] FROM UNI rcRenter::RentalCase*Person]
(MAINTAINING -(rcDriver~;rcDriver) \/ I[Person] FROM UNI rcDriver::RentalCase*Person]
(MAINTAINING -(sessionUser~;sessionUser) \/ I[Person] FROM UNI sessionUser::SESSION*Person]

```

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

```

ONE OF DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM -(rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLicense)

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

(TO MAINTAIN  -(rcDriver~;rcDriver) \/ (I[Person] /\ validDrivingLicense;validDrivingLicense)
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcDriver;(-I[Person] /\ rcDriver~;rcDriver)

(TO MAINTAIN  -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcDriver)
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcDriver)

```



```

DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rc

(TO MAINTAIN -(rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcRe
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcRenter;(-I[Perso

(TO MAINTAIN -(rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcRe
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rc

(TO MAINTAIN -(rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcRe
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rc

(TO MAINTAIN -(rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcRe
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;rcRenter;(-I[P

(TO MAINTAIN -(rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];

(TO MAINTAIN -(rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];

(TO MAINTAIN -(rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;rcRenter;(-I[P

(TO MAINTAIN -(rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];

(TO MAINTAIN -(rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];

(TO MAINTAIN -(rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;rcDriver;(-I[Per

(TO MAINTAIN -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;rc
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];r

(TO MAINTAIN -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;rc
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];r

```

```

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rc
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rcDriver;(-I[Per

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rc
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];r

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rc
DELETE FROM rcDriver[RentalCase*Person]
SELECTFROM rcDriver;(-I[Person] /\ rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];r

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rc
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rcRenter;(-I[Per

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rc
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];r

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rc
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];r

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rc
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rcRenter;(-I[Per

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rc
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];r

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rc
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];r

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rc
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];r

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes' [YesNo];rcKeysHandedOverQ~;rc
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;rcD

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
DELETE FROM rcRenter[RentalCase*Person]
SELECTFROM rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;rcRenter;(-I[P

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM rcRenter;(-I[Person] /\ rcRenter~;rcDriver;rcDriver~;rcRenter /\ r

(TO MAINTAIN -(rcRenter~;rcDriver;rcDriver~;rcRenter /\ rcRenter~;rcBranchReq
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
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'[YesNo];rcBranchRequestedQ~;rcRenter;(-I[P

(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 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

(MAINAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice
(MAINAINING -rcDriver \/ rcDriver;(I[Person] /\ validDrivingLicense;validDrivingLice
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/ r
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/ r
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]) \/
(MAINAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]) \/
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/ r
(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequeste
(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

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<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=DrivingLicense} EXECUTE      -- (ECA rule 134)
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=CarType} EXECUTE      -- (ECA rule 135)
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
(MAINAINING -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::CarType
(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::CarType
(MAINTAINING -I[CarType] \/ model;I[Model];model~ FROM UNI model::CarType
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;
THEN INSERT INTO rentalTariffPerDay[CarType*Amount]
SELECTFROM 'b'[CarType]*'a'[Amount]

(TO MAINTAIN -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerDay~
(MAINTAINING -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~
(MAINTAINING -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;
THEN INSERT INTO excessTariffPerDay[CarType*Amount]
SELECTFROM 'b'[CarType]*'a'[Amount]

(TO MAINTAIN -I[CarType] \/ excessTariffPerDay;I[Amount];excessTariffPerDay~
(MAINTAINING -I[CarType] \/ excessTariffPerDay;I[Amount];excessTariffPerDay~
(MAINTAINING -(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 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

```

----- 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:
(MAINAINING -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
(MAINAINING -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*Mode
NEW x:Model;
    INSERT INTO model[CarType*Model]
        SELECTFROM (I[CarType] /\ -(model;model~))*'x' [Model]

        (TO MAINTAIN -I[CarType] \/ model;I[Model];model~ FROM UNI model::CarType*M
(MAINAINING -I[CarType] \/ model;I[Model];model~ FROM UNI model::CarType*Mode
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CarType] /\ -(rentalTariffPerDay;
    THEN INSERT INTO rentalTariffPerDay[CarType*Amount]
        SELECTFROM 'a' [CarType]*'b' [Amount]

```

```

        (TO MAINTAIN  -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTa
PICK a,b FROM rentalTariffPerDay~;(I[CarType] /\ -(rentalTariffPerDay;r
THEN INSERT INTO rentalTariffPerDay[CarType*Amount]
        SELECTFROM 'b'[CarType]*'a'[Amount]

        (TO MAINTAIN  -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTa
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerDay~ F
NEW x:Amount;
        INSERT INTO rentalTariffPerDay[CarType*Amount]
        SELECTFROM (I[CarType] /\ -(rentalTariffPerDay;rentalTariffPerDay~))*'x'[Am

        (TO MAINTAIN  -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerDay
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;I[Amount];rentalTariffPerDay~ F
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CarType] /\ -(excessTariffPerDay;
        THEN INSERT INTO excessTariffPerDay[CarType*Amount]
        SELECTFROM 'a'[CarType]*'b'[Amount]

        (TO MAINTAIN  -I[CarType] \/ excessTariffPerDay;I[Amount];excessTa
PICK a,b FROM excessTariffPerDay~;(I[CarType] /\ -(excessTariffPerDay;e
THEN INSERT INTO excessTariffPerDay[CarType*Amount]
        SELECTFROM 'b'[CarType]*'a'[Amount]

        (TO MAINTAIN  -I[CarType] \/ excessTariffPerDay;I[Amount];excessTa
(MAINTAINING -I[CarType] \/ excessTariffPerDay;I[Amount];excessTariffPerDay~ F
(MAINTAINING -(brand~;brand) \/ I[Brand] FROM UNI brand::CarType*Brand)
(MAINTAINING -I[CarType] \/ brand;brand~ FROM TOT brand::CarType*Brand)
(MAINTAINING -(model~;model) \/ I[Model] FROM UNI model::CarType*Model)
(MAINTAINING -I[CarType] \/ model;model~ FROM TOT model::CarType*Model)
(MAINTAINING -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI rentalTa
(MAINTAINING -I[CarType] \/ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rentalTar
(MAINTAINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI excessTa
(MAINTAINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT excessTar

<-----End Derivation --

```

```

ON DELETE Delta FROM Isn{dety=CarType} EXECUTE      -- (ECA rule 136)
ONE OF DELETE FROM contractedCarType[RentalCase*CarType]
        SELECTFROM rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedCarType

        (TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];rcUserRe
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
        SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcUserRe

        (TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];rcUserRe
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
        SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcUserRe

        (TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];rcUserRe

```



```

(TO MAINTAIN  -(contractedCarType~;contractedCarType) /\ I[CarType] FROM
DELETE FROM carType[Car*CarType]
      SELECTFROM carType;(-I[CarType] /\ carType~;carType)

(TO MAINTAIN  -(carType~;carType) /\ I[CarType] FROM UNI carType::Car*CarType
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 contractedCarType[RentalCase*CarType]
      SELECTFROM V[RentalCase*CarType];Delta

DELETE FROM carType[Car*CarType]
      SELECTFROM V[Car*CarType];Delta

DELETE FROM excessTariffPerDay[CarType*Amount]
      SELECTFROM Delta;V[CarType*Amount]

(MAINTAINING  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING  -rcIssuedCar /\ contractedCarType;carType~ FROM Rented car type int
(MAINTAINING  -rcIssuedCar /\ contractedCarType;carType~ FROM Rented car type int
(MAINTAINING  -(contractedCarType~;contractedCarType) /\ I[CarType] FROM UNI cont
(MAINTAINING  -(carType~;carType) /\ I[CarType] FROM UNI carType::Car*CarType)
(MAINTAINING  -I[Car] /\ carType;carType~ FROM TOT carType::Car*CarType)

```

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

```

ONE OF DELETE FROM contractedCarType[RentalCase*CarType]
      SELECTFROM rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedCarType;

(TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
      SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcUserRequest

(TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
      SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcUserRequest

(TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
DELETE FROM contractedCarType[RentalCase*CarType]
      SELECTFROM rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;contractedCarType;

```

```

(TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes' [YesNo];rcUserRequest
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcUserRequest

(TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes' [YesNo];rcUserRequest
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcUserRequest

(TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes' [YesNo];rcUserRequest
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~;contractedCarT

(TO MAINTAIN  -(contractedCarType~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcBranchReque

(TO MAINTAIN  -(contractedCarType~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcBranchReque

(TO MAINTAIN  -(contractedCarType~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~;contractedCarT

(TO MAINTAIN  -(contractedCarType~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcBranchReque

(TO MAINTAIN  -(contractedCarType~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcBranchReque

(TO MAINTAIN  -(contractedCarType~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchReq
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM rcIssuedCar;carType;(-I[CarType] /\ carType~;rcIssuedCar~;contract

(TO MAINTAIN  -(contractedCarType~;rcIssuedCar;carType) \/ I[CarType] FROM Ren
DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM contractedCarType;(-I[CarType] /\ contractedCarType~;rcIssuedCar;c

(TO MAINTAIN  -(contractedCarType~;rcIssuedCar;carType) \/ I[CarType] FROM Ren
DELETE FROM carType[Car*CarType]
SELECTFROM rcIssuedCar~;contractedCarType;(-I[CarType] /\ contractedCarType~;

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

(TO MAINTAIN -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
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 contractedCarType[RentalCase*CarType]
      SELECTFROM V[RentalCase*CarType];Delta

DELETE FROM carType[Car*CarType]
      SELECTFROM V[Car*CarType];Delta

DELETE FROM excessTariffPerDay[CarType*Amount]
      SELECTFROM Delta;V[CarType*Amount]

(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/ c
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase])
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING -rcIssuedCar \/ contractedCarType;carType~ FROM Rented car type integrit
(MAINTAINING -(contractedCarType~;contractedCarType) \/ I[CarType] FROM UNI contracte
(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 Isn{dety=YesNo} EXECUTE      -- (ECA rule 137)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];
      THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
            SELECTFROM 'a'[RentalCase]*'b'[Branch]

      (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
PICK a,b FROM contractedPickupBranch~;(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
      THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
            SELECTFROM 'b'[RentalCase]*'a'[Branch]

      (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
NEW x:Branch;
      INSERT INTO contractedPickupBranch[RentalCase*Branch]
            SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])

```

```

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Re
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
INSERT INTO Isn{dety=Branch}
      SELECTFROM contractedPickupBranch~;rcUserRequestedQ;'Yes'[YesNo];rcUserR

(TO MAINTAIN  -(contractedPickupBranch~;rcUserRequestedQ;'Yes'[YesNo];rcU
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo]
      THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
      SELECTFROM 'a'[RentalCase]*'b'[Branch]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
PICK a,b FROM contractedPickupBranch~;(rcBranchRequestedQ;'Yes'[Ye
      THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
      SELECTFROM 'b'[RentalCase]*'a'[Branch]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
INSERT INTO Isn{dety=Branch}
      SELECTFROM contractedPickupBranch~;rcBranchRequestedQ;'Yes'[YesNo];rcBra

(TO MAINTAIN  -(contractedPickupBranch~;rcBranchRequestedQ;'Yes'[YesNo];r
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];
      THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM 'a'[RentalCase]*'b'[Branch]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequested
PICK a,b FROM contractedDropoffBranch~;(rcUserRequestedQ;'Yes'[Yes
      THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM 'b'[RentalCase]*'a'[Branch]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequested
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[Renta
INSERT INTO Isn{dety=Branch}
      SELECTFROM contractedDropoffBranch~;rcUserRequestedQ;'Yes'[YesNo];rcUser

(TO MAINTAIN  -(contractedDropoffBranch~;rcUserRequestedQ;'Yes'[YesNo];rc
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo]
      THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM 'a'[RentalCase]*'b'[Branch]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
PICK a,b FROM contractedDropoffBranch~;(rcBranchRequestedQ;'Yes'[Y
      THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM 'b'[RentalCase]*'a'[Branch]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
(MAINAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
INSERT INTO Isn{dety=Branch}
      SELECTFROM contractedDropoffBranch~;rcBranchRequestedQ;'Yes'[YesNo];rcBr

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```

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

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~
PICK a,b FROM contractedStartDate~;(rcUserRequestedQ;'Yes' [YesNo]);
      THEN INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM 'b' [RentalCase]*'a' [Date]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~
(MAINTAINING -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I[RentalCase]
NEW x:Date;
      INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM (rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I[RentalCase]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I[RentalCase]
(MAINTAINING -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I[RentalCase]
INSERT INTO Isn{dety=Date}
      SELECTFROM contractedStartDate~;rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~

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

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~
PICK a,b FROM contractedStartDate~;(rcBranchRequestedQ;'Yes' [YesNo]);
      THEN INSERT INTO contractedStartDate[RentalCase*Date]
        SELECTFROM 'b' [RentalCase]*'a' [Date]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I[RentalCase]
INSERT INTO Isn{dety=Date}
      SELECTFROM contractedStartDate~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~

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

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~
PICK a,b FROM contractedEndDate~;(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~
      THEN INSERT INTO contractedEndDate[RentalCase*Date]
        SELECTFROM 'b' [RentalCase]*'a' [Date]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~
(MAINTAINING -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I[RentalCase]
INSERT INTO Isn{dety=Date}
      SELECTFROM contractedEndDate~;rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~

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```

(TO MAINTAIN  -(contractedEndDate~;rcUserRequestedQ;'Yes' [YesNo];rcUserRe
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes' [YesNo]
      THEN INSERT INTO contractedEndDate[RentalCase*Date]
            SELECTFROM 'a' [RentalCase]*'b' [Date]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchReque
PICK a,b FROM contractedEndDate~;(rcBranchRequestedQ;'Yes' [YesNo];
      THEN INSERT INTO contractedEndDate[RentalCase*Date]
            SELECTFROM 'b' [RentalCase]*'a' [Date]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchReque
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I[R
INSERT INTO Isn{dety=Date}
      SELECTFROM contractedEndDate~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchRe

(TO MAINTAIN  -(contractedEndDate~;rcBranchRequestedQ;'Yes' [YesNo];rcBran
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes' [YesNo];
      THEN INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM 'a' [RentalCase]*'b' [CarType]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequested
PICK a,b FROM contractedCarType~;(rcUserRequestedQ;'Yes' [YesNo];rc
      THEN INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM 'b' [RentalCase]*'a' [CarType]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequested
(MAINTAINING -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I[Renta
NEW x:CarType;
      INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM (rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I[Renta

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I[Re
(MAINTAINING -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I[Renta
INSERT INTO Isn{dety=CarType}
      SELECTFROM contractedCarType~;rcUserRequestedQ;'Yes' [YesNo];rcUserReques

(TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes' [YesNo];rcUserRe
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes' [YesNo]
      THEN INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM 'a' [RentalCase]*'b' [CarType]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchReque
PICK a,b FROM contractedCarType~;(rcBranchRequestedQ;'Yes' [YesNo];
      THEN INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM 'b' [RentalCase]*'a' [CarType]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchReque
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I[R
INSERT INTO Isn{dety=CarType}

```

```

SELECTFROM contractedCarType~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRe

(TO MAINTAIN -(contractedCarType~;rcBranchRequestedQ;'Yes'[YesNo];rcBranch
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];
    THEN INSERT INTO rcDriver[RentalCase*Person]
        SELECTFROM 'a'[RentalCase]*'b'[Person]

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
        PICK a,b FROM rcDriver~;(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
        THEN INSERT INTO rcDriver[RentalCase*Person]
            SELECTFROM 'b'[RentalCase]*'a'[Person]

            (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
NEW x:Person;
    INSERT INTO rcDriver[RentalCase*Person]
        SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
INSERT INTO Isn{dety=Person}
    SELECTFROM rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcDriver~

(TO MAINTAIN -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];
    THEN INSERT INTO rcDriver[RentalCase*Person]
        SELECTFROM 'a'[RentalCase]*'b'[Person]

        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
        PICK a,b FROM rcDriver~;(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
        THEN INSERT INTO rcDriver[RentalCase*Person]
            SELECTFROM 'b'[RentalCase]*'a'[Person]

            (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]
INSERT INTO Isn{dety=Person}
    SELECTFROM rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~

(TO MAINTAIN -(rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
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'[YesNo];rcUserRequestedQ~
        PICK a,b FROM rcRenter~;(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
        THEN INSERT INTO rcRenter[RentalCase*Person]
            SELECTFROM 'b'[RentalCase]*'a'[Person]

            (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]

```

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INSERT INTO Isn{dety=Person}
  SELECTFROM rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcR

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo]
  THEN INSERT INTO rcRenter[RentalCase*Person]
    SELECTFROM 'a'[RentalCase]*'b'[Person]

    (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
PICK a,b FROM rcRenter~;(rcBranchRequestedQ;'Yes'[YesNo];rcBranchR
  THEN INSERT INTO rcRenter[RentalCase*Person]
    SELECTFROM 'b'[RentalCase]*'a'[Person]

    (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[R
INSERT INTO Isn{dety=Person}
  SELECTFROM rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~

(TO MAINTAIN  -(rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReque
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesNo]
  THEN INSERT INTO rcDriver[RentalCase*Person]
    SELECTFROM 'a'[RentalCase]*'b'[Person]

    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOv
PICK a,b FROM rcDriver~;(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHand
  THEN INSERT INTO rcDriver[RentalCase*Person]
    SELECTFROM 'b'[RentalCase]*'a'[Person]

    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOv
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[Ren
INSERT INTO Isn{dety=Person}
  SELECTFROM rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;r

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOver
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesNo]
  THEN INSERT INTO rcRenter[RentalCase*Person]
    SELECTFROM 'a'[RentalCase]*'b'[Person]

    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOv
PICK a,b FROM rcRenter~;(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHand
  THEN INSERT INTO rcRenter[RentalCase*Person]
    SELECTFROM 'b'[RentalCase]*'a'[Person]

    (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOv
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[Ren
INSERT INTO Isn{dety=Person}
  SELECTFROM rcRenter~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;r

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOver
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]

```



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      (TO MAINTAIN  -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequest
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCa
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;r
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \/ re
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \/ re
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase])
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
(MAINTAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest
(MAINTAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest

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

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ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUse
      THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]

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

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

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
NEW x:Branch;
      INSERT INTO contractedPickupBranch[RentalCase*Branch]
      SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalC
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
INSERT INTO Isn{detyp=Branch}
      SELECTFROM contractedPickupBranch~;rcUserRequestedQ;'Yes'[YesNo];rcUserReques

      (TO MAINTAIN  -(contractedPickupBranch~;rcUserRequestedQ;'Yes'[YesNo];rcUserRe
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcB
      THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
      SELECTFROM 'a' [RentalCase]*'b' [Branch]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
PICK a,b FROM contractedPickupBranch~;(rcBranchRequestedQ;'Yes'[YesNo];
      THEN INSERT INTO contractedPickupBranch[RentalCase*Branch]
      SELECTFROM 'b' [RentalCase]*'a' [Branch]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
INSERT INTO Isn{detyp=Branch}
      SELECTFROM contractedPickupBranch~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRe

      (TO MAINTAIN  -(contractedPickupBranch~;rcBranchRequestedQ;'Yes'[YesNo];rcBran
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUse
      THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM 'a' [RentalCase]*'b' [Branch]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
PICK a,b FROM contractedDropoffBranch~;(rcUserRequestedQ;'Yes'[YesNo];r
      THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM 'b' [RentalCase]*'a' [Branch]

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
INSERT INTO Isn{detyp=Branch}
      SELECTFROM contractedDropoffBranch~;rcUserRequestedQ;'Yes'[YesNo];rcUserReque

      (TO MAINTAIN  -(contractedDropoffBranch~;rcUserRequestedQ;'Yes'[YesNo];rcUserR
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcB

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THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM 'a' [RentalCase]*'b' [Branch]

      (TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ
PICK a,b FROM contractedDropoffBranch~;(rcBranchRequestedQ;'Yes' [YesNo]
THEN INSERT INTO contractedDropoffBranch[RentalCase*Branch]
      SELECTFROM 'b' [RentalCase]*'a' [Branch]

      (TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [Rental
INSERT INTO Isn{detyp=Branch}
      SELECTFROM contractedDropoffBranch~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchR

(TO MAINTAIN -(contractedDropoffBranch~;rcBranchRequestedQ;'Yes' [YesNo];rcBra
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes' [YesNo];rcUse
      THEN INSERT INTO contractedStartDate[RentalCase*Date]
      SELECTFROM 'a' [RentalCase]*'b' [Date]

      (TO MAINTAIN -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\
PICK a,b FROM contractedStartDate~;(rcUserRequestedQ;'Yes' [YesNo];rcUse
      THEN INSERT INTO contractedStartDate[RentalCase*Date]
      SELECTFROM 'b' [RentalCase]*'a' [Date]

      (TO MAINTAIN -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I [RentalCase
NEW x:Date;
      INSERT INTO contractedStartDate[RentalCase*Date]
      SELECTFROM (rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I [RentalCase

      (TO MAINTAIN -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I [RentalC
(MAINTAINING -(rcUserRequestedQ;'Yes' [YesNo];rcUserRequestedQ~ /\ I [RentalCase
INSERT INTO Isn{detyp=Date}
      SELECTFROM contractedStartDate~;rcUserRequestedQ;'Yes' [YesNo];rcUserRequested

(TO MAINTAIN -(contractedStartDate~;rcUserRequestedQ;'Yes' [YesNo];rcUserReque
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes' [YesNo];rcB
      THEN INSERT INTO contractedStartDate[RentalCase*Date]
      SELECTFROM 'a' [RentalCase]*'b' [Date]

      (TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ
PICK a,b FROM contractedStartDate~;(rcBranchRequestedQ;'Yes' [YesNo];rcB
      THEN INSERT INTO contractedStartDate[RentalCase*Date]
      SELECTFROM 'b' [RentalCase]*'a' [Date]

      (TO MAINTAIN -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ
(MAINTAINING -(rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequestedQ~ /\ I [Rental
INSERT INTO Isn{detyp=Date}
      SELECTFROM contractedStartDate~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchReque

(TO MAINTAIN -(contractedStartDate~;rcBranchRequestedQ;'Yes' [YesNo];rcBranchR

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ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUser
    THEN INSERT INTO contractedEndDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[Date]

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
PICK a,b FROM contractedEndDate~;(rcUserRequestedQ;'Yes'[YesNo];rcUserR
    THEN INSERT INTO contractedEndDate[RentalCase*Date]
        SELECTFROM 'b'[RentalCase]*'a'[Date]

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
INSERT INTO Isn{detyp=Date}
    SELECTFROM contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~

(TO MAINTAIN -(contractedEndDate~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcB
    THEN INSERT INTO contractedEndDate[RentalCase*Date]
        SELECTFROM 'a'[RentalCase]*'b'[Date]

        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
PICK a,b FROM contractedEndDate~;(rcBranchRequestedQ;'Yes'[YesNo];rcBra
    THEN INSERT INTO contractedEndDate[RentalCase*Date]
        SELECTFROM 'b'[RentalCase]*'a'[Date]

        (TO MAINTAIN -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
INSERT INTO Isn{detyp=Date}
    SELECTFROM contractedEndDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest

(TO MAINTAIN -(contractedEndDate~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUse
    THEN INSERT INTO contractedCarType[RentalCase*CarType]
        SELECTFROM 'a'[RentalCase]*'b'[CarType]

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
PICK a,b FROM contractedCarType~;(rcUserRequestedQ;'Yes'[YesNo];rcUserR
    THEN INSERT INTO contractedCarType[RentalCase*CarType]
        SELECTFROM 'b'[RentalCase]*'a'[CarType]

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
NEW x:CarType;
    INSERT INTO contractedCarType[RentalCase*CarType]
        SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase

        (TO MAINTAIN -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalC
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
INSERT INTO Isn{detyp=CarType}
    SELECTFROM contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~

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(TO MAINTAIN  -(contractedCarType~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequest
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcB
      THEN INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM 'a'[RentalCase]*'b'[CarType]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
PICK a,b FROM contractedCarType~;(rcBranchRequestedQ;'Yes'[YesNo];rcBra
      THEN INSERT INTO contractedCarType[RentalCase*CarType]
            SELECTFROM 'b'[RentalCase]*'a'[CarType]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
INSERT INTO Isn{dety=CarType}
      SELECTFROM contractedCarType~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequest

(TO MAINTAIN  -(contractedCarType~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchReq
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUse
      THEN INSERT INTO rcDriver[RentalCase*Person]
            SELECTFROM 'a'[RentalCase]*'b'[Person]

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

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
NEW x:Person;
      INSERT INTO rcDriver[RentalCase*Person]
            SELECTFROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase

      (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalC
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase
INSERT INTO Isn{dety=Person}
      SELECTFROM rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcDriver

(TO MAINTAIN  -(rcDriver~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcDr
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcB
      THEN INSERT INTO rcDriver[RentalCase*Person]
            SELECTFROM 'a'[RentalCase]*'b'[Person]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
PICK a,b FROM rcDriver~;(rcBranchRequestedQ;'Yes'[YesNo];rcBranchReques
      THEN INSERT INTO rcDriver[RentalCase*Person]
            SELECTFROM 'b'[RentalCase]*'a'[Person]

      (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[Rental
INSERT INTO Isn{dety=Person}
      SELECTFROM rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;rcDr

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(TO MAINTAIN  -(rcDriver~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
    THEN INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM 'a'[RentalCase]*'b'[Person]

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
PICK a,b FROM rcRenter~;(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~
    THEN INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM 'b'[RentalCase]*'a'[Person]

        (TO MAINTAIN  -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\
(MAINTAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]
INSERT INTO Isn{detyp=Person}
    SELECTFROM rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcRenter~

(TO MAINTAIN  -(rcRenter~;rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~;rcRenter~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
    THEN INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM 'a'[RentalCase]*'b'[Person]

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
PICK a,b FROM rcRenter~;(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
    THEN INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM 'b'[RentalCase]*'a'[Person]

        (TO MAINTAIN  -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~
(MAINTAINING -(rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~ /\ I[RentalCase]
INSERT INTO Isn{detyp=Person}
    SELECTFROM rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;rcRenter~

(TO MAINTAIN  -(rcRenter~;rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~;rcRenter~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
    THEN INSERT INTO rcDriver[RentalCase*Person]
        SELECTFROM 'a'[RentalCase]*'b'[Person]

        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
PICK a,b FROM rcDriver~;(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
    THEN INSERT INTO rcDriver[RentalCase*Person]
        SELECTFROM 'b'[RentalCase]*'a'[Person]

        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]
INSERT INTO Isn{detyp=Person}
    SELECTFROM rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;rcDriver~

(TO MAINTAIN  -(rcDriver~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;rcDriver~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
    THEN INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM 'a'[RentalCase]*'b'[Person]

```

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        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
PICK a,b FROM rcRenter~;(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
THEN INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM 'b'[RentalCase]*'a'[Person]

        (TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~
(MAINTAINING -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ I[RentalCase]
INSERT INTO Isn{detyp=Person}
        SELECTFROM rcRenter~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;rcRenter~

(TO MAINTAIN  -(rcRenter~;rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~;rcRenter~
INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
        SELECTFROM rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;rcRenter~

(TO MAINTAIN  -(rcKeysHandedOverQ;'Yes'[YesNo];rcKeysHandedOverQ~ /\ rcIssuedCar;rcRenter~
INSERT INTO rentalHasBeenEnded[RentalCase*RentalCase]
        SELECTFROM rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;rcRenter~

(TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ rcDroppedOffBranch;rcRenter~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~
        THEN INSERT INTO rentalCharge[RentalCase*Amount]
        SELECTFROM 'a'[RentalCase]*'b'[Amount]

        (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]
PICK a,b FROM rentalCharge~;(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~
THEN INSERT INTO rentalCharge[RentalCase*Amount]
        SELECTFROM 'b'[RentalCase]*'a'[Amount]

        (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \/\
NEW x:Amount;
        INSERT INTO rentalCharge[RentalCase*Amount]
        SELECTFROM (rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase] /\ -

        (TO MAINTAIN  -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase])
(MAINTAINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \/\
INSERT INTO Isn{detyp=Amount}
        SELECTFROM rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rentalCharge~

(TO MAINTAIN  -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rentalCharge~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcDriver~
        THEN INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM 'a'[RentalCase]*'b'[Person]

        (TO MAINTAIN  -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcDriver~
PICK a,b FROM rcRenter~;(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcDriver~
THEN INSERT INTO rcRenter[RentalCase*Person]
        SELECTFROM 'b'[RentalCase]*'a'[Person]

```



```

(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ r
(MAINAINING -(rcUserRequestedQ;'Yes'[YesNo];rcUserRequestedQ~ /\ I[RentalCase]) \/\ r
(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequeste
(MAINAINING -(rcDriver;rcDriver~ /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequeste
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~)
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ~)

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<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=YesNo} EXECUTE      -- (ECA rule 138)
ALL of 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
(MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC) \/\
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*Y

      (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
      SELECTFROM '_SESSION'[SESSION];sessionNewBranchRC;(-(rcBranchRequeste

      (TO MAINTAIN -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
(MAINAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
      SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;rcIssuedCar~

      (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;I[Car] /\
DELETE FROM Isn{dety=Car}
      SELECTFROM sessionReturnedCar~;'_SESSION'[SESSION];(-(sessionRetu

      (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;I[Car] /\
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SE
      THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'a'[Car]*'b'[Branch]

```

```

        (TO MAINTAIN -( '_SESSION' [SESSION];sessionReturnedCar
        PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION
        THEN INSERT INTO carAvailableAt [Car*Branch]
        SELECTFROM 'b' [Car]*'a' [Branch]

        (TO MAINTAIN -( '_SESSION' [SESSION];sessionReturnedCar
        (MAINTAINING -( '_SESSION' [SESSION];sessionReturnedCar;(I [Car] /\ -
        NEW x:Branch;
        INSERT INTO carAvailableAt [Car*Branch]
        SELECTFROM (sessionReturnedCar~;'_SESSION' [SESSION];(-(sessionR

        (TO MAINTAIN -( '_SESSION' [SESSION];sessionReturnedCar;(I [Car] /\ -
        (MAINTAINING -( '_SESSION' [SESSION];sessionReturnedCar;(I [Car] /\ -
        (MAINTAINING -( '_SESSION' [SESSION];sessionReturnedCar;(I [Car] /\ -(carAva
        ONE OF DELETE FROM sessionReturnedCar [SESSION*Car]
        SELECTFROM '_SESSION' [SESSION];sessionReturnedCar;(I [Car] /\ -(car

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionRet
        DELETE FROM sessionReturnedCar [SESSION*Car]
        SELECTFROM '_SESSION' [SESSION];sessionReturnedCar;(-(rcIssuedCar~

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionRet
        DELETE FROM Isn{dety=Car}
        SELECTFROM sessionReturnedCar~;'_SESSION' [SESSION];sessionReturne

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionRet
        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SE
        THEN INSERT INTO carAvailableAt [Car*Branch]
        SELECTFROM 'a' [Car]*'b' [Branch]

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION
        PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION
        THEN INSERT INTO carAvailableAt [Car*Branch]
        SELECTFROM 'b' [Car]*'a' [Branch]

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION
        (MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionRetu
        NEW x:Branch;
        INSERT INTO carAvailableAt [Car*Branch]
        SELECTFROM (sessionReturnedCar~;'_SESSION' [SESSION];sessionRetu

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionR
        (MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionRetu
        (MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar
        DELETE FROM rcKeysHandedOverQ [RentalCase*YesNo]
        SELECTFROM V [RentalCase*YesNo];Delta

        DELETE FROM rentalIsPaidQ [RentalCase*YesNo]
        SELECTFROM V [RentalCase*YesNo];Delta

```

```
DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM V[RentalCase*YesNo];Delta
```

```
DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM V[RentalCase*YesNo];Delta
```

```
(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];sessionReturnedCar;(I[Car] /\ -(carAvailableA
(MAINTAINING -( '_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA
```

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

```
ALL of 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*YesNo]

(TO MAINTAIN -(sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC)
DELETE FROM sessionNewUserRC[SESSION*RentalCase]
SELECTFROM '_SESSION' [SESSION];sessionNewUserRC;(-(rcUserRequestedQ;'Y

(TO MAINTAIN -(sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC)
(MAINTAINING -(sessionNewUserRC~;'_SESSION' [SESSION];sessionNewUserRC) \/ rcUs
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM '_SESSION' [SESSION];(-(sessionNewBranchRC;rcBranchRequestedQ;'Yes'

(TO MAINTAIN -( '_SESSION' [SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;
ONE OF DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM '_SESSION' [SESSION];sessionNewBranchRC;(-(V[RentalCase*YesN

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranch
DELETE FROM sessionNewBranchRC[SESSION*RentalCase]
SELECTFROM '_SESSION' [SESSION];sessionNewBranchRC;(-(rcBranchRequested

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranch
(MAINTAINING -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranchRC) \/
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION' [SESSION];(-(sessionReturnedCar;rcIssuedCar~;(ren

(TO MAINTAIN -( '_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(car
DELETE FROM Isn{detyp=Car}
SELECTFROM sessionReturnedCar~;'_SESSION' [SESSION];(-(sessionReturnedC
```

```

(TO MAINTAIN -('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(car
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SESSION
    THEN INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM 'a'[Car]*'b'[Branch]

        (TO MAINTAIN -('_SESSION' [SESSION];sessionReturnedCar;(I[C
        PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION' [SES
        THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'b'[Car]*'a'[Branch]

            (TO MAINTAIN -('_SESSION' [SESSION];sessionReturnedCar;(I[C
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carA
NEW x:Branch;
    INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM (sessionReturnedCar~;'_SESSION' [SESSION];(-(sessionReturn

        (TO MAINTAIN -('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(c
        (MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carA
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailabl
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
    SELECTFROM '_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAvai

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturned
DELETE FROM sessionReturnedCar[SESSION*Car]
    SELECTFROM '_SESSION' [SESSION];sessionReturnedCar;(-(rcIssuedCar~;(ren

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturned
DELETE FROM Isn{dety=Car}
    SELECTFROM sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar;

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturned
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar~;'_SESSION
    THEN INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM 'a'[Car]*'b'[Branch]

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];ses
        PICK a,b FROM carAvailableAt~;sessionReturnedCar~;'_SESSION' [SES
        THEN INSERT INTO carAvailableAt[Car*Branch]
            SELECTFROM 'b'[Car]*'a'[Branch]

            (TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];ses
(MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedC
NEW x:Branch;
    INSERT INTO carAvailableAt[Car*Branch]
        SELECTFROM (sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedC

        (TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturn
        (MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedC
(MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar;(I[C
DELETE FROM rcKeysHandedOverQ[RentalCase*YesNo]

```

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SELECTFROM V[RentalCase*YesNo];Delta

DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
SELECTFROM V[RentalCase*YesNo];Delta

DELETE FROM rcUserRequestedQ[RentalCase*YesNo]
SELECTFROM V[RentalCase*YesNo];Delta

DELETE FROM rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM V[RentalCase*YesNo];Delta

(MAINTEINING -( '_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserReques
(MAINTEINING -( '_SESSION'[SESSION];sessionNewUserRC) \/ sessionNewUserRC;rcUserReques
(MAINTEINING -( '_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
(MAINTEINING -( '_SESSION'[SESSION];sessionNewBranchRC) \/ sessionNewBranchRC;rcBranch
(MAINTEINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car
(MAINTEINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car

<-----End Derivation --

ON INSERT Delta IN Isn{dety=Car} EXECUTE      -- (ECA rule 139)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Car] /\ -(carAvailableAt;car
      THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'a'[Car]*'b'[Branch]

      (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rc
      PICK a,b FROM carAvailableAt~;(I[Car] /\ -(carAvailableAt;carAvail
      THEN INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM 'b'[Car]*'a'[Branch]

      (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rc
      (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(r
      NEW x:Branch;
      INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM (I[Car] /\ -(carAvailableAt;carAvailableAt~) /\ -(rcIssuedC

      (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~
      (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(r
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Car] /\ -(carAvailableAt;car
      THEN INSERT INTO rcIssuedCar[RentalCase*Car]
      SELECTFROM 'b'[RentalCase]*'a'[Car]

      (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rc
      PICK a,b FROM rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailable
      THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalC
      THEN ALL of INSERT INTO rentalHasBeenStarted[Re
      SELECTFROM 'a'[RentalCase]*'b'[Ren

```

```

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
        DELETE FROM rentalHasBeenEnded[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[RentalCase*Car]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~
        PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenEnded[RentalCase*Car]
        THEN INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~
        NEW x:RentalCase;
        ALL of ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]*'

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
        DELETE FROM rentalHasBeenEnded[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]*'

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~
        INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'x'[RentalCase]*'a'[RentalCase]*'

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

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ /\ rcIssuedCar[RentalCase*Car]
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCase]*'a'[RentalCase]*'b'[RentalCase*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*Car]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~
        PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenEnded[RentalCase*Car]
        THEN INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~

```



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(MAINTAINING -('
(MAINTAINING -('
NEW x:YesNo;
ALL of INSERT
SELECT
(TO MAINTAIN
ONE OF

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```

(MAINTAINING -('
(MAINTAINING -('
(MAINTAINING -('
(MAINTAINING -('_SESSION' [SESSION];
(MAINTAINING -('_SESSION' [SESSION];
NEW x:RentalCase;
ALL of ALL of INSERT INTO rentalH
SELECTFROM 'a' [Ren
(TO MAINTAIN -('_S
DELETE FROM rentalH
SELECTFROM 'a' [Ren
(TO MAINTAIN -('_S
(MAINTAINING -('_SESSION' [
ONE OF ONE NONEMPTY ALTERN
THEN INSERT

```

SELECT
 (TO MAINTAINING
 PICK a,b FROM
 THEN ONE OF

(MAINTAINING
 (MAINTAINING -(' _SE
 NEW x:YesNo;
 ALL of INSERT INTO
 SELECTFROM
 (TO MAINTAINING
 ONE OF ONE

(MA
 NEW
 A

(
 (MA
 (MAINTAINING
 (MAINTAINING -(' _S
 (MAINTAINING -(' _SE
 (MAINTAINING -(' _SESSION' [SESSION
 (MAINTAINING -(' _SESSION' [SESSION]
 (MAINTAINING -(' _SESSION' [SESSION];
 (MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar;
 (MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar;
 NEW x:RentalCase;
 ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
 SELECTFROM 'x'[RentalCase]*'b'[Car]*'a'[Car]

```

(TO MAINTAIN -( '_SESSION' [SESSION];sessionRe
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b F
THEN ALL of INSERT INTO rentalH
SELECTFROM 'a' [Ren

```

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(TO MAINTAIN -( '_S
DELETE FROM rentalH
SELECTFROM 'a' [Ren

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(TO MAINTAIN -( '_S
(MAINTAINING -( '_SESSION' [
PICK a,b FROM (rentalHasBeenSta
THEN ONE OF ONE NONEMPTY ALTERN
THEN INSERT
SELECT

```

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(TO MAINTAIN
PICK a,b FROM
THEN ONE OF

```

```

(MAINTAINING -( '_SE
NEW x:YesNo;
ALL of INSERT INTO
SELECTFROM

```

```

(TO MAINTAIN
ONE OF ONE

```

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(MA
NEW
A

```

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(
(MA
(MAINTAINING
(MAINTAINING -( '_SE
(MAINTAINING -( '_SE
(MAINTAINING -( '_SESSION' [
(MAINTAINING -( '_SESSION' [SESSION];ses
NEW x:RentalCase;
ALL of ALL of INSERT INTO rentalHasB
SELECTFROM 'x' [Rental

(TO MAINTAIN -( '_SESS
DELETE FROM rentalHasB
SELECTFROM 'x' [Rental

(TO MAINTAIN -( '_SESS
(MAINTAINING -( '_SESSION' [SES
ONE OF ONE NONEMPTY ALTERNATI
THEN INSERT INTO
SELECTFROM

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PICK a,b FROM r
THEN ONE OF ONE

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NEW x:YesNo;
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(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar; (I[Car] /\ -(carAva
NEW x:Car;
ALL of INSERT INTO sessionReturnedCar[SESSION*Car]
SELECTFROM ('_SESSION' [SESSION];sessionReturnedCar; (I[Car] /\ -

(TO MAINTAIN -('_SESSION' [SESSION];sessionReturnedCar; (I[Car] /\ -
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [Car]*('_SE
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'b' [RentalCase]*'a' [Car]

(TO MAINTAIN -('_SESSION' [SESSION];sessionRe
PICK a,b FROM rcIssuedCar; ('x' [Car]*('_SESSION' [SE
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b F
THEN ALL of INSERT INTO rentalH
SELECTFROM 'a' [Ren

(TO MAINTAIN -('_S
DELETE FROM rentalH
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(TO MAINTAIN -('_S
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THEN ONE OF ONE NONEMPTY ALTERN
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NEW x:YesNo;
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ALL of ALL of INSERT INTO rentalHasB
SELECTFROM 'a' [Rental

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DELETE FROM rentalHasB
SELECTFROM 'a' [Rental

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ONE OF ONE NONEMPTY ALTERNATI

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NEW x:YesNo;
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SELECTFROM ';

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(MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar;(I[
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]

SELECTFROM 'x'[RentalCase]*((I[Car] /\ -(carAva

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ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM

THEN ALL of INSERT INTO rentalHasB

SELECTFROM 'a'[Rental

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DELETE FROM rentalHasB

SELECTFROM 'a'[Rental

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PICK a,b FROM (rentalHasBeenStarte

THEN ONE OF ONE NONEMPTY ALTERNATI

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NEW x:YesNo;

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(MAINAINING -(sessionReturnedCar~;
NEW x:YesNo;
ALL of INSERT INTO rentalIsPaidQ[
SELECTFROM 'a' [RentalCase]

(TO MAINTAIN -(sessionRet
ONE OF ONE NONEMPTY ALTERN
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NEW x:YesNo;
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(MAINAINING -(sessionReturnedCar~;'_SESSION' [SESSION]
NEW x:RentalCase;
ALL of ALL of INSERT INTO rentalHasBeenStarted[Rental
SELECTFROM 'a' [RentalCase]*'b' [Car]*'

(TO MAINTAIN -(sessionReturnedCar~;'_
DELETE FROM rentalHasBeenEnded[RentalC
SELECTFROM 'a' [RentalCase]*'b' [Car]*'

(TO MAINTAIN -(sessionReturnedCar~;'_
(MAINAINING -(sessionReturnedCar~;'_SESSION'
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
THEN INSERT INTO rentalIsPaidQ[
SELECTFROM 'a' [RentalCase]

(TO MAINTAIN -(sessionRet
PICK a,b FROM rentalIsPaidQ~;('
THEN ONE OF ONE NONEMPTY ALTERN
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PICK a,b FROM
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NEW x:YesNo;
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NEW x:YesNo;
ALL of INSERT INTO rentalIsPaidQ[Ren
SELECTFROM 'x'[RentalCase]*'.

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ONE OF ONE NONEMPTY ALTERNATI
THEN BLOCK
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PICK a,b FROM '
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NEW x:YesNo;
ALL of BLOCK
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(MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION]
(MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION];session
(MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
SELECTFROM rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));ses

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

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

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

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      (TO MAINTAIN  -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt
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~ \/ rcIssuedCar~;(rentalHa
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));session
(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 ----->

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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~ \/ rcIssue
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~ \/ rcIssue
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(rental
NEW x:Branch;
      INSERT INTO carAvailableAt[Car*Branch]
      SELECTFROM (I[Car] /\ -(carAvailableAt;carAvailableAt~) /\ -(rcIssuedCar~;(

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      (TO MAINTAIN  -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(ren
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(rental

```

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ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Car] /\ -(carAvailableAt;carAvail
    THEN INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'b'[RentalCase]*'a'[Car]

    (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssue
PICK a,b FROM rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~)
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[RentalCase]*
    THEN ALL of INSERT INTO rentalHasBeenStarted[RentalC
        SELECTFROM 'a'[RentalCase]*'b'[RentalCa

        (TO MAINTAIN -I[Car] \/ carAvailableAt;
        DELETE FROM rentalHasBeenEnded[RentalCas
        SELECTFROM 'a'[RentalCase]*'b'[RentalCa

        (TO MAINTAIN -I[Car] \/ carAvailableAt;
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvail
PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBe
    THEN INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'a'[RentalCase]*'b'[Car]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvai
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ r
NEW x:RentalCase;
    ALL of ALL of INSERT INTO rentalHasBeenStarted[RentalCase
        SELECTFROM 'a'[RentalCase]*'b'[Car]*'x'[Re

        (TO MAINTAIN -I[Car] \/ carAvailableAt;car
        DELETE FROM rentalHasBeenEnded[RentalCase*R
        SELECTFROM 'a'[RentalCase]*'b'[Car]*'x'[Re

        (TO MAINTAIN -I[Car] \/ carAvailableAt;car
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailabl
INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'x'[RentalCase]*'a'[RentalCase]*'b'[Ca

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailab
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ r
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssued
        (MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(rental
NEW x:RentalCase;
    ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailableA

        (TO MAINTAIN -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCa
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCase]*(I[
    THEN ALL of INSERT INTO rentalHasBeenStarted[RentalCase
        SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

        (TO MAINTAIN -I[Car] \/ carAvailableAt;car

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DELETE FROM rentalHasBeenEnded[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[RentalCase]

(TO MAINTAIN -I[Car] \/\ carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;
(MAINTAINING -I[Car] \/\ carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;
PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenEnded[RentalCase*Car]
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -I[Car] \/\ carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;
(MAINTAINING -I[Car] \/\ carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;
NEW x:RentalCase;
ALL of INSERT INTO rentalHasBeenStarted[RentalCase*RentalCase]
SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;

(TO MAINTAIN -I[Car] \/\ carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;
DELETE FROM rentalHasBeenEnded[RentalCase*RentalCase]
SELECTFROM 'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;

(TO MAINTAIN -I[Car] \/\ carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;
INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*'x'[RentalCase]*(I[Car] /\ -(carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;

(TO MAINTAIN -I[Car] \/\ carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;
(MAINTAINING -I[Car] \/\ carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;
(MAINTAINING -I[Car] \/\ carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;
(MAINTAINING -I[Car] \/\ carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;
(MAINTAINING -I[Car] \/\ carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;
(MAINTAINING -I[Car] \/\ carAvailableAt;carAvailableAt~ \/\ rcIssuedCar;
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionReturnedCar;
THEN INSERT INTO sessionReturnedCar[SESSION*Car]
SELECTFROM 'a'[SESSION]*'b'[Car]

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\
PICK a,b FROM sessionReturnedCar~;('_SESSION'[SESSION];sessionReturnedCar;
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Car]*'b'[Car]
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'b'[RentalCase]*'a'[Car]

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;
PICK a,b FROM rcIssuedCar;('a'[Car]*'b'[Car])
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
THEN ALL of INSERT INTO rentalHasBeenEnded[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;
DELETE FROM rentalHasBeenEnded[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar;

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SELECTFROM 'a'[RentalCa

(TO MAINTAIN -('_SESSIO
DELETE FROM rentalHasBee
SELECTFROM 'a'[RentalCa

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ALL of INSERT INTO ren
SELECTFROM 'x'

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NEW x:RentalCase;
ALL of ALL of INSERT INTO rentalHasBeenSt
SELECTFROM 'x' [RentalCase]
(TO MAINTAIN -( '_SESSION' [
DELETE FROM rentalHasBeenEn
SELECTFROM 'x' [RentalCase]
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SELECTFROM 'a'
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PICK a,b FROM rental
THEN ONE OF ONE NONE
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ALL of INSERT INTO rental
SELECTFROM 'x' [Re

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NEW x:Car;
ALL of INSERT INTO sessionReturnedCar[SESSION*Car]
SELECTFROM ( '_SESSION' [SESSION];sessionReturnedCar; (I[Car] /\ -(carA

(TO MAINTAIN -( '_SESSION' [SESSION];sessionReturnedCar; (I[Car] /\ -(c
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ( 'x' [Car]*(' _SESSION
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'b' [RentalCase]*'a' [Car]

(TO MAINTAIN -( '_SESSION' [SESSION];sessionReturne
PICK a,b FROM rcIssuedCar;('x' [Car]*(' _SESSION' [SESSION
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (
THEN ALL of INSERT INTO rentalHasBee
SELECTFROM 'a' [RentalCa

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DELETE FROM rentalHasBee
SELECTFROM 'a' [RentalCa

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PICK a,b FROM (rentalHasBeenStarted~
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NEW x:RentalCase;

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SELECTFROM 'a' [RentalCase]

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DELETE FROM rentalHasBeenEn
SELECTFROM 'a' [RentalCase]

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ONE OF ONE NONEMPTY ALTERNATIVE OF
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NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*((I[Car] /\ -(carAvailabl

(TO MAINTAIN -('_SESSION' [SESSION];sessionReturnedCa
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'
THEN ALL of INSERT INTO rentalHasBeenSt
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -('_SESSION' [
DELETE FROM rentalHasBeenEn
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -('_SESSION' [
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PICK a,b FROM (rentalHasBeenStarted~ /\
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
THEN INSERT INTO ren
SELECTFROM 'a'

(TO MAINTAIN -
PICK a,b FROM rental
THEN ONE OF ONE NONE
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NEW x:YesNo;
ALL of INSERT INTO rental
SELECTFROM 'a'[Re

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      NEW x:YesNo
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      (MAINTAINING -(' _SESSION' [SESSION]
      (MAINTAINING -(' _SESSION' [SESSION];sessionRetu
      NEW x:RentalCase;
      ALL of INSERT INTO rentalHasBeenStarted[Rent
      SELECTFROM 'x' [RentalCase]*'x' [Car]*

      (TO MAINTAIN -(' _SESSION' [SESSION];s
      DELETE FROM rentalHasBeenEnded[Rental
      SELECTFROM 'x' [RentalCase]*'x' [Car]*

      (TO MAINTAIN -(' _SESSION' [SESSION];s
      ONE OF ONE NONEMPTY ALTERNATIVE OF PI
      THEN INSERT INTO rental
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      NEW x:YesNo
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      (MAINTAINING -(' _S

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(MAINTEINING -(' _SESSION' [SESS
NEW x:YesNo;
    ALL of INSERT INTO rentalIsP
        SELECTFROM 'x' [Renta

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            (MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar
            (MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar; (I[Car]
            (MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar; (I[Car]
            (MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar; (I[Car] /\ - (ca
            (MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar; (I[Car] /\ - (carAvaila
            (MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar; (I[Car] /\ - (carAvailabl
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionReturnedCar~;' _SESSION' [SESS
    THEN INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'b' [RentalCase]*'a' [Car]

    (TO MAINTAIN - (sessionReturnedCar~;' _SESSION' [SESSION];sessionRet
PICK a,b FROM rcIssuedCar;(sessionReturnedCar~;' _SESSION' [SESSION];sess
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [RentalCase]*
    THEN ALL of INSERT INTO rentalHasBeenStarted[RentalC
        SELECTFROM 'a' [RentalCase]*'b' [RentalCa

    (TO MAINTAIN - (sessionReturnedCar~;' _SE
DELETE FROM rentalHasBeenEnded[RentalCas
    SELECTFROM 'a' [RentalCase]*'b' [RentalCa

    (TO MAINTAIN - (sessionReturnedCar~;' _SE
    (MAINTAINING - (sessionReturnedCar~;' _SESSION' [S
PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBe
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM
    THEN INSERT INTO rentalIsPaidQ[Re
        SELECTFROM 'a' [RentalCase]*

    (TO MAINTAIN - (sessionRetur
PICK a,b FROM rentalIsPaidQ~;'a'
THEN ONE OF ONE NONEMPTY ALTERNAT
    THEN BLOCK
        (CANNOT C

```

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PICK a,b FROM
THEN BLOCK
(CANNOT C
(MAINAINING -(sessio
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHAN
BLOCK
(CANNOT CHAN
(MAINAINING -(sess
(MAINAINING -(sessio
(MAINAINING -(sessionReturn
(MAINAINING -(sessionReturnedCar~;'_SES
NEW x:YesNo;
ALL of INSERT INTO rentalIsPaidQ[Renta
SELECTFROM 'a' [RentalCase]*'b'

(TO MAINTAIN -(sessionReturned
ONE OF ONE NONEMPTY ALTERNATIVE
THEN BLOCK
(CANNOT CHAN
PICK a,b FROM 'Ye
THEN BLOCK
(CANNOT CHAN
(MAINAINING -(sessionRe
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHANGE
BLOCK
(CANNOT CHANGE
(MAINAINING -(session
(MAINAINING -(sessionRe
(MAINAINING -(sessionReturnedC
(MAINAINING -(sessionReturnedCar~;'_S
(MAINAINING -(sessionReturnedCar~;'_SES
(MAINAINING -(sessionReturnedCar~;'_SESSION' [S
(MAINAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sess
NEW x:RentalCase;
ALL of ALL of INSERT INTO rentalHasBeenStarted[RentalCase
SELECTFROM 'a' [RentalCase]*'b' [Car]*'x' [Re

(TO MAINTAIN -(sessionReturnedCar~;'_SESSI
DELETE FROM rentalHasBeenEnded[RentalCase*R
SELECTFROM 'a' [RentalCase]*'b' [Car]*'x' [Re

(TO MAINTAIN -(sessionReturnedCar~;'_SESSI
(MAINAINING -(sessionReturnedCar~;'_SESSION' [SESS
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (
THEN INSERT INTO rentalIsPaidQ[Renta
SELECTFROM 'a' [RentalCase]*'b'

```

```

        (TO MAINTAIN -(sessionReturned
PICK a,b FROM rentalIsPaidQ~;'x'[Re
THEN ONE OF ONE NONEMPTY ALTERNATIVE
        THEN BLOCK
        (CANNOT CHAN
        PICK a,b FROM 'Ye
        THEN BLOCK
        (CANNOT CHAN
        (MAINTAINING -(sessionRe
NEW x:YesNo;
        ALL of BLOCK
        (CANNOT CHANGE
        BLOCK
        (CANNOT CHANGE
        (MAINTAINING -(session
        (MAINTAINING -(sessionRe
        (MAINTAINING -(sessionReturnedC
        (MAINTAINING -(sessionReturnedCar~;'_SESSIO
NEW x:YesNo;
        ALL of INSERT INTO rentalIsPaidQ[RentalCa
        SELECTFROM 'x'[RentalCase]*'a'[Re

        (TO MAINTAIN -(sessionReturnedCar
ONE OF ONE NONEMPTY ALTERNATIVE OF
        THEN BLOCK
        (CANNOT CHANGE
        PICK a,b FROM 'Yes'[
        THEN BLOCK
        (CANNOT CHANGE
        (MAINTAINING -(sessionRetur
NEW x:YesNo;
        ALL of BLOCK
        (CANNOT CHANGE 'Ye
        BLOCK
        (CANNOT CHANGE V[Y
        (MAINTAINING -(sessionRet
        (MAINTAINING -(sessionRetur
        (MAINTAINING -(sessionReturnedCar~
        (MAINTAINING -(sessionReturnedCar~;'_SESS
        (MAINTAINING -(sessionReturnedCar~;'_SESSIO
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESS
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];se
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sess
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionRetu
        (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar;(I[C
INSERT INTO rcDroppedOffBranch[RentalCase*Branch]
        SELECTFROM rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionR

        (TO MAINTAIN -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sess

```

```

INSERT INTO Isn{dety=Branch}
  SELECTFROM rcDroppedOffBranch~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAva

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

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

(TO MAINTAIN -(rcDroppedOffDate~;rcIssuedCar;(I[Car] /\ -(carAvailableAt;carA
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[Car] /\ -(carType;carType~));carT
  THEN INSERT INTO carType[Car*CarType]
    SELECTFROM 'a'[Car]*'b'[CarType]

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

    (TO MAINTAIN -I[Car] \/ carType;I[CarType];carType~ FROM UNI carT
(MAINTAINING -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::Car*CarT
NEW x:CarType;
  INSERT INTO carType[Car*CarType]
    SELECTFROM (I[Car] /\ -(carType;carType~))*'x'[CarType]

    (TO MAINTAIN -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::Car*C
(MAINTAINING -I[Car] \/ carType;I[CarType];carType~ FROM UNI carType::Car*CarT
(MAINTAINING -I[Car] \/ carAvailableAt;carAvailableAt~ \/ rcIssuedCar~;(rentalHasBeen
(MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car
(MAINTAINING -( '_SESSION'[SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableAt;car
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(rcIssuedCar;(I[Car] /\ -(carAvailableAt;carAvailableAt~));sessionRetur
(MAINTAINING -(carType~;carType) \/ I[CarType] FROM UNI carType::Car*CarType)
(MAINTAINING -I[Car] \/ carType;carType~ FROM TOT carType::Car*CarType)

```

<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=Car} EXECUTE    -- (ECA rule 140)
ALL of DELETE FROM sessionReturnedCar[SESSION*Car]
  SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;(I[Car] /\ rcIssued

  (TO MAINTAIN -( '_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturne
  (TO MAINTAIN -(sessionReturnedCar~;sessionReturnedCar) \/ I[Car] FROM UN
DELETE FROM rcIssuedCar[RentalCase*Car]

```

```

SELECTFROM rcIssuedCar;(-I[Car] /\ rcIssuedCar~;rcIssuedCar) \/ V[RentalCase*Car]

(TO MAINTAIN -(rcIssuedCar~;rcIssuedCar) \/ I[Car] FROM UNI rcIssuedCar;
DELETE FROM rcDroppedOffCar[RentalCase*Car]
SELECTFROM rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCar~;rcDroppedOffCar)

(TO MAINTAIN -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDroppedOffCar;
DELETE FROM carAvailableAt[Car*Branch]
SELECTFROM Delta;V[Car*Branch]

DELETE FROM carType[Car*CarType]
SELECTFROM Delta;V[Car*CarType]

ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCar~;rcIssuedCar;rcDroppedOffCar)

(TO MAINTAIN -(rcIssuedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off car;
DELETE FROM rcDroppedOffCar[RentalCase*Car]
SELECTFROM rcIssuedCar;(-I[Car] /\ rcIssuedCar~;rcDroppedOffCar)

(TO MAINTAIN -(rcIssuedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off car;
(MAINTAINING -(rcIssuedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off car;
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ sessionReturnedCar~;
sessionReturnedCar)

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar;
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ sessionReturnedCar~;
sessionReturnedCar)

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar;
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar;
(MAINTAINING -rcDroppedOffCar /\ rcIssuedCar FROM Dropped-off car type integrity
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturnedCar;(I[Car]
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturnedCar;(I[Car]
(MAINTAINING -(rcIssuedCar~;rcIssuedCar) \/ I[Car] FROM UNI rcIssuedCar::RentalCase*Car
(MAINTAINING -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDroppedOffCar::RentalCase*Car
(MAINTAINING -(sessionReturnedCar~;sessionReturnedCar) \/ I[Car] FROM UNI sessionReturnedCar::RentalCase*Car

```

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

```

ALL of DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];(-(sessionReturnedCar;(I[Car] /\ rcIssuedCar~;rcDroppedOffCar)

(TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturnedCar;
(TO MAINTAIN -(sessionReturnedCar~;sessionReturnedCar) \/ I[Car] FROM UNI sessionReturnedCar;
DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM rcIssuedCar;(-I[Car] /\ rcIssuedCar~;rcIssuedCar) \/ V[RentalCase*Car]

```

```

(TO MAINTAIN  -(rcIssuedCar~;rcIssuedCar) \/ I[Car] FROM UNI rcIssuedCar::RentalCase*Car]
DELETE FROM rcDroppedOffCar[RentalCase*Car]
SELECTFROM rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCar~;rcDroppedOffCar) \/ V

(TO MAINTAIN  -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDroppedOffCar::RentalCase*Car]
DELETE FROM carAvailableAt[Car*Branch]
SELECTFROM Delta;V[Car*Branch]

DELETE FROM carType[Car*CarType]
SELECTFROM Delta;V[Car*CarType]

ONE OF DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM rcDroppedOffCar;(-I[Car] /\ rcDroppedOffCar~;rcIssuedCar)

(TO MAINTAIN  -(rcIssuedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off car ty
DELETE FROM rcDroppedOffCar[RentalCase*Car]
SELECTFROM rcIssuedCar;(-I[Car] /\ rcIssuedCar~;rcDroppedOffCar)

(TO MAINTAIN  -(rcIssuedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off car ty
(MAINTAINING -(rcIssuedCar~;rcDroppedOffCar) \/ I[Car] FROM Dropped-off car ty
ONE OF DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ sessionReturnedCar~;

(TO MAINTAIN  -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar)
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM '_SESSION'[SESSION];sessionReturnedCar;((-I[Car] /\ sessionReturnedCar~;'_SESSION'[SESSION];

(TO MAINTAIN  -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar)
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar) \/
(MAINTAINING -rcDroppedOffCar \/ rcIssuedCar FROM Dropped-off car type integrity)
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturnedCar;(I[Car]
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar) \/ sessionReturnedCar;(I[Car]
(MAINTAINING -(rcIssuedCar~;rcIssuedCar) \/ I[Car] FROM UNI rcIssuedCar::RentalCase*Car]
(MAINTAINING -(rcDroppedOffCar~;rcDroppedOffCar) \/ I[Car] FROM UNI rcDroppedOffCar::RentalCase*Car]
(MAINTAINING -(sessionReturnedCar~;sessionReturnedCar) \/ I[Car] FROM UNI sessionReturnedCar::RentalCase*Car]

<-----End Derivation --

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```

ON DELETE Delta FROM Isn{dety=Amount} EXECUTE  -- (ECA rule 142)
ONE OF DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rentalCharge;(-I[Amount] /\ rentalCharge~;rentalIsPaidQ;'Yes'

(TO MAINTAIN  -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rentalCharge)
DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rentalCharge)
DELETE FROM rentalIsPaidQ[RentalCase*YesNo]

```

```

SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;rentalIsPaidQ;'Yes'

(TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;r
DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rentalCharge;(-I[Am

(TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;r
DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;rentalIsPaidQ;'Yes'

(TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;r
DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;rentalIsPaidQ;'Yes'

(TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;r
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
DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM (rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTarif

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(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssued
DELETE FROM rentalPeriod[RentalCase*Integer]
SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;(rentalPe

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssued
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssued
DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;(rentalPe

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssued
DELETE FROM carType[Car*CarType]
SELECTFROM rcIssuedCar~;rentalBasicCharge;(-I[Amount] /\ rentalBasicChar

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssued
DELETE FROM rentalTariffPerDay[CarType*Amount]
SELECTFROM carType~;rcIssuedCar~;rentalBasicCharge;(-I[Amount] /\ rental

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssued
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssued
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
SELECTFROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTariffPerD

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssued
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
SELECTFROM (rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;exces

(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 rcIssuedCar[RentalCase*Car]
SELECTFROM rentalPenaltyCharge;(-I[Amount] /\ rentalPenaltyCharge~;(rent

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
DELETE FROM carType[Car*CarType]
SELECTFROM rcIssuedCar~;rentalPenaltyCharge;(-I[Amount] /\ rentalPenalty

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\
DELETE FROM excessTariffPerDay[CarType*Amount]

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SELECTFROM carType~;rcIssuedCar~;rentalPenaltyCharge;(-I[Amount] /\ rent.

(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] /\ rentalLocationPenal.

(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 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

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```

(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 rentalCharge[RentalCase*Amount]
SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;rentalCharge)

(TO MAINTAIN  -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalC
DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;rentalBas

(TO MAINTAIN  -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM U
DELETE FROM excessTariffPerDay[CarType*Amount]
SELECTFROM excessTariffPerDay;(-I[Amount] /\ excessTariffPerDay~;excessT

(TO MAINTAIN  -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
SELECTFROM rentalPenaltyCharge;(-I[Amount] /\ rentalPenaltyCharge~;renta

(TO MAINTAIN  -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FR
DELETE FROM computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
SELECTFROM computedLocationPenaltyCharge;(-I[Amount] /\ computedLocation

(TO MAINTAIN  -(computedLocationPenaltyCharge~;computedLocationPenaltyCha
DELETE FROM rentalLocationPenaltyCharge[RentalCase*Amount]
SELECTFROM rentalLocationPenaltyCharge;(-I[Amount] /\ rentalLocationPena

(TO MAINTAIN  -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge)
DELETE FROM arg1[CompRentalCharge*Amount]

```

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SELECTFROM arg1;(-I[Amount] /\ arg1~;arg1)

(TO MAINTAIN -(arg1~;arg1) \/ I[Amount] FROM UNI arg1::CompRentalCharge*
DELETE FROM arg2[CompRentalCharge*Amount]
SELECTFROM arg2;(-I[Amount] /\ arg2~;arg2)

(TO MAINTAIN -(arg2~;arg2) \/ I[Amount] FROM UNI arg2::CompRentalCharge*
DELETE FROM arg3[CompRentalCharge*Amount]
SELECTFROM arg3;(-I[Amount] /\ arg3~;arg3)

(TO MAINTAIN -(arg3~;arg3) \/ I[Amount] FROM UNI arg3::CompRentalCharge*
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
SELECTFROM ctcDailyAmount;(-I[Amount] /\ ctcDailyAmount~;ctcDailyAmount)

(TO MAINTAIN -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctc
DELETE FROM projectedBasicCharge[RentalCase*Amount]
SELECTFROM projectedBasicCharge;(-I[Amount] /\ projectedBasicCharge~;pro

(TO MAINTAIN -(projectedBasicCharge~;projectedBasicCharge) \/ I[Amount]
DELETE FROM rentalTariffPerDay[CarType*Amount]
SELECTFROM V[CarType*Amount];Delta

DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM V[RentalCase*Amount];Delta

DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM V[RentalCase*Amount];Delta

DELETE FROM excessTariffPerDay[CarType*Amount]
SELECTFROM V[CarType*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 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]

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```

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

(MAINTEINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) /\ re
(MAINTEINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLo
(MAINTEINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPer
(MAINTEINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTar
(MAINTEINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbr
(MAINTEINING -I[CompRentalCharge] /\ computedRentalCharge;computedRentalCharge~
(MAINTEINING -I[CompTariffedCharge] /\ computedTariffedCharge;computedTariffedCh
(MAINTEINING -((projectedRentalPeriod;ctcNrOfDays~ /\ contractedCarType;rentalTa
(MAINTEINING -(rentalTariffPerDay~;rentalTariffPerDay) /\ I[Amount] FROM UNI ren
(MAINTEINING -I[CarType] /\ rentalTariffPerDay;rentalTariffPerDay~ FROM TOT rent
(MAINTEINING -(rentalCharge~;rentalCharge) /\ I[Amount] FROM UNI rentalCharge::R
(MAINTEINING -(rentalBasicCharge~;rentalBasicCharge) /\ I[Amount] FROM UNI renta
(MAINTEINING -(excessTariffPerDay~;excessTariffPerDay) /\ I[Amount] FROM UNI exc
(MAINTEINING -I[CarType] /\ excessTariffPerDay;excessTariffPerDay~ FROM TOT exce
(MAINTEINING -(rentalPenaltyCharge~;rentalPenaltyCharge) /\ I[Amount] FROM UNI r
(MAINTEINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) /\
(MAINTEINING -I[DistanceBetweenLocations] /\ computedLocationPenaltyCharge;compu
(MAINTEINING -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) /\ I[Am
(MAINTEINING -(arg1~;arg1) /\ I[Amount] FROM UNI arg1::CompRentalCharge*Amount)
(MAINTEINING -I[CompRentalCharge] /\ arg1;arg1~ FROM TOT arg1::CompRentalCharge*
(MAINTEINING -(arg2~;arg2) /\ I[Amount] FROM UNI arg2::CompRentalCharge*Amount)
(MAINTEINING -I[CompRentalCharge] /\ arg2;arg2~ FROM TOT arg2::CompRentalCharge*
(MAINTEINING -(arg3~;arg3) /\ I[Amount] FROM UNI arg3::CompRentalCharge*Amount)
(MAINTEINING -I[CompRentalCharge] /\ arg3;arg3~ FROM TOT arg3::CompRentalCharge*
(MAINTEINING -(computedRentalCharge~;computedRentalCharge) /\ I[Amount] FROM UNI
(MAINTEINING -(ctcDailyAmount~;ctcDailyAmount) /\ I[Amount] FROM UNI ctcDailyAmo
(MAINTEINING -I[CompTariffedCharge] /\ ctcDailyAmount;ctcDailyAmount~ FROM TOT c
(MAINTEINING -(computedTariffedCharge~;computedTariffedCharge) /\ I[Amount] FROM
(MAINTEINING -(projectedBasicCharge~;projectedBasicCharge) /\ I[Amount] FROM UNI

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

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ONE OF DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rentalCharge;(-I[Amount]

(TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rental
DELETE FROM rentalIsPaidQ[RentalCase*YesNo]

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SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;rentalIsPaidQ;'Yes'[YesNo]

(TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rental
DELETE FROM rentalIsPaidQ[RentalCase*YesNo]
SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;rentalIsPaidQ;'Yes'[YesNo]

(TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rental
DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rentalCharge;(-I[Amount]

(TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rental
DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;rentalIsPaidQ;'Yes'[YesNo]

(TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rental
DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;rentalIsPaidQ;'Yes'[YesNo]

(TO MAINTAIN -(rentalCharge~;rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~;rental
DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM (rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLoc

(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

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(TO MAINTAIN -(rentalCharge~;(rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;
DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM (rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerD

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;c
DELETE FROM rentalPeriod[RentalCase*Integer]
SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;(rentalPeriod;

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;c
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(ctc

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;c
DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;(rentalPeriod;

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;c
DELETE FROM carType[Car*CarType]
SELECTFROM rcIssuedCar~;rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;(

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;c
DELETE FROM rentalTariffPerDay[CarType*Amount]
SELECTFROM carType~;rcIssuedCar~;rentalBasicCharge;(-I[Amount] /\ rentalBasic

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;c
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(ctc

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;c
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
SELECTFROM (ctcNrOfDays;rentalPeriod~ /\ ctcDailyAmount;rentalTariffPerDay~;

(TO MAINTAIN -(rentalBasicCharge~;(rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;c
DELETE FROM rentalPenaltyCharge[RentalCase*Amount]
SELECTFROM (rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTari

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcIss
DELETE FROM rentalExcessPeriod[RentalCase*Integer]
SELECTFROM rentalPenaltyCharge;(-I[Amount] /\ rentalPenaltyCharge~;(rentalExc

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcIss
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(ctc

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcIss
DELETE FROM rcIssuedCar[RentalCase*Car]
SELECTFROM rentalPenaltyCharge;(-I[Amount] /\ rentalPenaltyCharge~;(rentalExc

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcIss
DELETE FROM carType[Car*CarType]

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SELECTFROM rcIssuedCar~;rentalPenaltyCharge;(-I[Amount] /\ rentalPenaltyCharg

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcIss
DELETE FROM excessTariffPerDay[CarType*Amount]
SELECTFROM carType~;rcIssuedCar~;rentalPenaltyCharge;(-I[Amount] /\ rentalPen

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcIss
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(ctc

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcIss
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
SELECTFROM (ctcNrOfDays;rentalExcessPeriod~ /\ ctcDailyAmount;excessTariffPer

(TO MAINTAIN -(rentalPenaltyCharge~;(rentalExcessPeriod;ctcNrOfDays~ /\ rcIss
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 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

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(TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
SELECTFROM projectedBasicCharge;(-I[Amount] /\ projectedBasicCharge~;(project

(TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(ctc

(TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM contractedCarType[RentalCase*CarType]
SELECTFROM projectedBasicCharge;(-I[Amount] /\ projectedBasicCharge~;(project

(TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM rentalTariffPerDay[CarType*Amount]
SELECTFROM contractedCarType~;projectedBasicCharge;(-I[Amount] /\ projectedBa

(TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM ctcDailyAmount[CompTariffedCharge*Amount]
SELECTFROM computedTariffedCharge;(-I[Amount] /\ computedTariffedCharge~;(ctc

(TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM computedTariffedCharge[CompTariffedCharge*Amount]
SELECTFROM (ctcNrOfDays;projectedRentalPeriod~ /\ ctcDailyAmount;rentalTariff

(TO MAINTAIN -(projectedBasicCharge~;(projectedRentalPeriod;ctcNrOfDays~ /\ c
DELETE FROM rentalTariffPerDay[CarType*Amount]
SELECTFROM rentalTariffPerDay;(-I[Amount] /\ rentalTariffPerDay~;rentalTariff

(TO MAINTAIN -(rentalTariffPerDay~;rentalTariffPerDay) \/ I[Amount] FROM UNI
DELETE FROM rentalCharge[RentalCase*Amount]
SELECTFROM rentalCharge;(-I[Amount] /\ rentalCharge~;rentalCharge)

(TO MAINTAIN -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalCharge
DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM rentalBasicCharge;(-I[Amount] /\ rentalBasicCharge~;rentalBasicCha

(TO MAINTAIN -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM UNI re
DELETE FROM excessTariffPerDay[CarType*Amount]
SELECTFROM excessTariffPerDay;(-I[Amount] /\ excessTariffPerDay~;excessTariff

(TO MAINTAIN -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI
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]

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SELECTFROM rentalLocationPenaltyCharge;(-I[Amount] /\ rentalLocationPenaltyCh

(TO MAINTAIN -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) \/ I
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)

(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 rentalCharge[RentalCase*Amount]
SELECTFROM V[RentalCase*Amount];Delta

DELETE FROM rentalBasicCharge[RentalCase*Amount]
SELECTFROM V[RentalCase*Amount];Delta

DELETE FROM excessTariffPerDay[CarType*Amount]
SELECTFROM V[CarType*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 arg1[CompRentalCharge*Amount]
SELECTFROM V[CompRentalCharge*Amount];Delta

DELETE FROM arg2[CompRentalCharge*Amount]
SELECTFROM V[CompRentalCharge*Amount];Delta

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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

(MAINTEINING -(rentalIsPaidQ;'Yes'[YesNo];rentalIsPaidQ~ /\ I[RentalCase]) \/ rentalC
(MAINTEINING -((rentalBasicCharge;arg1~ /\ rentalPenaltyCharge;arg2~ /\ rentalLocatio
(MAINTEINING -((rentalPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;rentalTariffPerDay;c
(MAINTEINING -((rentalExcessPeriod;ctcNrOfDays~ /\ rcIssuedCar;carType;excessTariffPe
(MAINTEINING -((rcDroppedOffBranch;distbranch~ /\ contractedDropoffBranch;distbranch~
(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 -(rentalCharge~;rentalCharge) \/ I[Amount] FROM UNI rentalCharge::Rental
(MAINTEINING -(rentalBasicCharge~;rentalBasicCharge) \/ I[Amount] FROM UNI rentalBasi
(MAINTEINING -(excessTariffPerDay~;excessTariffPerDay) \/ I[Amount] FROM UNI excessTa
(MAINTEINING -I[CarType] \/ excessTariffPerDay;excessTariffPerDay~ FROM TOT excessTar
(MAINTEINING -(rentalPenaltyCharge~;rentalPenaltyCharge) \/ I[Amount] FROM UNI rental
(MAINTEINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/ I[Amo
(MAINTEINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;computedLo
(MAINTEINING -(rentalLocationPenaltyCharge~;rentalLocationPenaltyCharge) \/ I[Amount]
(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

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<-----End Derivation --

ON INSERT Delta IN Isn{dety=CompRentalCharge} EXECUTE -- (ECA rule 143)

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ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(compu
    THEN INSERT INTO computedRentalCharge[CompRentalCharge*Amount]
        SELECTFROM 'a'[CompRentalCharge]*'b'[Amount]

        (TO MAINTAIN -I[CompRentalCharge] \/ computedRentalCharge;com
PICK a,b FROM computedRentalCharge~;(I[CompRentalCharge] /\ -(comp
    THEN INSERT INTO computedRentalCharge[CompRentalCharge*Amount]
        SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

        (TO MAINTAIN -I[CompRentalCharge] \/ computedRentalCharge;com
(MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalC
NEW x:Amount;
    INSERT INTO computedRentalCharge[CompRentalCharge*Amount]
        SELECTFROM (I[CompRentalCharge] /\ -(computedRentalCharge;computedRent

        (TO MAINTAIN -I[CompRentalCharge] \/ computedRentalCharge;computedRent
(MAINTAINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalC
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(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~ FR
(MAINTAINING -I[CompRentalCharge] \/ arg1;I[Amount];arg1~ FROM UNI arg1::
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(arg2;
    THEN INSERT INTO arg2[CompRentalCharge*Amount]
        SELECTFROM 'a'[CompRentalCharge]*'b'[Amount]

        (TO MAINTAIN -I[CompRentalCharge] \/ arg2;I[Amount];arg2~ FR
PICK a,b FROM arg2~;(I[CompRentalCharge] /\ -(arg2;arg2~))
    THEN INSERT INTO arg2[CompRentalCharge*Amount]
        SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

        (TO MAINTAIN -I[CompRentalCharge] \/ arg2;I[Amount];arg2~ FR
(MAINTAINING -I[CompRentalCharge] \/ arg2;I[Amount];arg2~ FROM UNI arg2::
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompRentalCharge] /\ -(arg3;
    THEN INSERT INTO arg3[CompRentalCharge*Amount]
        SELECTFROM 'a'[CompRentalCharge]*'b'[Amount]

        (TO MAINTAIN -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FR
PICK a,b FROM arg3~;(I[CompRentalCharge] /\ -(arg3;arg3~))
    THEN INSERT INTO arg3[CompRentalCharge*Amount]
        SELECTFROM 'b'[CompRentalCharge]*'a'[Amount]

        (TO MAINTAIN -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FR
(MAINTAINING -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FROM UNI arg3::

```

```

(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] /\ -(computedR
      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
      (MAINAINING -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
      (MAINAINING -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

```

```

(MAINTEINING -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 UNI
    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 UNI
    (MAINTAINING -I[CompRentalCharge] \/ arg3;I[Amount];arg3~ FROM UNI arg3::CompR
(MAINTEINING -I[CompRentalCharge] \/ computedRentalCharge;computedRentalCharge~ FROM
(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

```

<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=CompRentalCharge} EXECUTE    -- (ECA rule 144)
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
(MAINTEINING -(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]

(MAINTEINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FR

```

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

```
ALL of ONE OF DELETE FROM arg3[CompRentalCharge*Amount]
    SELECTFROM (-I[CompRentalCharge] /\ arg3;arg3~ /\ arg2;arg2~ /\ arg1;a

    (TO MAINTAIN -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRental
DELETE FROM arg2[CompRentalCharge*Amount]
    SELECTFROM (-I[CompRentalCharge] /\ arg3;arg3~ /\ arg2;arg2~ /\ arg1;a

    (TO MAINTAIN -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRental
DELETE FROM arg1[CompRentalCharge*Amount]
    SELECTFROM (-I[CompRentalCharge] /\ arg3;arg3~ /\ arg2;arg2~ /\ arg1;a

    (TO MAINTAIN -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRental
(MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge]
DELETE FROM arg1[CompRentalCharge*Amount]
    SELECTFROM Delta;V[CompRentalCharge*Amount]

DELETE FROM arg2[CompRentalCharge*Amount]
    SELECTFROM Delta;V[CompRentalCharge*Amount]

DELETE FROM arg3[CompRentalCharge*Amount]
    SELECTFROM Delta;V[CompRentalCharge*Amount]

DELETE FROM computedRentalCharge[CompRentalCharge*Amount]
    SELECTFROM Delta;V[CompRentalCharge*Amount]

(MAINTAINING -(arg3;arg3~ /\ arg2;arg2~ /\ arg1;arg1~) \/ I[CompRentalCharge] FROM Un
```

<-----End Derivation --

```
ON DELETE Delta FROM Isn{dety=Integer} EXECUTE    -- (ECA rule 146)
ONE OF DELETE FROM rentalPeriod[RentalCase*Integer]
    SELECTFROM (contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~

    (TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)
DELETE FROM contractedStartDate[RentalCase*Date]
    SELECTFROM rentalPeriod;(-I[Integer] /\ rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)

    (TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)
DELETE FROM earliestDate[CompNrDays*Date]
    SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)

    (TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)
DELETE FROM rcDroppedOffDate[RentalCase*Date]
    SELECTFROM rentalPeriod;(-I[Integer] /\ rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~)
```

```

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
DELETE FROM latestDate[CompNrDays*Date]
SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(e

(TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDro
DELETE FROM computedRentalPeriod[CompNrDays*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[CompNrExcessDays*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[CompNrExcessDays*Date]
SELECTFROM computedNrOfExcessDays;(-I[Integer] /\ computedNrOfExcessDays

(TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
DELETE FROM computedNrOfExcessDays[CompNrExcessDays*Integer]
SELECTFROM (lastDate;rcDroppedOffDate~ /\ firstDate;contractedEndDate~);

(TO MAINTAIN -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contra
DELETE FROM computedRentalPeriod[CompNrDays*Integer]
SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;con

(TO MAINTAIN -(computedRentalPeriod~;I[CompNrDays];computedRentalPeriod)
DELETE FROM computedNrOfExcessDays[CompNrExcessDays*Integer]
SELECTFROM computedNrOfExcessDays;(-I[Integer] /\ computedNrOfExcessDays

(TO MAINTAIN -(computedNrOfExcessDays~;I[CompNrExcessDays];computedNrOfE
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[CompNrDays*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[CompNrDays*Date]
SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(e

(TO MAINTAIN -(projectedRentalPeriod~;(contractedStartDate;earliestDate~
DELETE FROM computedRentalPeriod[CompNrDays*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 ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM ctcNrOfDays;(-I[Integer] /\ ctcNrOfDays~;ctcNrOfDays)

(TO MAINTAIN -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfD
DELETE FROM projectedRentalPeriod[RentalCase*Integer]
SELECTFROM projectedRentalPeriod;(-I[Integer] /\ projectedRentalPeriod~;

(TO MAINTAIN -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Integer]
DELETE FROM rentalPeriod[RentalCase*Integer]
SELECTFROM V[RentalCase*Integer];Delta

DELETE FROM rentalExcessPeriod[RentalCase*Integer]
SELECTFROM V[RentalCase*Integer];Delta

DELETE FROM computedRentalPeriod[CompNrDays*Integer]
SELECTFROM V[CompNrDays*Integer];Delta

DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM V[CompTariffedCharge*Integer];Delta

DELETE FROM computedNrOfExcessDays[CompNrExcessDays*Integer]
SELECTFROM V[CompNrExcessDays*Integer];Delta

DELETE FROM projectedRentalPeriod[RentalCase*Integer]
SELECTFROM V[RentalCase*Integer];Delta

(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate

```



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(MAINAINING -(rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);comp
(MAINAINING -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~ FROM C
(MAINAINING -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfExcessDa
(MAINAINING -(contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate
(MAINAINING -(rentalPeriod~;rentalPeriod) \/ I[Integer] FROM UNI rentalPeriod::
(MAINAINING -(rentalExcessPeriod~;rentalExcessPeriod) \/ I[Integer] FROM UNI re
(MAINAINING -(computedRentalPeriod~;computedRentalPeriod) \/ I[Integer] FROM UN
(MAINAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::Com
(MAINAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOf
(MAINAINING -(computedNrOfExcessDays~;computedNrOfExcessDays) \/ I[Integer] FROM
(MAINAINING -(projectedRentalPeriod~;projectedRentalPeriod) \/ I[Integer] FROM

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

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ONE OF 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[CompNrDays*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[CompNrDays*Date]
      SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(earlie

      (TO MAINTAIN -(rentalPeriod~;(contractedStartDate;earliestDate~ /\ rcDroppedO
DELETE FROM computedRentalPeriod[CompNrDays*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[CompNrExcessDays*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[CompNrExcessDays*Date]
SELECTFROM computedNrOfExcessDays;(-I[Integer] /\ computedNrOfExcessDays~;(la

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
DELETE FROM computedNrOfExcessDays[CompNrExcessDays*Integer]
SELECTFROM (lastDate;rcDroppedOffDate~ /\ firstDate;contractedEndDate~);renta

(TO MAINTAIN  -(rentalExcessPeriod~;(rcDroppedOffDate;lastDate~ /\ contractedE
DELETE FROM computedRentalPeriod[CompNrDays*Integer]
SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;compute

(TO MAINTAIN  -(computedRentalPeriod~;I[CompNrDays];computedRentalPeriod) \/ I
DELETE FROM computedNrOfExcessDays[CompNrExcessDays*Integer]
SELECTFROM computedNrOfExcessDays;(-I[Integer] /\ computedNrOfExcessDays~;com

(TO MAINTAIN  -(computedNrOfExcessDays~;I[CompNrExcessDays];computedNrOfExcess
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[CompNrDays*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[CompNrDays*Date]
SELECTFROM computedRentalPeriod;(-I[Integer] /\ computedRentalPeriod~;(earlie

(TO MAINTAIN  -(projectedRentalPeriod~;(contractedStartDate;earliestDate~ /\ c
DELETE FROM computedRentalPeriod[CompNrDays*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

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```

DELETE FROM rentalExcessPeriod[RentalCase*Integer]
SELECTFROM rentalExcessPeriod;(-I[Integer] /\ rentalExcessPeriod~;rentalExces

(TO MAINTAIN -(rentalExcessPeriod~;rentalExcessPeriod) /\ I[Integer] FROM UNI
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 rentalPeriod[RentalCase*Integer]
SELECTFROM V[RentalCase*Integer];Delta

DELETE FROM rentalExcessPeriod[RentalCase*Integer]
SELECTFROM V[RentalCase*Integer];Delta

DELETE FROM computedRentalPeriod[CompNrDays*Integer]
SELECTFROM V[CompNrDays*Integer];Delta

DELETE FROM ctcNrOfDays[CompTariffedCharge*Integer]
SELECTFROM V[CompTariffedCharge*Integer];Delta

DELETE FROM computedNrOfExcessDays[CompNrExcessDays*Integer]
SELECTFROM V[CompNrExcessDays*Integer];Delta

DELETE FROM projectedRentalPeriod[RentalCase*Integer]
SELECTFROM V[RentalCase*Integer];Delta

(MAINTAINING -((contractedStartDate;earliestDate~ /\ rcDroppedOffDate;latestDate~);co
(MAINTAINING -((rcDroppedOffDate;lastDate~ /\ contractedEndDate;firstDate~);computedN
(MAINTAINING -I[CompNrDays] /\ computedRentalPeriod;computedRentalPeriod~ FROM Comput
(MAINTAINING -I[CompNrExcessDays] /\ computedNrOfExcessDays;computedNrOfExcessDays~ F
(MAINTAINING -((contractedStartDate;earliestDate~ /\ contractedEndDate;latestDate~);c
(MAINTAINING -(rentalPeriod~;rentalPeriod) /\ I[Integer] FROM UNI rentalPeriod::Renta
(MAINTAINING -(rentalExcessPeriod~;rentalExcessPeriod) /\ I[Integer] FROM UNI rentalE
(MAINTAINING -(computedRentalPeriod~;computedRentalPeriod) /\ I[Integer] FROM UNI com
(MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) /\ I[Integer] FROM UNI ctcNrOfDays::CompTari
(MAINTAINING -I[CompTariffedCharge] /\ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOfDays:
(MAINTAINING -(computedNrOfExcessDays~;computedNrOfExcessDays) /\ I[Integer] FROM UNI
(MAINTAINING -(projectedRentalPeriod~;projectedRentalPeriod) /\ I[Integer] FROM UNI p

<-----End Derivation --

ON INSERT Delta IN Isn{dety=CompNrDays} EXECUTE -- (ECA rule 147)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompNrDays] /\ -(computedRen
THEN INSERT INTO computedRentalPeriod[CompNrDays*Integer]

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```

SELECTFROM 'a'[CompNrDays]*'b'[Integer]

      (TO MAINTAIN -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~
PICK a,b FROM computedRentalPeriod~;(I[CompNrDays] /\ -(computedRentalPeriod~
THEN INSERT INTO computedRentalPeriod[CompNrDays*Integer]
      SELECTFROM 'b'[CompNrDays]*'a'[Integer]

      (TO MAINTAIN -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~
(MAINTAINING -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~
NEW x:Integer;
      INSERT INTO computedRentalPeriod[CompNrDays*Integer]
      SELECTFROM (I[CompNrDays] /\ -(computedRentalPeriod;computedRentalPeriod~

      (TO MAINTAIN -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~
(MAINTAINING -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompNrDays] /\ -(earliestDate~
      THEN INSERT INTO earliestDate[CompNrDays*Date]
      SELECTFROM 'a'[CompNrDays]*'b'[Date]

      (TO MAINTAIN -I[CompNrDays] \/ earliestDate;I[Date];earliestDate~
PICK a,b FROM earliestDate~;(I[CompNrDays] /\ -(earliestDate;earliestDate~
THEN INSERT INTO earliestDate[CompNrDays*Date]
      SELECTFROM 'b'[CompNrDays]*'a'[Date]

      (TO MAINTAIN -I[CompNrDays] \/ earliestDate;I[Date];earliestDate~
(MAINTAINING -I[CompNrDays] \/ earliestDate;I[Date];earliestDate~ FROM UNI
NEW x:Date;
      INSERT INTO earliestDate[CompNrDays*Date]
      SELECTFROM (I[CompNrDays] /\ -(earliestDate;earliestDate~))*'x'[Date]

      (TO MAINTAIN -I[CompNrDays] \/ earliestDate;I[Date];earliestDate~ FROM UNI
(MAINTAINING -I[CompNrDays] \/ earliestDate;I[Date];earliestDate~ FROM UNI
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompNrDays] /\ -(latestDate;
      THEN INSERT INTO latestDate[CompNrDays*Date]
      SELECTFROM 'a'[CompNrDays]*'b'[Date]

      (TO MAINTAIN -I[CompNrDays] \/ latestDate;I[Date];latestDate~
PICK a,b FROM latestDate~;(I[CompNrDays] /\ -(latestDate;latestDate~
THEN INSERT INTO latestDate[CompNrDays*Date]
      SELECTFROM 'b'[CompNrDays]*'a'[Date]

      (TO MAINTAIN -I[CompNrDays] \/ latestDate;I[Date];latestDate~
(MAINTAINING -I[CompNrDays] \/ latestDate;I[Date];latestDate~ FROM UNI la
(MAINTAINING -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~ FROM C
(MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::Comp
(MAINTAINING -I[CompNrDays] \/ earliestDate;earliestDate~ FROM TOT earliestDate:
(MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::CompNrDay
(MAINTAINING -I[CompNrDays] \/ latestDate;latestDate~ FROM TOT latestDate::CompNr

```

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

```

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompNrDays] /\ -(computedRentalPe
      THEN INSERT INTO computedRentalPeriod[CompNrDays*Integer]
        SELECTFROM 'a' [CompNrDays]*'b' [Integer]

      (TO MAINTAIN -I[CompNrDays] \/ computedRentalPeriod;computedRenta
      PICK a,b FROM computedRentalPeriod~;(I[CompNrDays] /\ -(computedRentalP
      THEN INSERT INTO computedRentalPeriod[CompNrDays*Integer]
        SELECTFROM 'b' [CompNrDays]*'a' [Integer]

      (TO MAINTAIN -I[CompNrDays] \/ computedRentalPeriod;computedRenta
      (MAINTAINING -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~ FROM
      NEW x:Integer;
      INSERT INTO computedRentalPeriod[CompNrDays*Integer]
        SELECTFROM (I[CompNrDays] /\ -(computedRentalPeriod;computedRentalPeriod~))

      (TO MAINTAIN -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~ F
      (MAINTAINING -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~ FROM
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompNrDays] /\ -(earliestDate;ear
      THEN INSERT INTO earliestDate[CompNrDays*Date]
        SELECTFROM 'a' [CompNrDays]*'b' [Date]

      (TO MAINTAIN -I[CompNrDays] \/ earliestDate;I[Date];earliestDate~
      PICK a,b FROM earliestDate~;(I[CompNrDays] /\ -(earliestDate;earliestDa
      THEN INSERT INTO earliestDate[CompNrDays*Date]
        SELECTFROM 'b' [CompNrDays]*'a' [Date]

      (TO MAINTAIN -I[CompNrDays] \/ earliestDate;I[Date];earliestDate~
      (MAINTAINING -I[CompNrDays] \/ earliestDate;I[Date];earliestDate~ FROM UNI ear
      NEW x:Date;
      INSERT INTO earliestDate[CompNrDays*Date]
        SELECTFROM (I[CompNrDays] /\ -(earliestDate;earliestDate~))*'x' [Date]

      (TO MAINTAIN -I[CompNrDays] \/ earliestDate;I[Date];earliestDate~ FROM UNI
      (MAINTAINING -I[CompNrDays] \/ earliestDate;I[Date];earliestDate~ FROM UNI ear
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompNrDays] /\ -(latestDate;lates
      THEN INSERT INTO latestDate[CompNrDays*Date]
        SELECTFROM 'a' [CompNrDays]*'b' [Date]

      (TO MAINTAIN -I[CompNrDays] \/ latestDate;I[Date];latestDate~ FRO
      PICK a,b FROM latestDate~;(I[CompNrDays] /\ -(latestDate;latestDate~))
      THEN INSERT INTO latestDate[CompNrDays*Date]
        SELECTFROM 'b' [CompNrDays]*'a' [Date]

      (TO MAINTAIN -I[CompNrDays] \/ latestDate;I[Date];latestDate~ FRO
      (MAINTAINING -I[CompNrDays] \/ latestDate;I[Date];latestDate~ FROM UNI latestD
      (MAINTAINING -I[CompNrDays] \/ computedRentalPeriod;computedRentalPeriod~ FROM Comput
      (MAINTAINING -(earliestDate~;earliestDate) \/ I[Date] FROM UNI earliestDate::CompNrDa
      (MAINTAINING -I[CompNrDays] \/ earliestDate;earliestDate~ FROM TOT earliestDate::Comp
      (MAINTAINING -(latestDate~;latestDate) \/ I[Date] FROM UNI latestDate::CompNrDays*Dat

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(MAINAINING -I[CompNrDays] /\ latestDate;latestDate~ FROM TOT latestDate::CompNrDays

<-----End Derivation --

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ON DELETE Delta FROM Isn{dety=CompNrDays} EXECUTE      -- (ECA rule 148)
ALL of ONE OF DELETE FROM earliestDate[CompNrDays*Date]
    SELECTFROM (-I[CompNrDays] /\ earliestDate;earliestDate~ /\ latestDate;latestDate~) \
    (TO MAINTAIN -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \
    DELETE FROM latestDate[CompNrDays*Date]
    SELECTFROM (-I[CompNrDays] /\ earliestDate;earliestDate~ /\ latestDate;latestDate~) \
    (TO MAINTAIN -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \
    (MAINTAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) /\ I[CompNrDays]
DELETE FROM earliestDate[CompNrDays*Date]
    SELECTFROM Delta;V[CompNrDays*Date]

DELETE FROM latestDate[CompNrDays*Date]
    SELECTFROM Delta;V[CompNrDays*Date]

DELETE FROM computedRentalPeriod[CompNrDays*Integer]
    SELECTFROM Delta;V[CompNrDays*Integer]

(MAINAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) /\ I[CompNrDays]

```

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

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ALL of ONE OF DELETE FROM earliestDate[CompNrDays*Date]
    SELECTFROM (-I[CompNrDays] /\ earliestDate;earliestDate~ /\ latestDate;latestDate~) \
    (TO MAINTAIN -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \
    DELETE FROM latestDate[CompNrDays*Date]
    SELECTFROM (-I[CompNrDays] /\ earliestDate;earliestDate~ /\ latestDate;latestDate~) \
    (TO MAINTAIN -(earliestDate;earliestDate~ /\ latestDate;latestDate~) \
    (MAINTAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) /\ I[CompNrDays]
DELETE FROM earliestDate[CompNrDays*Date]
    SELECTFROM Delta;V[CompNrDays*Date]

DELETE FROM latestDate[CompNrDays*Date]
    SELECTFROM Delta;V[CompNrDays*Date]

DELETE FROM computedRentalPeriod[CompNrDays*Integer]
    SELECTFROM Delta;V[CompNrDays*Integer]

(MAINAINING -(earliestDate;earliestDate~ /\ latestDate;latestDate~) /\ I[CompNrDays]

```

<-----End Derivation --

```

ON INSERT Delta IN Isn{dety=CompTariffedCharge} EXECUTE    -- (ECA rule 149)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(com
    THEN INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
        SELECTFROM 'a'[CompTariffedCharge]*'b'[Amount]

        (TO MAINTAIN -I[CompTariffedCharge] \/ computedTariffedCharge
PICK a,b FROM computedTariffedCharge~;(I[CompTariffedCharge] /\ -(com
    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[Amount]
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];ctcDailyA
(MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCh

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(MAINAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::Comp
(MAINAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOf
(MAINAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmo
(MAINAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT c

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

```

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(computed
      THEN INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
      SELECTFROM 'a'[CompTariffedCharge]*'b'[Amount]

      (TO MAINTAIN -I[CompTariffedCharge] \/ computedTariffedCharge;com
      PICK a,b FROM computedTariffedCharge~;(I[CompTariffedCharge] /\ -(compu
      THEN INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
      SELECTFROM 'b'[CompTariffedCharge]*'a'[Amount]

      (TO MAINTAIN -I[CompTariffedCharge] \/ computedTariffedCharge;com
      (MAINAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffed
      NEW x:Amount;
      INSERT INTO computedTariffedCharge[CompTariffedCharge*Amount]
      SELECTFROM (I[CompTariffedCharge] /\ -(computedTariffedCharge;computedTarif

      (TO MAINTAIN -I[CompTariffedCharge] \/ computedTariffedCharge;computedTarif
      (MAINAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffed
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(ctcNrOfD
      THEN INSERT INTO ctcNrOfDays[CompTariffedCharge*Integer]
      SELECTFROM 'a'[CompTariffedCharge]*'b'[Integer]

      (TO MAINTAIN -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctc
      PICK a,b FROM ctcNrOfDays~;(I[CompTariffedCharge] /\ -(ctcNrOfDays;ctcN
      THEN INSERT INTO ctcNrOfDays[CompTariffedCharge*Integer]
      SELECTFROM 'b'[CompTariffedCharge]*'a'[Integer]

      (TO MAINTAIN -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctc
      (MAINAINING -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays~ FRO
      NEW x:Integer;
      INSERT INTO ctcNrOfDays[CompTariffedCharge*Integer]
      SELECTFROM (I[CompTariffedCharge] /\ -(ctcNrOfDays;ctcNrOfDays~))*'x'[Integ

      (TO MAINTAIN -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays~
      (MAINAINING -I[CompTariffedCharge] \/ ctcNrOfDays;I[Integer];ctcNrOfDays~ FRO
      ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompTariffedCharge] /\ -(ctcDaily
      THEN INSERT INTO ctcDailyAmount[CompTariffedCharge*Amount]
      SELECTFROM 'a'[CompTariffedCharge]*'b'[Amount]

      (TO MAINTAIN -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amount];c
      PICK a,b FROM ctcDailyAmount~;(I[CompTariffedCharge] /\ -(ctcDailyAmoun
      THEN INSERT INTO ctcDailyAmount[CompTariffedCharge*Amount]

```



```

SELECTFROM 'b' [CompTariffedCharge]*'a' [Amount]

      (TO MAINTAIN  -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amount];c
      (MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;I[Amount];ctcDailyAmount
(MAINTAINING -I[CompTariffedCharge] \/ computedTariffedCharge;computedTariffedCharge~
(MAINTAINING -(ctcNrOfDays~;ctcNrOfDays) \/ I[Integer] FROM UNI ctcNrOfDays::CompTari
(MAINTAINING -I[CompTariffedCharge] \/ ctcNrOfDays;ctcNrOfDays~ FROM TOT ctcNrOfDays:
(MAINTAINING -(ctcDailyAmount~;ctcDailyAmount) \/ I[Amount] FROM UNI ctcDailyAmount::
(MAINTAINING -I[CompTariffedCharge] \/ ctcDailyAmount;ctcDailyAmount~ FROM TOT ctcDai

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<-----End Derivation --

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ON DELETE Delta FROM Isn{dety=CompTariffedCharge} EXECUTE  -- (ECA rule 150)
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[

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

```

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]

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```

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=CompNrExcessDays} EXECUTE    -- (ECA rule 151)
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompNrExcessDays] /\ -(comput
    THEN INSERT INTO computedNrOfExcessDays[CompNrExcessDays*Integer]
        SELECTFROM 'a'[CompNrExcessDays]*'b'[Integer]

        (TO MAINTAIN -I[CompNrExcessDays] \/ computedNrOfExcessDays;
PICK a,b FROM computedNrOfExcessDays~;(I[CompNrExcessDays] /\ -(comput
    THEN INSERT INTO computedNrOfExcessDays[CompNrExcessDays*Integer]
        SELECTFROM 'b'[CompNrExcessDays]*'a'[Integer]

        (TO MAINTAIN -I[CompNrExcessDays] \/ computedNrOfExcessDays;
(MAINTAINING -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfE
NEW x:Integer;
    INSERT INTO computedNrOfExcessDays[CompNrExcessDays*Integer]
        SELECTFROM (I[CompNrExcessDays] /\ -(computedNrOfExcessDays;computedNr

        (TO MAINTAIN -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNr
(MAINTAINING -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfE
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompNrExcessDays] /\ -(first
    THEN INSERT INTO firstDate[CompNrExcessDays*Date]
        SELECTFROM 'a'[CompNrExcessDays]*'b'[Date]

        (TO MAINTAIN -I[CompNrExcessDays] \/ firstDate;I[Date];first
PICK a,b FROM firstDate~;(I[CompNrExcessDays] /\ -(firstDate;first
    THEN INSERT INTO firstDate[CompNrExcessDays*Date]
        SELECTFROM 'b'[CompNrExcessDays]*'a'[Date]

        (TO MAINTAIN -I[CompNrExcessDays] \/ firstDate;I[Date];first
(MAINTAINING -I[CompNrExcessDays] \/ firstDate;I[Date];firstDate~ FROM UN
NEW x:Date;
    INSERT INTO firstDate[CompNrExcessDays*Date]
        SELECTFROM (I[CompNrExcessDays] /\ -(firstDate;firstDate~))*'x'[Date]

        (TO MAINTAIN -I[CompNrExcessDays] \/ firstDate;I[Date];firstDate~ FROM
(MAINTAINING -I[CompNrExcessDays] \/ firstDate;I[Date];firstDate~ FROM UN
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompNrExcessDays] /\ -(lastD
    THEN INSERT INTO lastDate[CompNrExcessDays*Date]
        SELECTFROM 'a'[CompNrExcessDays]*'b'[Date]

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        (TO MAINTAIN -I[CompNrExcessDays] \/ lastDate;I[Date];lastDate~
        PICK a,b FROM lastDate~;(I[CompNrExcessDays] /\ -(lastDate;lastDate~)
        THEN INSERT INTO lastDate[CompNrExcessDays*Date]
        SELECTFROM 'b'[CompNrExcessDays]*'a'[Date]

        (TO MAINTAIN -I[CompNrExcessDays] \/ lastDate;I[Date];lastDate~
        (MAINTAINING -I[CompNrExcessDays] \/ lastDate;I[Date];lastDate~ FROM UNI
        (MAINTAINING -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfExcessDays~
        (MAINTAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::CompNrExcessDays
        (MAINTAINING -I[CompNrExcessDays] \/ firstDate;firstDate~ FROM TOT firstDate::CompNrExcessDays
        (MAINTAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::CompNrExcessDays
        (MAINTAINING -I[CompNrExcessDays] \/ lastDate;lastDate~ FROM TOT lastDate::CompNrExcessDays

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

```

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompNrExcessDays] /\ -(computedNrOfExcessDays;computedNrOfExcessDays~)
THEN INSERT INTO computedNrOfExcessDays[CompNrExcessDays*Integer]
SELECTFROM 'a'[CompNrExcessDays]*'b'[Integer]

        (TO MAINTAIN -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfExcessDays~
        PICK a,b FROM computedNrOfExcessDays~;(I[CompNrExcessDays] /\ -(computedNrOfExcessDays;computedNrOfExcessDays~)
        THEN INSERT INTO computedNrOfExcessDays[CompNrExcessDays*Integer]
        SELECTFROM 'b'[CompNrExcessDays]*'a'[Integer]

        (TO MAINTAIN -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfExcessDays~
        (MAINTAINING -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfExcessDays~
        NEW x:Integer;
        INSERT INTO computedNrOfExcessDays[CompNrExcessDays*Integer]
        SELECTFROM (I[CompNrExcessDays] /\ -(computedNrOfExcessDays;computedNrOfExcessDays~)

        (TO MAINTAIN -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfExcessDays~
        (MAINTAINING -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfExcessDays~
        ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompNrExcessDays] /\ -(firstDate;firstDate~)
        THEN INSERT INTO firstDate[CompNrExcessDays*Date]
        SELECTFROM 'a'[CompNrExcessDays]*'b'[Date]

        (TO MAINTAIN -I[CompNrExcessDays] \/ firstDate;I[Date];firstDate~
        PICK a,b FROM firstDate~;(I[CompNrExcessDays] /\ -(firstDate;firstDate~)
        THEN INSERT INTO firstDate[CompNrExcessDays*Date]
        SELECTFROM 'b'[CompNrExcessDays]*'a'[Date]

        (TO MAINTAIN -I[CompNrExcessDays] \/ firstDate;I[Date];firstDate~
        (MAINTAINING -I[CompNrExcessDays] \/ firstDate;I[Date];firstDate~ FROM UNI firstDate~
        NEW x:Date;
        INSERT INTO firstDate[CompNrExcessDays*Date]
        SELECTFROM (I[CompNrExcessDays] /\ -(firstDate;firstDate~))*'x'[Date]

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```

      (TO MAINTAIN  -I[CompNrExcessDays] \/ firstDate;I[Date];firstDate~ FROM UNI
      (MAINTAINING -I[CompNrExcessDays] \/ firstDate;I[Date];firstDate~ FROM UNI fir
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[CompNrExcessDays] /\ -(lastDate;l
      THEN INSERT INTO lastDate[CompNrExcessDays*Date]
      SELECTFROM 'a' [CompNrExcessDays]*'b' [Date]

      (TO MAINTAIN  -I[CompNrExcessDays] \/ lastDate;I[Date];lastDate~ F
      PICK a,b FROM lastDate~;(I[CompNrExcessDays] /\ -(lastDate;lastDate~))
      THEN INSERT INTO lastDate[CompNrExcessDays*Date]
      SELECTFROM 'b' [CompNrExcessDays]*'a' [Date]

      (TO MAINTAIN  -I[CompNrExcessDays] \/ lastDate;I[Date];lastDate~ F
      (MAINTAINING -I[CompNrExcessDays] \/ lastDate;I[Date];lastDate~ FROM UNI lastD
      (MAINTAINING -I[CompNrExcessDays] \/ computedNrOfExcessDays;computedNrOfExcessDays~ F
      (MAINTAINING -(firstDate~;firstDate) \/ I[Date] FROM UNI firstDate::CompNrExcessDays*
      (MAINTAINING -I[CompNrExcessDays] \/ firstDate;firstDate~ FROM TOT firstDate::CompNrE
      (MAINTAINING -(lastDate~;lastDate) \/ I[Date] FROM UNI lastDate::CompNrExcessDays*Dat
      (MAINTAINING -I[CompNrExcessDays] \/ lastDate;lastDate~ FROM TOT lastDate::CompNrExce

<-----End Derivation --

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```

ON DELETE Delta FROM Isn{dety=CompNrExcessDays} EXECUTE      -- (ECA rule 152)
ALL of ONE OF DELETE FROM lastDate[CompNrExcessDays*Date]
      SELECTFROM (-I[CompNrExcessDays] /\ lastDate;lastDate~ /\ firstDate;

      (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[C
      DELETE FROM firstDate[CompNrExcessDays*Date]
      SELECTFROM (-I[CompNrExcessDays] /\ lastDate;lastDate~ /\ firstDate;

      (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[C
      (MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[CompNrExc
      DELETE FROM firstDate[CompNrExcessDays*Date]
      SELECTFROM Delta;V[CompNrExcessDays*Date]

      DELETE FROM lastDate[CompNrExcessDays*Date]
      SELECTFROM Delta;V[CompNrExcessDays*Date]

      DELETE FROM computedNrOfExcessDays[CompNrExcessDays*Integer]
      SELECTFROM Delta;V[CompNrExcessDays*Integer]

      (MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[CompNrExcessDays;

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

```

```

ALL of ONE OF DELETE FROM lastDate[CompNrExcessDays*Date]
      SELECTFROM (-I[CompNrExcessDays] /\ lastDate;lastDate~ /\ firstDate;fi

```

```

      (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[CompNr
DELETE FROM firstDate[CompNrExcessDays*Date]
      SELECTFROM (-I[CompNrExcessDays] /\ lastDate;lastDate~ /\ firstDate;fi

      (TO MAINTAIN  -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[CompNr
(MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[CompNrExcessDa
DELETE FROM firstDate[CompNrExcessDays*Date]
      SELECTFROM Delta;V[CompNrExcessDays*Date]

DELETE FROM lastDate[CompNrExcessDays*Date]
      SELECTFROM Delta;V[CompNrExcessDays*Date]

DELETE FROM computedNrOfExcessDays[CompNrExcessDays*Integer]
      SELECTFROM Delta;V[CompNrExcessDays*Integer]

(MAINTAINING -(lastDate;lastDate~ /\ firstDate;firstDate~) \/ I[CompNrExcessDays] FRO

<-----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[DistanceBetweenLoca
      SELECTFROM 'a'[DistanceBetweenLocations]*'b'[Amount]

      (TO MAINTAIN  -I[DistanceBetweenLocations] \/ computedLocation
PICK a,b FROM computedLocationPenaltyCharge~;(I[DistanceBetweenLoc
      THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLoca
      SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

      (TO MAINTAIN  -I[DistanceBetweenLocations] \/ computedLocation
(MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharg
NEW x:Amount;
      INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Amou
      SELECTFROM (I[DistanceBetweenLocations] /\ -(computedLocationPenaltyCh

      (TO MAINTAIN  -I[DistanceBetweenLocations] \/ computedLocationPenaltyCh
(MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharg
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DistanceBetweenLocations] /\
      THEN INSERT INTO distbranch[DistanceBetweenLocations*Branch]
      SELECTFROM 'a'[DistanceBetweenLocations]*'b'[Branch]

      (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distbranch;dist
PICK a,b FROM distbranch~;(I[DistanceBetweenLocations] /\ -(distbr
      THEN INSERT INTO distbranch[DistanceBetweenLocations*Branch]
      SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Branch]

      (TO MAINTAIN  -I[DistanceBetweenLocations] \/ distbranch;dist
(MAINTAINING -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FROM

```

```

NEW x:Branch;
  INSERT INTO distbranch[DistanceBetweenLocations*Branch]
    SELECTFROM (I[DistanceBetweenLocations] /\ -(distbranch;distbranch~))*

    (TO MAINTAIN -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FROM
    (MAINTAINING -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FROM
    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DistanceBetweenLocations] /\
      THEN INSERT INTO distance[DistanceBetweenLocations*Distance]
        SELECTFROM 'a'[DistanceBetweenLocations]*'b'[Distance]

        (TO MAINTAIN -I[DistanceBetweenLocations] \/ distance;I[Distance]
        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[Distance]
          (MAINTAINING -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
    (MAINTAINING -I[DistanceBetweenLocations] \/ distance;I[Distance];distance
(MAINTAINING -(computedLocationPenaltyCharge~;computedLocationPenaltyCharge) \/
(MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;compu
(MAINTAINING -I[DistanceBetweenLocations] \/ distbranch;distbranch~ FROM TOT dist
(MAINTAINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBet
(MAINTAINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distance

```

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

```

ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DistanceBetweenLocations] /\ -(co
  THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations]
    SELECTFROM 'a'[DistanceBetweenLocations]*'b'[Amount]

    (TO MAINTAIN -I[DistanceBetweenLocations] \/ computedLocationPena
    PICK a,b FROM computedLocationPenaltyCharge~;(I[DistanceBetweenLocation
    THEN INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations]
      SELECTFROM 'b'[DistanceBetweenLocations]*'a'[Amount]

      (TO MAINTAIN -I[DistanceBetweenLocations] \/ computedLocationPena
      (MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;I[A
NEW x:Amount;
  INSERT INTO computedLocationPenaltyCharge[DistanceBetweenLocations*Amount]
    SELECTFROM (I[DistanceBetweenLocations] /\ -(computedLocationPenaltyCharge;

    (TO MAINTAIN -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;
    (MAINTAINING -I[DistanceBetweenLocations] \/ computedLocationPenaltyCharge;I[A

```

```

ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (I[DistanceBetweenLocations] /\ -(di
      THEN INSERT INTO distbranch[DistanceBetweenLocations*Branch]
        SELECTFROM 'a' [DistanceBetweenLocations]*'b' [Branch]

      (TO MAINTAIN -I[DistanceBetweenLocations] \/ distbranch;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 DELETE Delta FROM Isn{detyp=Location} EXECUTE    -- (ECA rule 156)
ONE OF DELETE FROM branchLocation[Branch*Location]
SELECTFROM branchLocation;(-I[Location] /\ branchLocation~;branchLocation)

(TO MAINTAIN  -(branchLocation~;branchLocation) \/ I[Location] FROM UNI b
DELETE FROM branchLocation[Branch*Location]
SELECTFROM V[Branch*Location];Delta

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

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

```
ONE OF DELETE FROM branchLocation[Branch*Location]
SELECTFROM branchLocation;(-I[Location] /\ branchLocation~;branchLocation)

(TO MAINTAIN  -(branchLocation~;branchLocation) \/ I[Location] FROM UNI branch
DELETE FROM branchLocation[Branch*Location]
SELECTFROM V[Branch*Location];Delta

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

<-----End Derivation --


```

ON DELETE Delta FROM Isn{dety=Brand} EXECUTE    -- (ECA rule 158)
ONE OF DELETE FROM brand[CarType*Brand]
      SELECTFROM brand;(-I[Brand] /\ brand~;brand)

      (TO MAINTAIN  -(brand~;brand) /\ I[Brand] FROM UNI brand::CarType*Brand)
DELETE FROM brand[CarType*Brand]
      SELECTFROM V[CarType*Brand];Delta

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

```

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

```

ONE OF DELETE FROM brand[CarType*Brand]
      SELECTFROM brand;(-I[Brand] /\ brand~;brand)

      (TO MAINTAIN  -(brand~;brand) /\ I[Brand] FROM UNI brand::CarType*Brand)
DELETE FROM brand[CarType*Brand]
      SELECTFROM V[CarType*Brand];Delta

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

```

<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=Model} EXECUTE    -- (ECA rule 160)
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=MaxRentalDuration} EXECUTE    -- (ECA rule 162)
ALL of DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
      SELECTFROM rcMaxRentalDuration;(-I[MaxRentalDuration] /\ rcMaxRentalDura

      (TO MAINTAIN  -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[MaxRentalD
DELETE FROM maxRentalDuration[CarRentalCompany*MaxRentalDuration]
      SELECTFROM V[CarRentalCompany*MaxRentalDuration];Delta

      ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
            SELECTFROM contractedPickupBranch;branchOf;maxRentalDuration;(-I[

            (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branch
DELETE FROM contractedPickupBranch[RentalCase*Branch]
            SELECTFROM rcMaxRentalDuration;(-I[MaxRentalDuration] /\ rcMaxRen

            (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branch
DELETE FROM branchOf[Branch*CarRentalCompany]
            SELECTFROM contractedPickupBranch~;rcMaxRentalDuration;(-I[MaxRen

            (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branch
DELETE FROM maxRentalDuration[CarRentalCompany*MaxRentalDuration]
            SELECTFROM branchOf~;contractedPickupBranch~;rcMaxRentalDuration;

            (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branch
      (MAINTAINING -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRe
(MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRental
(MAINTAINING -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[MaxRentalDuration]
```

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

```
ALL of DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
      SELECTFROM rcMaxRentalDuration;(-I[MaxRentalDuration] /\ rcMaxRentalDuration~

      (TO MAINTAIN  -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[MaxRentalDura
DELETE FROM maxRentalDuration[CarRentalCompany*MaxRentalDuration]
      SELECTFROM V[CarRentalCompany*MaxRentalDuration];Delta

      ONE OF DELETE FROM rcMaxRentalDuration[RentalCase*MaxRentalDuration]
            SELECTFROM contractedPickupBranch;branchOf;maxRentalDuration;(-I[MaxRe

            (TO MAINTAIN  -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;ma
```

```

DELETE FROM contractedPickupBranch[RentalCase*Branch]
SELECTFROM rcMaxRentalDuration;(-I[MaxRentalDuration] /\ rcMaxRentalDu

(TO MAINTAIN -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;ma
DELETE FROM branchOf[Branch*CarRentalCompany]
SELECTFROM contractedPickupBranch~;rcMaxRentalDuration;(-I[MaxRentalDu

(TO MAINTAIN -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;ma
DELETE FROM maxRentalDuration[CarRentalCompany*MaxRentalDuration]
SELECTFROM branchOf~;contractedPickupBranch~;rcMaxRentalDuration;(-I[M

(TO MAINTAIN -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;ma
(MAINTAINING -(rcMaxRentalDuration~;contractedPickupBranch;branchOf;maxRentalD
(MAINTAINING -(contractedPickupBranch;branchOf;maxRentalDuration) \/ rcMaxRentalDurat
(MAINTAINING -(rcMaxRentalDuration~;rcMaxRentalDuration) \/ I[MaxRentalDuration] FROM

```

<-----End Derivation --

```

ON DELETE Delta FROM Isn{dety=Distance} EXECUTE -- (ECA rule 164)
ONE OF DELETE FROM distance[DistanceBetweenLocations*Distance]
SELECTFROM distance;(-I[Distance] /\ distance~;distance)

(TO MAINTAIN -(distance~;distance) \/ I[Distance] FROM UNI distance::Dis
DELETE FROM distance[DistanceBetweenLocations*Distance]
SELECTFROM V[DistanceBetweenLocations*Distance];Delta

(MAINTAINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBet
(MAINTAINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT 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

(MAINTAINING -(distance~;distance) \/ I[Distance] FROM UNI distance::DistanceBetweenL
(MAINTAINING -I[DistanceBetweenLocations] \/ distance;distance~ FROM TOT distance::Di

```

<-----End Derivation --

```

ON INSERT Delta IN Isn{dety=SESSION} EXECUTE -- (ECA rule 165)
ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];ses

```



```

(CANNOT CHANGE V
(MAINTEINING -('_SESSION' [SE
NEW x:YesNo;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes
        BLOCK
        (CANNOT CHANGE V[Yes
    (MAINTAINING -('_SESSION' [
    (MAINTAINING -('_SESSION' [SE
    (MAINTAINING -('_SESSION' [SESSION];
(MAINTEINING -('_SESSION' [SESSION];sessionNewBr
NEW x:YesNo;
    ALL of INSERT INTO rcBranchRequestedQ[RentalC
        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 BLOCK
                (CANNOT CHANGE V[Yes
    (MAINTAINING -('_SESSION' [SESSI
NEW x:YesNo;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes' [Y
        BLOCK
        (CANNOT CHANGE V[YesNo
    (MAINTAINING -('_SESSION' [SES
    (MAINTAINING -('_SESSION' [SESSI
    (MAINTAINING -('_SESSION' [SESSION];ses
    (MAINTAINING -('_SESSION' [SESSION];sessionNew
    (MAINTAINING -('_SESSION' [SESSION];sessionNewBr
    (MAINTAINING -('_SESSION' [SESSION];sessionNewBranchRC)
(MAINTEINING -('_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' [YesNo]

    (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

```



```
(MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC)
(MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC) NEW x:YesNo;
    ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNo]
        SELECTFROM (sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC)
            (TO MAINTAIN -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC) ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNo]*(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC)) THEN BLOCK
                (CANNOT CHANGE 'Yes'[YesNo] FROM Submit branch.)
                PICK a,b FROM 'Yes'[YesNo];('x'[YesNo]*(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC)) THEN BLOCK
                    (CANNOT CHANGE V[YesNo*RentalCase] FROM SubmittedCar)
            (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC) (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC) (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC) (MAINTAINING -(sessionNewBranchRC~; '_SESSION' [SESSION]; sessionNewBranchRC)
INSERT INTO contractedPickupBranch[RentalCase*Branch]
SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ)
(TO MAINTAIN -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequestedQ) INSERT INTO Isn{dety=Branch}
SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;)
(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;) ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION]; sessionReturnedCar) THEN INSERT INTO sessionReturnedCar[SESSION*Car]
    SELECTFROM 'a'[SESSION]*'b'[Car]

    (TO MAINTAIN -('_SESSION'[SESSION]; sessionReturnedCar) PICK a,b FROM sessionReturnedCar~;['_SESSION'[SESSION]; sessionReturnedCar]) THEN ALL of INSERT INTO Isn{dety=Car}
        SELECTFROM 'a'[Car]*'b'[Car]

    (TO MAINTAIN -('_SESSION'[SESSION]; sessionReturnedCar) ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM sessionReturnedCar THEN INSERT INTO rcIssuedCar[RentalCase*Car]
        SELECTFROM 'b'[RentalCase]*'c'[Car]

    (TO MAINTAIN -('_SESSION'[SESSION]; sessionReturnedCar) PICK a,b FROM rcIssuedCar;('a'[Car]*'c'[Car]) THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM rcIssuedCar THEN ALL of INSERT INTO Isn{dety=Car}
        SELECTFROM 'a'[Car]*'b'[Car]
```

```

                                (TO MAINTAIN
                                PICK a,b FROM
                                THEN INSERT INTO
                                SELECTFROM

                                (TO MAINTAIN
                                (MAINTAINING -('_SESS
                                NEW x:RentalCase;
                                ALL of ALL of INSERT
                                SELE

                                (TO MAINTAIN
                                DELET
                                SELE

                                (TO MAINTAIN
                                (MAINTAINING
                                INSERT INTO
                                SELECTFROM

                                (TO MAINTAIN
                                (MAINTAINING -('_SE
                                (MAINTAINING -('_SESS
                                (MAINTAINING -('_SESSION' [SE
                                (MAINTAINING -('_SESSION' [SESSION];sessi
                                NEW x:RentalCase;
                                ALL of INSERT INTO rcIssuedCar[RentalC
                                SELECTFROM 'x' [RentalCase]*'b'

                                (TO MAINTAIN -('_SESSION' [SESS
                                ONE OF ONE NONEMPTY ALTERNATIVE
                                THEN ALL of INSERT
                                SELE

                                (TO MAINTAIN
                                DELET
                                SELE

                                (TO MAINTAIN
                                (MAINTAINING
                                PICK a,b FROM (re
                                THEN INSERT INTO
                                SELECTFROM

                                (TO MAINTAIN
                                (MAINTAINING -('_SESSION
                                NEW x:RentalCase;
                                ALL of ALL of INSERT I
                                SELECTF

```



```

ALL of ALL of INSERT INTO ren
SELECTFROM 'a'

(TO MAINTAIN -
DELETE FROM ren
SELECTFROM 'a'

(TO MAINTAIN -
(MAINTAINING -('_SESSI
INSERT INTO rcIssuedCa
SELECTFROM 'x'[Rental

(TO MAINTAIN -('_SESS
(MAINTAINING -('_SESSION'[SES
(MAINTAINING -('_SESSION'[SESSI
(MAINTAINING -('_SESSION'[SESSION];ses
(MAINTAINING -('_SESSION'[SESSION];sessionReturned
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*(sessionRetur

(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 rcIssuedCa
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 rcIssuedCar[R
SELECTFROM 'x'[RentalCas

```



```

(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x' [RentalCase]*((sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [RentalCase]*((sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
THEN ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
SELECTFROM 'a' [RentalCase]*'b' [Car]
(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
DELETE FROM rentalHasBeenEnded[RentalCase*Car]
SELECTFROM 'a' [RentalCase]*'b' [Car]
(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenEnded[RentalCase*Car]
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'a' [RentalCase]*'b' [Car]
(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
NEW x:RentalCase;
ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
SELECTFROM 'x' [RentalCase]*((sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
DELETE FROM rentalHasBeenEnded[RentalCase*Car]
SELECTFROM 'x' [RentalCase]*((sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x' [RentalCase]*'x' [RentalCase]
(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
THEN INSERT INTO sessionReturnedCar[SESSION*Car]
SELECTFROM 'a' [SESSION]*'b' [Car]
(TO MAINTAIN -('_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION]);
PICK a,b FROM sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar~;'_SESSION' [SESSION];

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THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
    THEN INSERT INTO rcIssuedCar[RentalCase*
        SELECTFROM 'b'[RentalCase]*'a'[Car]

        (TO MAINTAIN -('_SESSION'[SESSION]
PICK a,b FROM rcIssuedCar;('a'[Car]*'b'[
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
    THEN ALL of INSERT IN
        SELECTFR

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NEW x:RentalCase;
ALL of ALL of INSERT INTO :
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DELETE FROM :
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(MAINTAINING -('_SESSION' [SESSION];
(MAINTAINING -('_SESSION' [SESSION];sessionRetur
NEW x:RentalCase;
  ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
    SELECTFROM 'x'[RentalCase]*'b'[Car]*'.
    (TO MAINTAIN -('_SESSION' [SESSION];se
    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
      THEN ALL of INSERT INTO
        SELECTFROM
          (TO MAINTAIN
            DELETE FROM
              SELECTFROM
                (TO MAINTAIN
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                PICK a,b FROM (rentalHas
                THEN ONE OF ONE NONEMPTY
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NEW x:YesNo;
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NEW x:RentalCase;
ALL of ALL of INSERT INTO ren
SELECTFROM 'x'

(TO MAINTAIN -
DELETE FROM ren
SELECTFROM 'x'

(TO MAINTAIN -
(MAINTAINING -('_SESSI
ONE OF ONE NONEMPTY AL
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NEW x:YesNo;
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(MAINTAINING -('_SESSION' [SESSION];ses
(MAINTAINING -('_SESSION' [SESSION];sessionRet
(MAINTAINING -('_SESSION' [SESSION];sessionRetur
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -
NEW x:Car;
ALL of INSERT INTO sessionReturnedCar[SESSION*Car]
SELECTFROM ('_SESSION' [SESSION];sessionReturnedCar;(I[Ca

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(TO MAINTAIN  -('_SESSION'[SESSION];sessionReturnedCar;(I
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[Car]
      THEN INSERT INTO rcIssuedCar[RentalCase*Car]
      SELECTFROM 'b'[RentalCase]*'a'[Car]

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      (TO MAINTAIN  -('_SESSION'[SESSION];se
PICK a,b FROM rcIssuedCar;('x'[Car]*(''_SESS
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
      THEN ALL of INSERT INTO :
      SELECTFROM

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      (TO MAINTAIN
DELETE FROM :
SELECTFROM

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      (TO MAINTAIN
      (MAINTAINING -('_SE
PICK a,b FROM (rentalHas
THEN ONE OF ONE NONEMPTY
      THEN

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NEW x:YesNo;
ALL of INS
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(MAINTAINING -( '_SE
(MAINTAINING -( '_SESSION' [SESSI
NEW x:RentalCase;
ALL of ALL of INSERT INTO ren
SELECTFROM 'a'

(TO MAINTAIN -
DELETE FROM ren
SELECTFROM 'a'

(TO MAINTAIN -
(MAINTAINING -( '_SESSI
ONE OF ONE NONEMPTY AL
THEN INS
SE

(TO
PICK a,b
THEN ONE

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NEW x:YesNo;
ALL of INSERT
SELEC

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(MAINAINING -('_SESSION'[SESSI
(MAINAINING -('_SESSION'[SESSION];ses
(MAINAINING -('_SESSION'[SESSION];sessionReturned
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*((I[Car] /\ -

(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 ONE OF ONE NONEMPTY AL
THEN INS
SE.

(TO
PICK a,b
THEN ONE
```

```

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(MAINAINING -(
NEW x:YesNo;
ALL of INSERT
SELEC'

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ONE OF

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(MAINAINING .
(MAINAINING -(
(MAINAINING -('_SESSI
(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
ONE OF ONE NONEMPTY ALTER
THEN INSERT
SELEC'

(TO MA
PICK a,b FR

```

THEN ONE OF

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(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;I[Car] /\
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;I[Car] /\ -
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;I[Car] /\ -(carAvailabl
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (sessionReturnedCar~;'_S
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'b'[RentalCase]*'a'[Car]

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION]
PICK a,b FROM rcIssuedCar;(sessionReturnedCar~;'_SESSION' [SE
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[
THEN ALL of INSERT INTO rentalHasBeenStatus
SELECTFROM 'a'[RentalCase]*
```



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      (TO MAINTAIN -(sessionReturn
DELETE FROM rentalHasBeenEnd
      SELECTFROM 'a'[RentalCase]*

      (TO MAINTAIN -(sessionReturn
      (MAINTAINING -(sessionReturnedCar~;
PICK a,b FROM (rentalHasBeenStarted~ /\
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF
      THEN INSERT INTO rent
      SELECTFROM 'a'[

      (TO MAINTAIN -(
PICK a,b FROM rentalI
THEN ONE OF ONE NONEM
      TH

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      TH

      (MAINTAIN
      NEW x:Yes;
      ALL of

      (MAINTA
      (MAINTAIN
      (MAINTAINING -(s
      (MAINTAINING -(sessionReturn
      NEW x:YesNo;
      ALL of INSERT INTO rentalI
      SELECTFROM 'a'[Ren

      (TO MAINTAIN -(ses
      ONE OF ONE NONEMPTY
      THEN

      PICK
      THEN

      (MAINTAINING
      NEW x:YesNo;
      ALL of BLO
      (CA
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      (MAINTAINING
      (MAINTAINING -(sess
      (MAINTAINING -(sessionRetu

```

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(MAINTEINING -(sessionReturned
(MAINTEINING -(sessionReturnedCar~;
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [S
NEW x:RentalCase;
  ALL of ALL of INSERT INTO rentalHasBeenStarte
    SELECTFROM 'a' [RentalCase]*'b'

    (TO MAINTAIN -(sessionReturned
DELETE FROM rentalHasBeenEnded[
  SELECTFROM 'a' [RentalCase]*'b'

    (TO MAINTAIN -(sessionReturned
(MAINTEINING -(sessionReturnedCar~;'_S
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
  THEN INSERT INTO rentalIsPa
    SELECTFROM 'a' [Ren

    (TO MAINTAIN -(sess
PICK a,b FROM rentalIsPa
THEN ONE OF ONE NONEMPTY
  THEN

PICK
THEN

(MAINTEINING
NEW x:YesNo;
  ALL of BLOC
    (CA
    BLOC
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    (MAINTAINING
    (MAINTAINING -(sess
(MAINTEINING -(sessionReturnedC
NEW x:YesNo;
  ALL of INSERT INTO rentalIsPa
    SELECTFROM 'x' [Rental

    (TO MAINTAIN -(session
ONE OF ONE NONEMPTY AL
  THEN BLOC
    (CA
    PICK a,b
    THEN BLOC
    (CA
    (MAINTAINING -(
NEW x:YesNo;
  ALL of BLOCK
    (CANNO

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BLOCK
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(MAINTAINING -(
(MAINTAINING -(
(MAINTAINING -(session
(MAINTAINING -(sessionReturnedC
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(MAINTAINING -(sessionReturnedCar~;'_S
(MAINTAINING -(sessionReturnedCar~;'_SESSION'
(MAINTAINING -(sessionReturnedCar~;'_SESSION' [S
(MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION]
(MAINTAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionRetu
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x' [RentalCase]*((I[Car] /\ -(carAvailableAt;

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION' [SESSION];s
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [Ren
THEN ALL of INSERT INTO rentalHasBeenStarted
SELECTFROM 'a' [RentalCase]*'b'

(TO MAINTAIN -(sessionReturned
DELETE FROM rentalHasBeenEnded[
SELECTFROM 'a' [RentalCase]*'b'

(TO MAINTAIN -(sessionReturned
(MAINTAINING -(sessionReturnedCar~;'_S
PICK a,b FROM (rentalHasBeenStarted~ /\ -re
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
THEN INSERT INTO rentalI
SELECTFROM 'a' [Ren

(TO MAINTAIN -(ses
PICK a,b FROM rentalIsPa
THEN ONE OF ONE NONEMPTY
THEN

PICK
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NEW x:YesNo;
ALL of BLO
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(CANNOT
(MAINAINING
(MAINAINING -(
(MAINAINING -(session
(MAINAINING -(sessionReturnedCar~
NEW x:YesNo;
ALL of INSERT INTO rentalIsPaidQ
SELECTFROM 'x' [RentalCas

(TO MAINTAIN -(sessionRe
ONE NONEMPTY ALTERNATIVE (
THEN BLOCK
(CANNOT CHANG
PICK a,b FROM 'Yes
THEN BLOCK
(CANNOT CHANG
(MAINAINING -(sessionRet
(MAINAINING -(sessionReturnedCar
(MAINAINING -(sessionReturnedCar~
(MAINAINING -(sessionReturnedCar~;'_SESS
(MAINAINING -(sessionReturnedCar~;'_SESSION' [SE
(MAINAINING -(sessionReturnedCar~;'_SESSION' [SESS
(MAINAINING -(sessionReturnedCar~;'_SESSION' [SESSION];se
(MAINAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionRe
(MAINAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionRetu
(MAINAINING -(sessionReturnedCar~;'_SESSION' [SESSION];sessionReturnedCar
(MAINAINING -(('_SESSION' [SESSION];sessionNewUserRC) \\/ sessionNewUserRC;rcUserR
(MAINAINING -(('_SESSION' [SESSION];sessionNewUserRC) \\/ sessionNewUserRC;rcUserR
(MAINAINING -(('_SESSION' [SESSION];sessionNewBranchRC) \\/ sessionNewBranchRC;rcB
(MAINAINING -(('_SESSION' [SESSION];sessionNewBranchRC) \\/ sessionNewBranchRC;rcB
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequest
(MAINAINING -((I[RentalCase] /\ rcBranchRequestedQ;'Yes' [YesNo];rcBranchRequest
(MAINAINING -(('_SESSION' [SESSION];sessionReturnedCar) \\/ sessionReturnedCar;(I[
(MAINAINING -(('_SESSION' [SESSION];sessionReturnedCar) \\/ sessionReturnedCar;(I[
(MAINAINING -(('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA
(MAINAINING -(('_SESSION' [SESSION];sessionReturnedCar;(I[Car] /\ -(carAvailableA

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

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ALL of ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION' [SESSION];sessionN
THEN INSERT INTO sessionNewUserRC[SESSION*RentalCase]
SELECTFROM 'a' [SESSION]*'b' [RentalCase]

(TO MAINTAIN -('_SESSION' [SESSION];sessionNewUserRC) \\/ se
PICK a,b FROM sessionNewUserRC~;('_SESSION' [SESSION];sessionNewU
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [Renta
THEN INSERT INTO rcUserRequestedQ[RentalCase*
SELECTFROM 'a' [RentalCase]*'b' [YesNo]

```

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        (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' [YesNo]
        THEN BLOCK
            (CANNOT CHANGE V[YesN
(MAINTAINING -( '_SESSION' [SESSION
NEW x:YesNo;
        ALL of BLOCK
            (CANNOT CHANGE 'Yes' [Yes
        BLOCK
            (CANNOT CHANGE V[YesNo*R
        (MAINTAINING -( '_SESSION' [SESSI
        (MAINTAINING -( '_SESSION' [SESSION
        (MAINTAINING -( '_SESSION' [SESSION];sessi
(MAINTAINING -( '_SESSION' [SESSION];sessionNewUserRC)
NEW x:YesNo;
        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' [YesNo];('
        THEN BLOCK
            (CANNOT CHANGE V[YesNo*R
(MAINTAINING -( '_SESSION' [SESSION];s
NEW x:YesNo;
        ALL of BLOCK
            (CANNOT CHANGE 'Yes' [YesNo]
        BLOCK
            (CANNOT CHANGE V[YesNo*Rent
        (MAINTAINING -( '_SESSION' [SESSION
        (MAINTAINING -( '_SESSION' [SESSION];s
        (MAINTAINING -( '_SESSION' [SESSION];sessionN
        (MAINTAINING -( '_SESSION' [SESSION];sessionNewUserR
        (MAINTAINING -( '_SESSION' [SESSION];sessionNewUserRC)
        (MAINTAINING -( '_SESSION' [SESSION];sessionNewUserRC) \\/ ses
(MAINTAINING -( '_SESSION' [SESSION];sessionNewUserRC) \\/ sessionNewUserR
NEW x:RentalCase;
        ALL of INSERT INTO sessionNewUserRC[SESSION*RentalCase]
            SELECTFROM ( '_SESSION' [SESSION];sessionNewUserRC /\ -(session

        (TO MAINTAIN -( '_SESSION' [SESSION];sessionNewUserRC) \\/ sessi
        ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [RentalCa
        THEN INSERT INTO rcUserRequestedQ[RentalCase*Yes

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```

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

(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' [YesNo];('
    THEN BLOCK
        (CANNOT CHANGE V[YesNo*R
(MAINTAINING -('_SESSION' [SESSION];s
NEW x:YesNo;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes' [YesNo]
        BLOCK
        (CANNOT CHANGE V[YesNo*Rent
        (MAINTAINING -('_SESSION' [SESSION]
        (MAINTAINING -('_SESSION' [SESSION];s
        (MAINTAINING -('_SESSION' [SESSION];sessionN
(MAINTAINING -('_SESSION' [SESSION];sessionNewUserRC) \
NEW x:YesNo;
    ALL of INSERT INTO rcUserRequestedQ[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' [YesNo] FROM S
        PICK a,b FROM 'Yes' [YesNo];('x' [YesNo]*
    THEN BLOCK
        (CANNOT CHANGE V[YesNo*RentalCase]
        (MAINTAINING -('_SESSION' [SESSION];sessionNewU
        (MAINTAINING -('_SESSION' [SESSION];sessionNewUserRC)
        (MAINTAINING -('_SESSION' [SESSION];sessionNewUserRC) \
        (MAINTAINING -('_SESSION' [SESSION];sessionNewUserRC) \ session
        (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*YesNo]
        SELECTFROM 'a' [RentalCase]*'b' [YesNo]

(TO MAINTAIN -(sessionNewUserRC~;'_SESSION' [SESSION];sessi
PICK a,b FROM rcUserRequestedQ~;(sessionNewUserRC~;'_SESSION' [SE
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a' [YesNo]
    THEN BLOCK
        (CANNOT CHANGE 'Yes' [YesNo] FROM Submit
        PICK a,b FROM 'Yes' [YesNo];('a' [YesNo]*'b' [Re
    THEN BLOCK
        (CANNOT CHANGE V[YesNo*RentalCase] FROM

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(MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION]
NEW x:YesNo;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes'[YesNo] FROM Submit ren
        BLOCK
        (CANNOT CHANGE V[YesNo*RentalCase] FROM Sub
        (MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSIO
        (MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION]
        (MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessio
(MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
NEW x:YesNo;
    ALL of INSERT INTO rcUserRequestedQ[RentalCase*YesNo]
        SELECTFROM (sessionNewUserRC~;'_SESSION'[SESSION];sessionNewU

    (TO MAINTAIN -(sessionNewUserRC~;'_SESSION'[SESSION];sessionN
    ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[YesNo]*(session
    THEN BLOCK
        (CANNOT CHANGE 'Yes'[YesNo] FROM Submit rental req
        PICK a,b FROM 'Yes'[YesNo];('x'[YesNo]*(sessionNewUserR
    THEN BLOCK
        (CANNOT CHANGE V[YesNo*RentalCase] FROM Submit ren
        (MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNe
        (MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC
        (MAINAINING -(sessionNewUserRC~;'_SESSION'[SESSION];sessionNewUserRC)
(MAINAINING -(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'[YesNo]

    (TO MAINTAIN -(('_SESSION'[SESSION];sess
    PICK a,b FROM rcBranchRequestedQ~;'_SESSION'[SESSION];sessionNe
    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK
        THEN BLOCK
            (CANNOT CHANGE 'Yes'[
            PICK a,b FROM 'Yes'[YesNo]
        THEN BLOCK
            (CANNOT CHANGE V[YesN
(MAINAINING -(('_SESSION'[SESSION]
NEW x:YesNo;
    ALL of BLOCK
        (CANNOT CHANGE 'Yes'[Yes
        BLOCK
        (CANNOT CHANGE V[YesNo*R
(MAINAINING -(('_SESSION'[SESSI

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(MAINTEINING -( '_SESSION' [SESSION]
(MAINTEINING -( '_SESSION' [SESSION];sessi
(MAINTEINING -( '_SESSION' [SESSION];sessionNewBranchR
NEW x:YesNo;
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'[YesNo];('
THEN BLOCK
(CANNOT CHANGE V[YesNo*R
(MAINTEINING -( '_SESSION' [SESSION];s
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHANGE 'Yes'[YesNo]
BLOCK
(CANNOT CHANGE V[YesNo*Rent
(MAINTEINING -( '_SESSION' [SESSION]
(MAINTEINING -( '_SESSION' [SESSION];s
(MAINTEINING -( '_SESSION' [SESSION];sessionN
(MAINTEINING -( '_SESSION' [SESSION];sessionNewBranch
(MAINTEINING -( '_SESSION' [SESSION];sessionNewBranchR
(MAINTEINING -( '_SESSION' [SESSION];sessionNewBranchRC) \ / s
(MAINTEINING -( '_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'[YesNo]

(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'[YesNo];('
THEN BLOCK
(CANNOT CHANGE V[YesNo*R
(MAINTEINING -( '_SESSION' [SESSION];s
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHANGE 'Yes'[YesNo]
BLOCK
(CANNOT CHANGE V[YesNo*Rent

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(MAINAINING -('_SESSION' [SESSION]
(MAINAINING -('_SESSION' [SESSION];s
(MAINAINING -('_SESSION' [SESSION];sessionN
(MAINAINING -('_SESSION' [SESSION];sessionNewBranchRC)
NEW x:YesNo;
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' [YesNo] FROM S
PICK a,b FROM 'Yes' [YesNo];('x' [YesNo]*
THEN BLOCK
(CANNOT CHANGE V[YesNo*RentalCase]
(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*YesNo]
SELECTFROM 'a' [RentalCase]*'b' [YesNo]

(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' [YesNo] FROM Submit
PICK a,b FROM 'Yes' [YesNo];('a' [YesNo]*'b' [Re
THEN BLOCK
(CANNOT CHANGE V[YesNo*RentalCase] FROM
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSIO
NEW x:YesNo;
ALL of BLOCK
(CANNOT CHANGE 'Yes' [YesNo] FROM Submit bra
BLOCK
(CANNOT CHANGE V[YesNo*RentalCase] FROM Sub
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESS
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSIO
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSION];sess
(MAINAINING -(sessionNewBranchRC~;'_SESSION' [SESSION];sessionNewBranch
NEW x:YesNo;
ALL of INSERT INTO rcBranchRequestedQ[RentalCase*YesNo]
SELECTFROM (sessionNewBranchRC~;'_SESSION' [SESSION];sessionNe

(TO MAINTAIN -(sessionNewBranchRC~;'_SESSION' [SESSION];sessio
ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [YesNo]*(session

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THEN BLOCK
    (CANNOT CHANGE 'Yes'[YesNo] FROM Submit branch ren
PICK a,b FROM 'Yes'[YesNo];('x'[YesNo]*(sessionNewBranch
THEN BLOCK
    (CANNOT CHANGE V[YesNo*RentalCase] FROM Submit bra
    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];session
    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranch
    (MAINTAINING -(sessionNewBranchRC~;'_SESSION'[SESSION];sessionNewBranchRC) \
INSERT INTO contractedPickupBranch[RentalCase*Branch]
    SELECTFROM (I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequeste

(TO MAINTAIN -((I[RentalCase] /\ rcBranchRequestedQ;'Yes'[YesNo];rcBranchRequ
INSERT INTO Isn{detyp=Branch}
    SELECTFROM contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'Yes'

(TO MAINTAIN -(contractedPickupBranch~;(I[RentalCase] /\ rcBranchRequestedQ;'
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionR
    THEN INSERT INTO sessionReturnedCar[SESSION*Car]
        SELECTFROM 'a'[SESSION]*'b'[Car]

    (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedCar) \
PICK a,b FROM sessionReturnedCar~;('_SESSION'[SESSION];sessionRe
    THEN ALL of INSERT INTO Isn{detyp=Car}
        SELECTFROM 'a'[Car]*'b'[Car]

    (TO MAINTAIN -('_SESSION'[SESSION];sessionReturnedC
    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'
        THEN INSERT INTO rcIssuedCar[RentalCas
            SELECTFROM 'b'[RentalCase]*'a'[C

        (TO MAINTAIN -('_SESSION'[SESSIO
PICK a,b FROM rcIssuedCar;('a'[Car]*'b'
    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;

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ALL of ALL of INSERT INTO
SELECTFROM

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INSERT INTO rcIss
SELECTFROM 'x'[R

(TO MAINTAIN -('
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(MAINTEINING -('_SESSION'[
(MAINTEINING -('_SESSION'[SESSION
(MAINTEINING -('_SESSION'[SESSION];sessionRet
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*C
SELECTFROM 'x'[RentalCase]*'b'[Car]

(TO MAINTAIN -('_SESSION'[SESSION];
ONE OF ONE NONEMPTY ALTERNATIVE OF P
THEN ALL of INSERT INTO
SELECTFROM

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DELETE FROM
SELECTFROM

(TO MAINTAIN
(MAINTEINING -('_
PICK a,b FROM (rentalH
THEN INSERT INTO rcIss
SELECTFROM 'a'[R

(TO MAINTAIN -('
(MAINTEINING -('_SESSION'[SES
NEW x:RentalCase;
ALL of ALL of INSERT INTO r
SELECTFROM '

(TO MAINTAIN
DELETE FROM r
SELECTFROM '

(TO MAINTAIN
(MAINTEINING -('_SES
INSERT INTO rcIssued
SELECTFROM 'x'[Rent

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      (TO MAINTAIN -(' _SESSION' [SESSION];s
      (MAINTAINING -(' _SESSION' [SESSION];sessionR
      (MAINTAINING -(' _SESSION' [SESSION];sessionRet
      (MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCa
      (MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar) \ / s
(MAINTAINING -(' _SESSION' [SESSION];sessionReturnedCar) \ / sessionReturn
NEW x:Car;
  ALL of INSERT INTO sessionReturnedCar[SESSION*Car]
    SELECTFROM (' _SESSION' [SESSION];sessionReturnedCar /\ -(sessi
    (TO MAINTAIN -(' _SESSION' [SESSION];sessionReturnedCar) \ / ses
  INSERT INTO Isn{dety=Car}
    SELECTFROM 'x' [Car]*(' _SESSION' [SESSION];sessionReturnedCar /
    (TO MAINTAIN -(' _SESSION' [SESSION];sessionReturnedCar) \ / ses
  ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [Car]*(' _
    THEN INSERT INTO rcIssuedCar[RentalCase*Car]
      SELECTFROM 'b' [RentalCase]*'a' [Car]
      (TO MAINTAIN -(' _SESSION' [SESSION];session
    PICK a,b FROM rcIssuedCar;('x' [Car]*(' _SESSION' [
    THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
      THEN ALL of INSERT INTO renta
        SELECTFROM 'a' [R
        (TO MAINTAIN -('
        DELETE FROM renta
        SELECTFROM 'a' [R
        (TO MAINTAIN -('
        (MAINTAINING -(' _SESSION
        PICK a,b FROM (rentalHasBeenS
        THEN INSERT INTO rcIssuedCar[
          SELECTFROM 'a' [RentalCa
          (TO MAINTAIN -(' _SESSIO
        (MAINTAINING -(' _SESSION' [SESSION];s
  NEW x:RentalCase;
    ALL of ALL of INSERT INTO rentalHa
      SELECTFROM 'a' [Rent
      (TO MAINTAIN -(' _SE
      DELETE FROM rentalHa
      SELECTFROM 'a' [Rent
      (TO MAINTAIN -(' SE

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(MAINTEINING -('_SESSION' [S
INSERT INTO rcIssuedCar[Ren
SELECTFROM 'x' [RentalCase]

(TO MAINTAIN -('_SESSION' [
(MAINTEINING -('_SESSION' [SESSION]
(MAINTEINING -('_SESSION' [SESSION];s
(MAINTEINING -('_SESSION' [SESSION];sessionR
(MAINTEINING -('_SESSION' [SESSION];sessionReturnedCar)
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x' [RentalCase]*(sessionReturnedCa

(TO MAINTAIN -('_SESSION' [SESSION];sessionRet
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
(MAINTEINING -('_SESSION' [S
PICK a,b FROM (rentalHasBeenStar
THEN INSERT INTO rcIssuedCar[Ren
SELECTFROM 'a' [RentalCase]

(TO MAINTAIN -('_SESSION' [
(MAINTEINING -('_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 rcIssuedCar[Rental
SELECTFROM 'x' [RentalCase]*'x

(TO MAINTAIN -('_SESSION' [SES
(MAINTEINING -('_SESSION' [SESSION];se
(MAINTEINING -('_SESSION' [SESSION];sess
(MAINTEINING -('_SESSION' [SESSION];sessionRetu
(MAINTEINING -('_SESSION' [SESSION];sessionReturnedCar
(MAINTEINING -('_SESSION' [SESSION];sessionReturnedCar)
(MAINTEINING -('_SESSION' [SESSION];sessionReturnedCar) \ / sess
(MAINTEINING -('_SESSION' [SESSION];sessionReturnedCar) \ / sessionRetu

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      (MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar) \ / sessionReturnedCar)
(MAINTAINING -('_SESSION'[SESSION];sessionReturnedCar) \ / sessionReturnedCar;
INSERT INTO Isn{dety=Car}
  SELECTFROM (sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar /\ -I[

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar) \ /
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ((sessionReturnedCar~;'_SESSI
  THEN INSERT INTO rcIssuedCar[RentalCase*Car]
    SELECTFROM 'b'[RentalCase]*'a'[Car]

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];ses
PICK a,b FROM rcIssuedCar;((sessionReturnedCar~;'_SESSION'[SESSI
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 -(sessionReturnedCa
DELETE FROM rentalHasBeenEnded[Re
  SELECTFROM 'a'[RentalCase]*'b'[R

      (TO MAINTAIN -(sessionReturnedCa
      (MAINTAINING -(sessionReturnedCar~;'_SES
PICK a,b FROM (rentalHasBeenStarted~ /\ -rent
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
  SELECTFROM 'a'[RentalCase]*'b'[Car]

      (TO MAINTAIN -(sessionReturnedCar~;'_SE
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSIO
NEW x:RentalCase;
  ALL of ALL of INSERT INTO rentalHasBeenStarted[Ren
    SELECTFROM 'a'[RentalCase]*'b'[Car]

      (TO MAINTAIN -(sessionReturnedCar~;
DELETE FROM rentalHasBeenEnded[Renta
  SELECTFROM 'a'[RentalCase]*'b'[Car]

      (TO MAINTAIN -(sessionReturnedCar~;
      (MAINTAINING -(sessionReturnedCar~;'_SESSIO
INSERT INTO rcIssuedCar[RentalCase*Car]
  SELECTFROM 'x'[RentalCase]*'a'[RentalCase]

      (TO MAINTAIN -(sessionReturnedCar~;'_SESSI
      (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESS
      (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSIO
      (MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sess
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedC
NEW x:RentalCase;
  ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
    SELECTFROM 'x'[RentalCase]*((sessionReturnedCar~;'_SESSION'[S

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(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCase*Car])
THEN ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[RentalCase*Car]

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
DELETE FROM rentalHasBeenEnded[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[RentalCase*Car]

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalHasBeenEnded)
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[Car]

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
NEW x:RentalCase;
ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*((sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
DELETE FROM rentalHasBeenEnded[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*((sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*'x'[RentalCase]*((sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
THEN INSERT INTO sessionReturnedCar[SESSION*Car]
SELECTFROM 'a'[SESSION]*'b'[Car]

(TO MAINTAIN -(('_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
PICK a,b FROM sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('a'[Car]*Car)
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'b'[RentalCase]*'a'[Car]

(TO MAINTAIN -(('_SESSION'[SESSION];sessionReturnedCar~;'_SESSION'[SESSION])
PICK a,b FROM rcIssuedCar~;'a'[Car]*'b'[Car])
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM (rcIssuedCar~;'a'[Car]*'b'[Car])
THEN ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Car]
SELECTFROM 'a'[RentalCase]*'b'[RentalCase*Car]

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SELECTFROM 'a

(TO MAINTAIN
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(MAINTAINING -('_SESSION'[SESSION
NEW x:RentalCase;
    ALL of ALL of INSERT INTO renta
                                SELECTFROM 'a'[R

                                (TO MAINTAIN -('
                                DELETE FROM renta
                                SELECTFROM 'a'[R

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ONE OF ONE NONEMPTY ALTE
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NEW x:YesNo;
    ALL of INSERT I
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                                (MAINTAINING -(('_SESSION'[SESSION
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(MAINTAINING -(('_SESSION'[SESSION];sessionReturnedCa
NEW x:RentalCase;
  ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
    SELECTFROM 'x'[RentalCase]*'b'[Car]*'a'[Ca

    (TO MAINTAIN -(('_SESSION'[SESSION];session
    ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
      THEN ALL of INSERT INTO renta
        SELECTFROM 'a'[R

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        DELETE FROM renta
        SELECTFROM 'a'[R

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        THEN ONE OF ONE NONEMPTY ALTE
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      (MAINTAINING -( '_
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NEW x:RentalCase;
      ALL of ALL of INSERT INTO rentalHa
                                SELECTFROM 'x' [Rent

                                (TO MAINTAIN -( '_SE
DELETE FROM rentalHa
                                SELECTFROM 'x' [Rent

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(MAINTAINING -('_SESSION' [SESSION];sessionReturned
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;
(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;I[Car] /\ - (carA
NEW x:Car;
ALL of INSERT INTO sessionReturnedCar[SESSION*Car]
SELECTFROM ('_SESSION' [SESSION];sessionReturnedCar;I[Car] /\

(TO MAINTAIN -('_SESSION' [SESSION];sessionReturnedCar;I[Car]
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x' [Car]*(''_
THEN INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'b' [RentalCase]*'a' [Car]

(TO MAINTAIN -('_SESSION' [SESSION];session
PICK a,b FROM rcIssuedCar;('x' [Car]*(''_SESSION' [
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b

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THEN ALL of INSERT INTO renta
      SELECTFROM 'a' [R

      (TO MAINTAIN -( '
DELETE FROM renta
      SELECTFROM 'a' [R

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PICK a,b FROM (rentalHasBeenS
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NEW x:RentalCase;
ALL of ALL of INSERT INTO rentalHa
SELECTFROM 'a'[Rent

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DELETE FROM rentalHa
SELECTFROM 'a'[Rent

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THEN INSERT I
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(MAINTAINING -('_SESSION' [SESSION];sessionReturnedCar;(
NEW x:RentalCase;
  ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
    SELECTFROM 'x' [RentalCase]*((I[Car] /\ -(carA
    (TO MAINTAIN -('_SESSION' [SESSION];sessionRet
    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 ONE OF ONE NONEMPTY ALTERNA
    THEN INSERT I
    SELECTF
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    PICK a,b FROM
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(MAINTAINING -('_SES
(MAINTAINING -('_SESSION' [S
(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
ONE OF ONE NONEMPTY ALTERNATIV
THEN INSERT INTO
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THEN INSERT INTO rentalIsP
    SELECTFROM 'a'[Renta

    (TO MAINTAIN -(sessi
PICK a,b FROM rentalIsPaid
THEN ONE OF ONE NONEMPTY A
    THEN BL
    (C
    PICK a,
    THEN BL
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    (MAINTAINING -
    NEW x:YesNo;
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(MAINTAINING -(sessionReturnedCar
NEW x:YesNo;
    ALL of INSERT INTO rentalIsPaid
    SELECTFROM 'a'[RentalCa

    (TO MAINTAIN -(sessionR
    ONE OF ONE NONEMPTY ALTE
    THEN BLOCK
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    NEW x:YesNo;
    ALL of BLOCK
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    (MAINTAINING -(sessionRe
    (MAINTAINING -(sessionReturnedC
    (MAINTAINING -(sessionReturnedCar
    (MAINTAINING -(sessionReturnedCar~;'_SES
(MAINTAINING -(sessionReturnedCar~;'_SESSION'[SESSIO
NEW x:RentalCase;
    ALL of ALL of INSERT INTO rentalHasBeenStarted[Ren
    SELECTFROM 'a'[RentalCase]*'b'[Car]

    (TO MAINTAIN -(sessionReturnedCar~;

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(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESS
(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSIO
(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sess
(MAINAINING -(sessionReturnedCar~;'_SESSION'[SESSION];sessionReturnedC
NEW x:RentalCase;
ALL of INSERT INTO rcIssuedCar[RentalCase*Car]
SELECTFROM 'x'[RentalCase]*((I[Car] /\ -(carAvailableAt;carAv

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'[SESSION];sessio
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FROM ('x'[RentalCa
THEN ALL of INSERT INTO rentalHasBeenStarted[Rent
SELECTFROM 'a'[RentalCase]*'b'[Rent

(TO MAINTAIN -(sessionReturnedCar~;
DELETE FROM rentalHasBeenEnded[Renta
SELECTFROM 'a'[RentalCase]*'b'[Rent

(TO MAINTAIN -(sessionReturnedCar~;
(MAINAINING -(sessionReturnedCar~;'_SESSIO
PICK a,b FROM (rentalHasBeenStarted~ /\ -rentalH
THEN ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b
THEN INSERT INTO rentalIsPaid
SELECTFROM 'a'[RentalCa

(TO MAINTAIN -(sessionR
PICK a,b FROM rentalIsPaidQ~;
THEN ONE OF ONE NONEMPTY ALTE
THEN BLOCK
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PICK a,b F
THEN BLOCK
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NEW x:YesNo;
ALL of BLOCK
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(MAINAINING -(se
(MAINAINING -(sessionRe
(MAINAINING -(sessionReturnedCar~;'
NEW x:YesNo;
ALL of INSERT INTO rentalIsPaidQ[R
SELECTFROM 'a'[RentalCase]

(TO MAINTAIN -(sessionRetu
ONE OF ONE NONEMPTY ALTERNA
THEN BLOCK
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```

```

PICK a,b FROM
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NEW x:YesNo;
ALL of BLOCK
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BLOCK
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(MAINTEINING -(sessionReturnedCar~;'
(MAINTEINING -(sessionReturnedCar~;'_SESSION'
(MAINTEINING -(sessionReturnedCar~;'_SESSION' [SESSION];
NEW x:RentalCase;
ALL of INSERT INTO rentalHasBeenStarted[RentalCase*Re
SELECTFROM 'x' [RentalCase]*(sessionReturnedCa

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'
DELETE FROM rentalHasBeenEnded[RentalCase*Rent
SELECTFROM 'x' [RentalCase]*(sessionReturnedCa

(TO MAINTAIN -(sessionReturnedCar~;'_SESSION'
ONE OF ONE NONEMPTY ALTERNATIVE OF PICK a,b FR
THEN INSERT INTO rentalIsPaidQ[R
SELECTFROM 'a' [RentalCase]

(TO MAINTAIN -(sessionRetu
PICK a,b FROM rentalIsPaidQ~;('x
THEN ONE OF ONE NONEMPTY ALTERNA
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PICK a,b FROM
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(MAINTEINING -(sessionRetur
(MAINTEINING -(sessionReturnedCar~;'_SE
NEW x:YesNo;
ALL of INSERT INTO rentalIsPaidQ[Rent
SELECTFROM 'x' [RentalCase]*'x

```



```
DELETE FROM sessionReturnedCar[SESSION*Car]
SELECTFROM Delta;V[SESSION*Car]
```

```
(MAINTAINING -(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 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 sessionReturnedCar[SESSION*Car]
SELECTFROM Delta;V[SESSION*Car]
```

```
(MAINTAINING -(sessionNewUserRC;sessionNewUserRC~) \ / I[SESSION] FROM INJ sessionNewUserRC;
```

<-----End Derivation --