Credit Data Analysis

Credit Risk assessment is an important issue for banks in order to evaluate if a loan applicant can be a defaulter at a later stage or not. This helps the banks to minimize losses. OBJECTIVE OF ANALYSIS: Minimization of risk and maximization of profit on behalf of the bank.

**Data description**:

The data set German credit data has 1000 obsevations with 62 variables. The original source of this data set is: <http://home.cse.ust.hk/~qyang/221/Assignments/German/> The data set contains information about 1000 individuals, who have been classified as risky or not for further loan approval. The data set has the response variable “Class”, which has binary output “Good” or “Bad”. In this project I have performed data Analysis on this dataset and built a Logistic Regression Model along with variable selection for the model.

**Spliting data set**:

Since we have comparatively large data set, we Split our data into 70:30 Train and Test data set using stratifiesd sampling in oreder to get same amount of data from each class. ```

library(caTools)  
set.seed(123)  
split = sample.split(data$Class, 0.7)  
train = subset(data, split == TRUE)  
test = subset(data, split == FALSE)

Now we fit a Logestic regression model using all 62 variables from the data set. We checked VIF, and found that the data has severe multi-collinearity.

var\_list <- names(data)  
var\_list

## [1] "Duration"   
## [2] "Amount"   
## [3] "InstallmentRatePercentage"   
## [4] "ResidenceDuration"   
## [5] "Age"   
## [6] "NumberExistingCredits"   
## [7] "NumberPeopleMaintenance"   
## [8] "Telephone"   
## [9] "ForeignWorker"   
## [10] "Class"   
## [11] "CheckingAccountStatus.lt.0"   
## [12] "CheckingAccountStatus.0.to.200"   
## [13] "CheckingAccountStatus.gt.200"   
## [14] "CheckingAccountStatus.none"   
## [15] "CreditHistory.NoCredit.AllPaid"   
## [16] "CreditHistory.ThisBank.AllPaid"   
## [17] "CreditHistory.PaidDuly"   
## [18] "CreditHistory.Delay"   
## [19] "CreditHistory.Critical"   
## [20] "Purpose.NewCar"   
## [21] "Purpose.UsedCar"   
## [22] "Purpose.Furniture.Equipment"   
## [23] "Purpose.Radio.Television"   
## [24] "Purpose.DomesticAppliance"   
## [25] "Purpose.Repairs"   
## [26] "Purpose.Education"   
## [27] "Purpose.Vacation"   
## [28] "Purpose.Retraining"   
## [29] "Purpose.Business"   
## [30] "Purpose.Other"   
## [31] "SavingsAccountBonds.lt.100"   
## [32] "SavingsAccountBonds.100.to.500"   
## [33] "SavingsAccountBonds.500.to.1000"   
## [34] "SavingsAccountBonds.gt.1000"   
## [35] "SavingsAccountBonds.Unknown"   
## [36] "EmploymentDuration.lt.1"   
## [37] "EmploymentDuration.1.to.4"   
## [38] "EmploymentDuration.4.to.7"   
## [39] "EmploymentDuration.gt.7"   
## [40] "EmploymentDuration.Unemployed"   
## [41] "Personal.Male.Divorced.Seperated"   
## [42] "Personal.Female.NotSingle"   
## [43] "Personal.Male.Single"   
## [44] "Personal.Male.Married.Widowed"   
## [45] "Personal.Female.Single"   
## [46] "OtherDebtorsGuarantors.None"   
## [47] "OtherDebtorsGuarantors.CoApplicant"   
## [48] "OtherDebtorsGuarantors.Guarantor"   
## [49] "Property.RealEstate"   
## [50] "Property.Insurance"   
## [51] "Property.CarOther"   
## [52] "Property.Unknown"   
## [53] "OtherInstallmentPlans.Bank"   
## [54] "OtherInstallmentPlans.Stores"   
## [55] "OtherInstallmentPlans.None"   
## [56] "Housing.Rent"   
## [57] "Housing.Own"   
## [58] "Housing.ForFree"   
## [59] "Job.UnemployedUnskilled"   
## [60] "Job.UnskilledResident"   
## [61] "Job.SkilledEmployee"   
## [62] "Job.Management.SelfEmp.HighlyQualified"

model\_1= glm(Class ~., data=train, family="binomial")  
summary(model\_1)

##   
## Call:  
## glm(formula = Class ~ ., family = "binomial", data = train)  
##   
## Deviance Residuals:   
## Min 1Q Median 3Q Max   
## -2.7657 -0.6524 0.3244 0.6666 2.3223   
##   
## Coefficients: (13 not defined because of singularities)  
## Estimate Std. Error z value  
## (Intercept) 8.970e+00 1.743e+00 5.145  
## Duration -2.985e-02 1.159e-02 -2.576  
## Amount -1.494e-04 5.728e-05 -2.608  
## InstallmentRatePercentage -3.478e-01 1.069e-01 -3.254  
## ResidenceDuration 4.883e-03 1.081e-01 0.045  
## Age 8.178e-03 1.168e-02 0.700  
## NumberExistingCredits -2.625e-01 2.229e-01 -1.178  
## NumberPeopleMaintenance -7.135e-03 3.247e-01 -0.022  
## Telephone -1.247e-01 2.469e-01 -0.505  
## ForeignWorker -1.006e+00 7.668e-01 -1.312  
## CheckingAccountStatus.lt.0 -2.006e+00 2.950e-01 -6.799  
## CheckingAccountStatus.0.to.200 -1.551e+00 2.932e-01 -5.291  
## CheckingAccountStatus.gt.200 -1.125e+00 4.743e-01 -2.372  
## CheckingAccountStatus.none NA NA NA  
## CreditHistory.NoCredit.AllPaid -1.340e+00 5.372e-01 -2.494  
## CreditHistory.ThisBank.AllPaid -1.284e+00 5.670e-01 -2.264  
## CreditHistory.PaidDuly -8.738e-01 3.094e-01 -2.825  
## CreditHistory.Delay -9.508e-01 4.079e-01 -2.331  
## CreditHistory.Critical NA NA NA  
## Purpose.NewCar -2.321e+00 9.841e-01 -2.359  
## Purpose.UsedCar -5.464e-01 1.009e+00 -0.541  
## Purpose.Furniture.Equipment -1.497e+00 9.859e-01 -1.519  
## Purpose.Radio.Television -1.823e+00 9.903e-01 -1.841  
## Purpose.DomesticAppliance -1.480e+00 1.459e+00 -1.014  
## Purpose.Repairs -1.994e+00 1.194e+00 -1.670  
## Purpose.Education -2.460e+00 1.076e+00 -2.287  
## Purpose.Vacation NA NA NA  
## Purpose.Retraining 1.378e+01 7.327e+02 0.019  
## Purpose.Business -1.995e+00 1.007e+00 -1.982  
## Purpose.Other NA NA NA  
## SavingsAccountBonds.lt.100 -1.241e+00 3.682e-01 -3.371  
## SavingsAccountBonds.100.to.500 -5.715e-01 4.834e-01 -1.182  
## SavingsAccountBonds.500.to.1000 -1.109e+00 5.456e-01 -2.033  
## SavingsAccountBonds.gt.1000 2.851e-01 7.352e-01 0.388  
## SavingsAccountBonds.Unknown NA NA NA  
## EmploymentDuration.lt.1 -1.551e-01 5.049e-01 -0.307  
## EmploymentDuration.1.to.4 2.017e-01 4.868e-01 0.414  
## EmploymentDuration.4.to.7 9.202e-01 5.387e-01 1.708  
## EmploymentDuration.gt.7 3.826e-01 4.890e-01 0.782  
## EmploymentDuration.Unemployed NA NA NA  
## Personal.Male.Divorced.Seperated -3.461e-01 5.406e-01 -0.640  
## Personal.Female.NotSingle -1.841e-01 3.793e-01 -0.486  
## Personal.Male.Single 4.485e-01 3.731e-01 1.202  
## Personal.Male.Married.Widowed NA NA NA  
## Personal.Female.Single NA NA NA  
## OtherDebtorsGuarantors.None -5.143e-01 5.117e-01 -1.005  
## OtherDebtorsGuarantors.CoApplicant -1.215e+00 7.366e-01 -1.649  
## OtherDebtorsGuarantors.Guarantor NA NA NA  
## Property.RealEstate 8.316e-01 5.731e-01 1.451  
## Property.Insurance 8.253e-01 5.609e-01 1.471  
## Property.CarOther 5.128e-01 5.479e-01 0.936  
## Property.Unknown NA NA NA  
## OtherInstallmentPlans.Bank -9.394e-01 2.946e-01 -3.189  
## OtherInstallmentPlans.Stores -5.097e-01 4.408e-01 -1.156  
## OtherInstallmentPlans.None NA NA NA  
## Housing.Rent -5.632e-01 6.341e-01 -0.888  
## Housing.Own -2.736e-01 6.132e-01 -0.446  
## Housing.ForFree NA NA NA  
## Job.UnemployedUnskilled 6.224e-02 7.730e-01 0.081  
## Job.UnskilledResident -1.295e-01 4.478e-01 -0.289  
## Job.SkilledEmployee -2.196e-01 3.624e-01 -0.606  
## Job.Management.SelfEmp.HighlyQualified NA NA NA  
## Pr(>|z|)   
## (Intercept) 2.67e-07 \*\*\*  
## Duration 0.00998 \*\*   
## Amount 0.00911 \*\*   
## InstallmentRatePercentage 0.00114 \*\*   
## ResidenceDuration 0.96396   
## Age 0.48377   
## NumberExistingCredits 0.23894   
## NumberPeopleMaintenance 0.98247   
## Telephone 0.61345   
## ForeignWorker 0.18963   
## CheckingAccountStatus.lt.0 1.05e-11 \*\*\*  
## CheckingAccountStatus.0.to.200 1.22e-07 \*\*\*  
## CheckingAccountStatus.gt.200 0.01768 \*   
## CheckingAccountStatus.none NA   
## CreditHistory.NoCredit.AllPaid 0.01263 \*   
## CreditHistory.ThisBank.AllPaid 0.02357 \*   
## CreditHistory.PaidDuly 0.00473 \*\*   
## CreditHistory.Delay 0.01975 \*   
## CreditHistory.Critical NA   
## Purpose.NewCar 0.01834 \*   
## Purpose.UsedCar 0.58831   
## Purpose.Furniture.Equipment 0.12885   
## Purpose.Radio.Television 0.06560 .   
## Purpose.DomesticAppliance 0.31062   
## Purpose.Repairs 0.09487 .   
## Purpose.Education 0.02221 \*   
## Purpose.Vacation NA   
## Purpose.Retraining 0.98499   
## Purpose.Business 0.04751 \*   
## Purpose.Other NA   
## SavingsAccountBonds.lt.100 0.00075 \*\*\*  
## SavingsAccountBonds.100.to.500 0.23707   
## SavingsAccountBonds.500.to.1000 0.04202 \*   
## SavingsAccountBonds.gt.1000 0.69818   
## SavingsAccountBonds.Unknown NA   
## EmploymentDuration.lt.1 0.75866   
## EmploymentDuration.1.to.4 0.67857   
## EmploymentDuration.4.to.7 0.08759 .   
## EmploymentDuration.gt.7 0.43401   
## EmploymentDuration.Unemployed NA   
## Personal.Male.Divorced.Seperated 0.52200   
## Personal.Female.NotSingle 0.62730   
## Personal.Male.Single 0.22933   
## Personal.Male.Married.Widowed NA   
## Personal.Female.Single NA   
## OtherDebtorsGuarantors.None 0.31487   
## OtherDebtorsGuarantors.CoApplicant 0.09917 .   
## OtherDebtorsGuarantors.Guarantor NA   
## Property.RealEstate 0.14678   
## Property.Insurance 0.14118   
## Property.CarOther 0.34932   
## Property.Unknown NA   
## OtherInstallmentPlans.Bank 0.00143 \*\*   
## OtherInstallmentPlans.Stores 0.24755   
## OtherInstallmentPlans.None NA   
## Housing.Rent 0.37444   
## Housing.Own 0.65550   
## Housing.ForFree NA   
## Job.UnemployedUnskilled 0.93583   
## Job.UnskilledResident 0.77238   
## Job.SkilledEmployee 0.54448   
## Job.Management.SelfEmp.HighlyQualified NA   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## (Dispersion parameter for binomial family taken to be 1)  
##   
## Null deviance: 855.21 on 699 degrees of freedom  
## Residual deviance: 599.68 on 651 degrees of freedom  
## AIC: 697.68  
##   
## Number of Fisher Scoring iterations: 15

library(car)

## Loading required package: carData

In order select the potential explanatory variables we use AIC criterion.

###############STEPWISE variable selection base on AIC value############  
library(MASS)  
var\_select=stepAIC(model\_1,direction="both",data=train)

## Start: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + Personal.Female.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## OtherDebtorsGuarantors.Guarantor + Property.RealEstate +   
## Property.Insurance + Property.CarOther + Property.Unknown +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## OtherInstallmentPlans.None + Housing.Rent + Housing.Own +   
## Housing.ForFree + Job.UnemployedUnskilled + Job.UnskilledResident +   
## Job.SkilledEmployee + Job.Management.SelfEmp.HighlyQualified  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + Personal.Female.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## OtherDebtorsGuarantors.Guarantor + Property.RealEstate +   
## Property.Insurance + Property.CarOther + Property.Unknown +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## OtherInstallmentPlans.None + Housing.Rent + Housing.Own +   
## Housing.ForFree + Job.UnemployedUnskilled + Job.UnskilledResident +   
## Job.SkilledEmployee  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + Personal.Female.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## OtherDebtorsGuarantors.Guarantor + Property.RealEstate +   
## Property.Insurance + Property.CarOther + Property.Unknown +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## OtherInstallmentPlans.None + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + Personal.Female.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## OtherDebtorsGuarantors.Guarantor + Property.RealEstate +   
## Property.Insurance + Property.CarOther + Property.Unknown +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Housing.Own + Job.UnemployedUnskilled + Job.UnskilledResident +   
## Job.SkilledEmployee  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + Personal.Female.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## OtherDebtorsGuarantors.Guarantor + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + Personal.Female.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Housing.Own + Job.UnemployedUnskilled + Job.UnskilledResident +   
## Job.SkilledEmployee  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Housing.Own + Job.UnemployedUnskilled + Job.UnskilledResident +   
## Job.SkilledEmployee  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + SavingsAccountBonds.lt.100 + SavingsAccountBonds.100.to.500 +   
## SavingsAccountBonds.500.to.1000 + SavingsAccountBonds.gt.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Retraining + Purpose.Business +   
## SavingsAccountBonds.lt.100 + SavingsAccountBonds.100.to.500 +   
## SavingsAccountBonds.500.to.1000 + SavingsAccountBonds.gt.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=697.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.UsedCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - NumberPeopleMaintenance 1 599.68 695.68  
## - ResidenceDuration 1 599.68 695.68  
## - Job.UnemployedUnskilled 1 599.68 695.68  
## - Job.UnskilledResident 1 599.76 695.76  
## - EmploymentDuration.lt.1 1 599.77 695.77  
## - SavingsAccountBonds.gt.1000 1 599.83 695.83  
## - EmploymentDuration.1.to.4 1 599.85 695.85  
## - Housing.Own 1 599.88 695.88  
## - Personal.Female.NotSingle 1 599.91 695.91  
## - Telephone 1 599.93 695.93  
## - Purpose.UsedCar 1 599.98 695.98  
## - Job.SkilledEmployee 1 600.05 696.05  
## - Personal.Male.Divorced.Seperated 1 600.09 696.09  
## - Age 1 600.17 696.17  
## - EmploymentDuration.gt.7 1 600.29 696.29  
## - Housing.Rent 1 600.47 696.47  
## - Property.CarOther 1 600.55 696.55  
## - Purpose.Retraining 1 600.58 696.58  
## - Purpose.DomesticAppliance 1 600.70 696.70  
## - OtherDebtorsGuarantors.None 1 600.72 696.72  
## - OtherInstallmentPlans.Stores 1 601.01 697.01  
## - NumberExistingCredits 1 601.07 697.07  
## - SavingsAccountBonds.100.to.500 1 601.08 697.08  
## - Personal.Male.Single 1 601.10 697.10  
## - ForeignWorker 1 601.63 697.63  
## <none> 599.68 697.68  
## - Property.RealEstate 1 601.77 697.77  
## - Property.Insurance 1 601.84 697.84  
## - Purpose.Furniture.Equipment 1 602.22 698.22  
## - OtherDebtorsGuarantors.CoApplicant 1 602.44 698.44  
## - Purpose.Repairs 1 602.59 698.59  
## - EmploymentDuration.4.to.7 1 602.61 698.61  
## - Purpose.Radio.Television 1 603.51 699.51  
## - SavingsAccountBonds.500.to.1000 1 603.67 699.67  
## - Purpose.Business 1 604.07 700.07  
## - CheckingAccountStatus.gt.200 1 604.97 700.97  
## - CreditHistory.ThisBank.AllPaid 1 604.97 700.97  
## - CreditHistory.Delay 1 605.05 701.05  
## - Purpose.Education 1 605.57 701.57  
## - CreditHistory.NoCredit.AllPaid 1 606.08 702.08  
## - Purpose.NewCar 1 606.12 702.12  
## - Duration 1 606.34 702.34  
## - Amount 1 606.56 702.56  
## - CreditHistory.PaidDuly 1 607.94 703.94  
## - OtherInstallmentPlans.Bank 1 609.76 705.76  
## - InstallmentRatePercentage 1 610.62 706.62  
## - SavingsAccountBonds.lt.100 1 612.52 708.52  
## - CheckingAccountStatus.0.to.200 1 629.43 725.43  
## - CheckingAccountStatus.lt.0 1 651.58 747.58  
##   
## Step: AIC=695.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + Telephone + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.UsedCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - ResidenceDuration 1 599.68 693.68  
## - Job.UnemployedUnskilled 1 599.68 693.68  
## - Job.UnskilledResident 1 599.76 693.76  
## - EmploymentDuration.lt.1 1 599.77 693.77  
## - SavingsAccountBonds.gt.1000 1 599.83 693.83  
## - EmploymentDuration.1.to.4 1 599.85 693.85  
## - Housing.Own 1 599.88 693.88  
## - Personal.Female.NotSingle 1 599.91 693.91  
## - Telephone 1 599.93 693.93  
## - Purpose.UsedCar 1 599.98 693.98  
## - Job.SkilledEmployee 1 600.05 694.05  
## - Personal.Male.Divorced.Seperated 1 600.09 694.09  
## - Age 1 600.17 694.17  
## - EmploymentDuration.gt.7 1 600.29 694.29  
## - Housing.Rent 1 600.47 694.47  
## - Property.CarOther 1 600.55 694.55  
## - Purpose.Retraining 1 600.58 694.58  
## - Purpose.DomesticAppliance 1 600.70 694.70  
## - OtherDebtorsGuarantors.None 1 600.73 694.73  
## - OtherInstallmentPlans.Stores 1 601.01 695.01  
## - SavingsAccountBonds.100.to.500 1 601.08 695.08  
## - NumberExistingCredits 1 601.10 695.10  
## - Personal.Male.Single 1 601.13 695.13  
## - ForeignWorker 1 601.64 695.64  
## <none> 599.68 695.68  
## - Property.RealEstate 1 601.77 695.77  
## - Property.Insurance 1 601.84 695.84  
## - Purpose.Furniture.Equipment 1 602.23 696.23  
## - OtherDebtorsGuarantors.CoApplicant 1 602.44 696.44  
## - Purpose.Repairs 1 602.60 696.60  
## - EmploymentDuration.4.to.7 1 602.62 696.62  
## - Purpose.Radio.Television 1 603.52 697.52  
## - SavingsAccountBonds.500.to.1000 1 603.67 697.67  
## + NumberPeopleMaintenance 1 599.68 697.68  
## - Purpose.Business 1 604.08 698.08  
## - CheckingAccountStatus.gt.200 1 604.97 698.97  
## - CreditHistory.ThisBank.AllPaid 1 604.98 698.98  
## - CreditHistory.Delay 1 605.06 699.06  
## - Purpose.Education 1 605.58 699.58  
## - CreditHistory.NoCredit.AllPaid 1 606.09 700.09  
## - Purpose.NewCar 1 606.13 700.13  
## - Duration 1 606.35 700.35  
## - Amount 1 606.58 700.58  
## - CreditHistory.PaidDuly 1 607.96 701.96  
## - OtherInstallmentPlans.Bank 1 609.80 703.80  
## - InstallmentRatePercentage 1 610.68 704.68  
## - SavingsAccountBonds.lt.100 1 612.52 706.52  
## - CheckingAccountStatus.0.to.200 1 629.46 723.46  
## - CheckingAccountStatus.lt.0 1 651.71 745.71  
##   
## Step: AIC=693.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Job.UnemployedUnskilled 1 599.69 691.69  
## - Job.UnskilledResident 1 599.76 691.76  
## - EmploymentDuration.lt.1 1 599.78 691.78  
## - SavingsAccountBonds.gt.1000 1 599.83 691.83  
## - EmploymentDuration.1.to.4 1 599.85 691.85  
## - Housing.Own 1 599.89 691.89  
## - Personal.Female.NotSingle 1 599.91 691.91  
## - Telephone 1 599.94 691.94  
## - Purpose.UsedCar 1 599.99 691.99  
## - Job.SkilledEmployee 1 600.05 692.05  
## - Personal.Male.Divorced.Seperated 1 600.09 692.09  
## - Age 1 600.18 692.18  
## - EmploymentDuration.gt.7 1 600.30 692.30  
## - Housing.Rent 1 600.48 692.48  
## - Property.CarOther 1 600.55 692.55  
## - Purpose.Retraining 1 600.58 692.58  
## - Purpose.DomesticAppliance 1 600.70 692.70  
## - OtherDebtorsGuarantors.None 1 600.73 692.73  
## - OtherInstallmentPlans.Stores 1 601.02 693.02  
## - SavingsAccountBonds.100.to.500 1 601.08 693.08  
## - NumberExistingCredits 1 601.10 693.10  
## - Personal.Male.Single 1 601.14 693.14  
## - ForeignWorker 1 601.64 693.64  
## <none> 599.68 693.68  
## - Property.RealEstate 1 601.77 693.77  
## - Property.Insurance 1 601.85 693.85  
## - Purpose.Furniture.Equipment 1 602.25 694.25  
## - OtherDebtorsGuarantors.CoApplicant 1 602.44 694.44  
## - Purpose.Repairs 1 602.61 694.61  
## - EmploymentDuration.4.to.7 1 602.62 694.62  
## - Purpose.Radio.Television 1 603.55 695.55  
## - SavingsAccountBonds.500.to.1000 1 603.67 695.67  
## + ResidenceDuration 1 599.68 695.68  
## + NumberPeopleMaintenance 1 599.68 695.68  
## - Purpose.Business 1 604.13 696.13  
## - CheckingAccountStatus.gt.200 1 604.97 696.97  
## - CreditHistory.ThisBank.AllPaid 1 604.98 696.98  
## - CreditHistory.Delay 1 605.06 697.06  
## - Purpose.Education 1 605.63 697.63  
## - CreditHistory.NoCredit.AllPaid 1 606.09 698.09  
## - Purpose.NewCar 1 606.16 698.16  
## - Duration 1 606.35 698.35  
## - Amount 1 606.60 698.60  
## - CreditHistory.PaidDuly 1 607.99 699.99  
## - OtherInstallmentPlans.Bank 1 609.83 701.83  
## - InstallmentRatePercentage 1 610.70 702.70  
## - SavingsAccountBonds.lt.100 1 612.55 704.55  
## - CheckingAccountStatus.0.to.200 1 629.47 721.47  
## - CheckingAccountStatus.lt.0 1 652.17 744.17  
##   
## Step: AIC=691.69  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnskilledResident + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Job.UnskilledResident 1 599.79 689.79  
## - EmploymentDuration.lt.1 1 599.81 689.81  
## - SavingsAccountBonds.gt.1000 1 599.83 689.83  
## - EmploymentDuration.1.to.4 1 599.85 689.85  
## - Housing.Own 1 599.89 689.89  
## - Personal.Female.NotSingle 1 599.92 689.92  
## - Telephone 1 599.94 689.94  
## - Purpose.UsedCar 1 600.00 690.00  
## - Personal.Male.Divorced.Seperated 1 600.10 690.10  
## - Job.SkilledEmployee 1 600.11 690.11  
## - Age 1 600.19 690.19  
## - EmploymentDuration.gt.7 1 600.32 690.32  
## - Housing.Rent 1 600.48 690.48  
## - Property.CarOther 1 600.55 690.55  
## - Purpose.Retraining 1 600.59 690.59  
## - Purpose.DomesticAppliance 1 600.70 690.70  
## - OtherDebtorsGuarantors.None 1 600.73 690.73  
## - OtherInstallmentPlans.Stores 1 601.04 691.04  
## - NumberExistingCredits 1 601.10 691.10  
## - SavingsAccountBonds.100.to.500 1 601.14 691.14  
## - Personal.Male.Single 1 601.15 691.15  
## - ForeignWorker 1 601.64 691.64  
## <none> 599.69 691.69  
## - Property.RealEstate 1 601.77 691.77  
## - Property.Insurance 1 601.85 691.85  
## - Purpose.Furniture.Equipment 1 602.28 692.28  
## - OtherDebtorsGuarantors.CoApplicant 1 602.45 692.45  
## - Purpose.Repairs 1 602.62 692.62  
## - EmploymentDuration.4.to.7 1 602.77 692.77  
## - Purpose.Radio.Television 1 603.58 693.58  
## + Job.UnemployedUnskilled 1 599.68 693.68  
## + Job.Management.SelfEmp.HighlyQualified 1 599.68 693.68  
## + ResidenceDuration 1 599.68 693.68  
## + NumberPeopleMaintenance 1 599.69 693.69  
## - SavingsAccountBonds.500.to.1000 1 603.69 693.69  
## - Purpose.Business 1 604.14 694.14  
## - CheckingAccountStatus.gt.200 1 604.98 694.98  
## - CreditHistory.ThisBank.AllPaid 1 605.00 695.00  
## - CreditHistory.Delay 1 605.12 695.12  
## - Purpose.Education 1 605.64 695.64  
## - CreditHistory.NoCredit.AllPaid 1 606.11 696.11  
## - Purpose.NewCar 1 606.20 696.20  
## - Duration 1 606.39 696.39  
## - Amount 1 606.64 696.64  
## - CreditHistory.PaidDuly 1 607.99 697.99  
## - OtherInstallmentPlans.Bank 1 609.89 699.89  
## - InstallmentRatePercentage 1 610.78 700.78  
## - SavingsAccountBonds.lt.100 1 613.06 703.06  
## - CheckingAccountStatus.0.to.200 1 629.55 719.55  
## - CheckingAccountStatus.lt.0 1 652.27 742.27  
##   
## Step: AIC=689.79  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - EmploymentDuration.1.to.4 1 599.88 687.88  
## - SavingsAccountBonds.gt.1000 1 599.93 687.93  
## - Housing.Own 1 599.99 687.99  
## - Personal.Female.NotSingle 1 600.01 688.01  
## - EmploymentDuration.lt.1 1 600.02 688.02  
## - Purpose.UsedCar 1 600.11 688.11  
## - Personal.Male.Divorced.Seperated 1 600.17 688.17  
## - Job.SkilledEmployee 1 600.17 688.17  
## - Telephone 1 600.18 688.18  
## - Age 1 600.26 688.26  
## - EmploymentDuration.gt.7 1 600.32 688.32  
## - Housing.Rent 1 600.57 688.57  
## - Property.CarOther 1 600.64 688.64  
## - Purpose.Retraining 1 600.65 688.65  
## - Purpose.DomesticAppliance 1 600.81 688.81  
## - OtherDebtorsGuarantors.None 1 600.83 688.83  
## - OtherInstallmentPlans.Stores 1 601.15 689.15  
## - NumberExistingCredits 1 601.19 689.19  
## - Personal.Male.Single 1 601.25 689.25  
## - SavingsAccountBonds.100.to.500 1 601.33 689.33  
## - ForeignWorker 1 601.74 689.74  
## <none> 599.79 689.79  
## - Property.RealEstate 1 601.81 689.81  
## - Property.Insurance 1 601.90 689.90  
## - Purpose.Furniture.Equipment 1 602.42 690.42  
## - OtherDebtorsGuarantors.CoApplicant 1 602.55 690.55  
## - Purpose.Repairs 1 602.85 690.85  
## - EmploymentDuration.4.to.7 1 602.87 690.87  
## + Job.UnskilledResident 1 599.69 691.69  
## + Job.Management.SelfEmp.HighlyQualified 1 599.74 691.74  
## - Purpose.Radio.Television 1 603.75 691.75  
## + Job.UnemployedUnskilled 1 599.76 691.76  
## + NumberPeopleMaintenance 1 599.78 691.78  
## + ResidenceDuration 1 599.79 691.79  
## - SavingsAccountBonds.500.to.1000 1 603.79 691.79  
## - Purpose.Business 1 604.32 692.32  
## - CheckingAccountStatus.gt.200 1 605.00 693.00  
## - CreditHistory.ThisBank.AllPaid 1 605.05 693.05  
## - CreditHistory.Delay 1 605.16 693.16  
## - Purpose.Education 1 605.81 693.81  
## - CreditHistory.NoCredit.AllPaid 1 606.24 694.24  
## - Purpose.NewCar 1 606.38 694.38  
## - Duration 1 606.46 694.46  
## - Amount 1 606.65 694.65  
## - CreditHistory.PaidDuly 1 608.07 696.07  
## - OtherInstallmentPlans.Bank 1 610.05 698.05  
## - InstallmentRatePercentage 1 610.78 698.78  
## - SavingsAccountBonds.lt.100 1 613.13 701.13  
## - CheckingAccountStatus.0.to.200 1 629.64 717.64  
## - CheckingAccountStatus.lt.0 1 652.79 740.79  
##   
## Step: AIC=687.88  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - SavingsAccountBonds.gt.1000 1 600.03 686.03  
## - Housing.Own 1 600.08 686.08  
## - Personal.Female.NotSingle 1 600.11 686.11  
## - Purpose.UsedCar 1 600.20 686.20  
## - Job.SkilledEmployee 1 600.21 686.21  
## - Personal.Male.Divorced.Seperated 1 600.25 686.25  
## - Telephone 1 600.26 686.26  
## - Age 1 600.32 686.32  
## - EmploymentDuration.gt.7 1 600.46 686.46  
## - Housing.Rent 1 600.67 686.67  
## - Purpose.Retraining 1 600.76 686.76  
## - Property.CarOther 1 600.76 686.76  
## - Purpose.DomesticAppliance 1 600.86 686.86  
## - OtherDebtorsGuarantors.None 1 600.96 686.96  
## - EmploymentDuration.lt.1 1 601.15 687.15  
## - OtherInstallmentPlans.Stores 1 601.25 687.25  
## - NumberExistingCredits 1 601.30 687.30  
## - Personal.Male.Single 1 601.38 687.38  
## - SavingsAccountBonds.100.to.500 1 601.41 687.41  
## <none> 599.88 687.88  
## - ForeignWorker 1 601.91 687.91  
## - Property.RealEstate 1 602.00 688.00  
## - Property.Insurance 1 602.03 688.03  
## - Purpose.Furniture.Equipment 1 602.46 688.46  
## - OtherDebtorsGuarantors.CoApplicant 1 602.69 688.69  
## - Purpose.Repairs 1 602.92 688.92  
## - Purpose.Radio.Television 1 603.77 689.77  
## + EmploymentDuration.1.to.4 1 599.79 689.79  
## + EmploymentDuration.Unemployed 1 599.79 689.79  
## + Job.UnskilledResident 1 599.85 689.85  
## + Job.Management.SelfEmp.HighlyQualified 1 599.85 689.85  
## - SavingsAccountBonds.500.to.1000 1 603.86 689.86  
## + Job.UnemployedUnskilled 1 599.88 689.88  
## + NumberPeopleMaintenance 1 599.88 689.88  
## + ResidenceDuration 1 599.88 689.88  
## - Purpose.Business 1 604.34 690.34  
## - CheckingAccountStatus.gt.200 1 605.09 691.09  
## - EmploymentDuration.4.to.7 1 605.11 691.11  
## - CreditHistory.ThisBank.AllPaid 1 605.21 691.21  
## - CreditHistory.Delay 1 605.26 691.26  
## - Purpose.Education 1 605.82 691.82  
## - CreditHistory.NoCredit.AllPaid 1 606.26 692.26  
## - Purpose.NewCar 1 606.39 692.39  
## - Duration 1 606.48 692.48  
## - Amount 1 606.77 692.77  
## - CreditHistory.PaidDuly 1 608.22 694.22  
## - OtherInstallmentPlans.Bank 1 610.10 696.10  
## - InstallmentRatePercentage 1 610.89 696.89  
## - SavingsAccountBonds.lt.100 1 613.22 699.22  
## - CheckingAccountStatus.0.to.200 1 630.14 716.14  
## - CheckingAccountStatus.lt.0 1 653.22 739.22  
##   
## Step: AIC=686.03  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Housing.Own + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Housing.Own 1 600.22 684.22  
## - Personal.Female.NotSingle 1 600.27 684.27  
## - Job.SkilledEmployee 1 600.33 684.33  
## - Purpose.UsedCar 1 600.35 684.35  
## - Personal.Male.Divorced.Seperated 1 600.42 684.42  
## - Telephone 1 600.42 684.42  
## - Age 1 600.48 684.48  
## - EmploymentDuration.gt.7 1 600.62 684.62  
## - Housing.Rent 1 600.79 684.79  
## - Property.CarOther 1 600.88 684.88  
## - Purpose.Retraining 1 600.90 684.90  
## - Purpose.DomesticAppliance 1 601.04 685.04  
## - OtherDebtorsGuarantors.None 1 601.10 685.10  
## - EmploymentDuration.lt.1 1 601.28 685.28  
## - OtherInstallmentPlans.Stores 1 601.38 685.38  
## - NumberExistingCredits 1 601.42 685.42  
## - Personal.Male.Single 1 601.51 685.51  
## <none> 600.03 686.03  
## - ForeignWorker 1 602.06 686.06  
## - Property.RealEstate 1 602.12 686.12  
## - SavingsAccountBonds.100.to.500 1 602.13 686.13  
## - Property.Insurance 1 602.14 686.14  
## - Purpose.Furniture.Equipment 1 602.59 686.59  
## - OtherDebtorsGuarantors.CoApplicant 1 602.80 686.80  
## - Purpose.Repairs 1 603.09 687.09  
## + SavingsAccountBonds.gt.1000 1 599.88 687.88  
## + SavingsAccountBonds.Unknown 1 599.88 687.88  
## + EmploymentDuration.1.to.4 1 599.93 687.93  
## + EmploymentDuration.Unemployed 1 599.93 687.93  
## - Purpose.Radio.Television 1 603.94 687.94  
## + Job.Management.SelfEmp.HighlyQualified 1 600.01 688.01  
## + Job.UnskilledResident 1 600.01 688.01  
## + Job.UnemployedUnskilled 1 600.03 688.03  
## + ResidenceDuration 1 600.03 688.03  
## + NumberPeopleMaintenance 1 600.03 688.03  
## - Purpose.Business 1 604.46 688.46  
## - SavingsAccountBonds.500.to.1000 1 604.79 688.79  
## - CheckingAccountStatus.gt.200 1 605.23 689.23  
## - EmploymentDuration.4.to.7 1 605.28 689.28  
## - CreditHistory.ThisBank.AllPaid 1 605.28 689.28  
## - CreditHistory.Delay 1 605.55 689.55  
## - Purpose.Education 1 605.92 689.92  
## - CreditHistory.NoCredit.AllPaid 1 606.48 690.48  
## - Purpose.NewCar 1 606.56 690.56  
## - Duration 1 606.72 690.72  
## - Amount 1 606.99 690.99  
## - CreditHistory.PaidDuly 1 608.35 692.35  
## - OtherInstallmentPlans.Bank 1 610.28 694.28  
## - InstallmentRatePercentage 1 611.01 695.01  
## - SavingsAccountBonds.lt.100 1 617.99 701.99  
## - CheckingAccountStatus.0.to.200 1 630.16 714.16  
## - CheckingAccountStatus.lt.0 1 653.28 737.28  
##   
## Step: AIC=684.22  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Personal.Female.NotSingle 1 600.46 682.46  
## - Job.SkilledEmployee 1 600.50 682.50  
## - Purpose.UsedCar 1 600.53 682.53  
## - Telephone 1 600.58 682.58  
## - Personal.Male.Divorced.Seperated 1 600.65 682.65  
## - EmploymentDuration.gt.7 1 600.78 682.78  
## - Age 1 600.79 682.79  
## - Purpose.Retraining 1 601.07 683.07  
## - Property.CarOther 1 601.13 683.13  
## - OtherDebtorsGuarantors.None 1 601.33 683.33  
## - Purpose.DomesticAppliance 1 601.36 683.36  
## - Housing.Rent 1 601.38 683.38  
## - EmploymentDuration.lt.1 1 601.57 683.57  
## - NumberExistingCredits 1 601.60 683.60  
## - OtherInstallmentPlans.Stores 1 601.60 683.60  
## - Personal.Male.Single 1 601.70 683.70  
## - ForeignWorker 1 602.19 684.19  
## <none> 600.22 684.22  
## - SavingsAccountBonds.100.to.500 1 602.37 684.37  
## - Purpose.Furniture.Equipment 1 602.84 684.84  
## - Property.RealEstate 1 603.12 685.12  
## - Property.Insurance 1 603.24 685.24  
## - OtherDebtorsGuarantors.CoApplicant 1 603.26 685.26  
## - Purpose.Repairs 1 603.42 685.42  
## + Housing.Own 1 600.03 686.03  
## + Housing.ForFree 1 600.03 686.03  
## + SavingsAccountBonds.gt.1000 1 600.08 686.08  
## + SavingsAccountBonds.Unknown 1 600.08 686.08  
## + EmploymentDuration.1.to.4 1 600.12 686.12  
## + EmploymentDuration.Unemployed 1 600.12 686.12  
## + Job.Management.SelfEmp.HighlyQualified 1 600.19 686.19  
## + Job.UnskilledResident 1 600.20 686.20  
## + Job.UnemployedUnskilled 1 600.22 686.22  
## + NumberPeopleMaintenance 1 600.22 686.22  
## + ResidenceDuration 1 600.22 686.22  
## - Purpose.Radio.Television 1 604.24 686.24  
## - Purpose.Business 1 604.73 686.73  
## - SavingsAccountBonds.500.to.1000 1 604.99 686.99  
## - CheckingAccountStatus.gt.200 1 605.37 687.37  
## - CreditHistory.ThisBank.AllPaid 1 605.42 687.42  
## - EmploymentDuration.4.to.7 1 605.44 687.44  
## - CreditHistory.Delay 1 605.73 687.73  
## - Purpose.Education 1 606.18 688.18  
## - CreditHistory.NoCredit.AllPaid 1 606.59 688.59  
## - Purpose.NewCar 1 606.79 688.79  
## - Duration 1 606.83 688.83  
## - Amount 1 607.18 689.18  
## - CreditHistory.PaidDuly 1 608.37 690.37  
## - OtherInstallmentPlans.Bank 1 610.60 692.60  
## - InstallmentRatePercentage 1 611.21 693.21  
## - SavingsAccountBonds.lt.100 1 618.00 700.00  
## - CheckingAccountStatus.0.to.200 1 630.60 712.60  
## - CheckingAccountStatus.lt.0 1 653.43 735.43  
##   
## Step: AIC=682.46  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 +   
## Personal.Male.Divorced.Seperated + Personal.Male.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Personal.Male.Divorced.Seperated 1 600.68 680.68  
## - Job.SkilledEmployee 1 600.73 680.73  
## - Purpose.UsedCar 1 600.73 680.73  
## - Telephone 1 600.89 680.89  
## - Age 1 600.97 680.97  
## - EmploymentDuration.gt.7 1 601.01 681.01  
## - Property.CarOther 1 601.39 681.39  
## - Purpose.Retraining 1 601.43 681.43  
## - Purpose.DomesticAppliance 1 601.54 681.54  
## - OtherDebtorsGuarantors.None 1 601.64 681.64  
## - Housing.Rent 1 601.76 681.76  
## - EmploymentDuration.lt.1 1 601.82 681.82  
## - NumberExistingCredits 1 601.84 681.84  
## - OtherInstallmentPlans.Stores 1 601.89 681.89  
## <none> 600.46 682.46  
## - SavingsAccountBonds.100.to.500 1 602.57 682.57  
## - ForeignWorker 1 602.60 682.60  
## - Purpose.Furniture.Equipment 1 603.04 683.04  
## - Property.Insurance 1 603.44 683.44  
## - Property.RealEstate 1 603.49 683.49  
## - OtherDebtorsGuarantors.CoApplicant 1 603.55 683.55  
## - Purpose.Repairs 1 603.59 683.59  
## + Personal.Female.NotSingle 1 600.22 684.22  
## + Personal.Male.Married.Widowed 1 600.22 684.22  
## + Housing.Own 1 600.27 684.27  
## + Housing.ForFree 1 600.27 684.27  
## + SavingsAccountBonds.gt.1000 1 600.32 684.32  
## + SavingsAccountBonds.Unknown 1 600.32 684.32  
## + EmploymentDuration.1.to.4 1 600.36 684.36  
## + EmploymentDuration.Unemployed 1 600.36 684.36  
## - Purpose.Radio.Television 1 604.36 684.36  
## + Job.Management.SelfEmp.HighlyQualified 1 600.43 684.43  
## + Job.UnskilledResident 1 600.45 684.45  
## + Job.UnemployedUnskilled 1 600.46 684.46  
## + NumberPeopleMaintenance 1 600.46 684.46  
## + ResidenceDuration 1 600.46 684.46  
## - Purpose.Business 1 604.86 684.86  
## - SavingsAccountBonds.500.to.1000 1 605.23 685.23  
## - CheckingAccountStatus.gt.200 1 605.63 685.63  
## - EmploymentDuration.4.to.7 1 605.72 685.72  
## - CreditHistory.ThisBank.AllPaid 1 605.83 685.83  
## - CreditHistory.Delay 1 605.91 685.91  
## - Purpose.Education 1 606.38 686.38  
## - Personal.Male.Single 1 606.77 686.77  
## - CreditHistory.NoCredit.AllPaid 1 606.86 686.86  
## - Purpose.NewCar 1 606.91 686.91  
## - Duration 1 607.09 687.09  
## - Amount 1 607.65 687.65  
## - CreditHistory.PaidDuly 1 608.60 688.60  
## - OtherInstallmentPlans.Bank 1 610.71 690.71  
## - InstallmentRatePercentage 1 611.31 691.31  
## - SavingsAccountBonds.lt.100 1 618.17 698.17  
## - CheckingAccountStatus.0.to.200 1 630.60 710.60  
## - CheckingAccountStatus.lt.0 1 653.56 733.56  
##   
## Step: AIC=680.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 +   
## Personal.Male.Single + OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Purpose.UsedCar 1 600.95 678.95  
## - Job.SkilledEmployee 1 600.95 678.95  
## - Age 1 601.12 679.12  
## - Telephone 1 601.14 679.14  
## - EmploymentDuration.gt.7 1 601.22 679.22  
## - Property.CarOther 1 601.55 679.55  
## - Purpose.Retraining 1 601.66 679.66  
## - Purpose.DomesticAppliance 1 601.74 679.74  
## - OtherDebtorsGuarantors.None 1 601.84 679.84  
## - Housing.Rent 1 601.93 679.93  
## - NumberExistingCredits 1 602.03 680.03  
## - EmploymentDuration.lt.1 1 602.04 680.04  
## - OtherInstallmentPlans.Stores 1 602.08 680.08  
## <none> 600.68 680.68  
## - SavingsAccountBonds.100.to.500 1 602.84 680.84  
## - ForeignWorker 1 602.88 680.88  
## - Purpose.Furniture.Equipment 1 603.29 681.29  
## - Property.RealEstate 1 603.65 681.65  
## - Property.Insurance 1 603.66 681.66  
## - OtherDebtorsGuarantors.CoApplicant 1 603.71 681.71  
## - Purpose.Repairs 1 603.81 681.81  
## + Personal.Male.Married.Widowed 1 600.35 682.35  
## + Housing.Own 1 600.45 682.45  
## + Housing.ForFree 1 600.45 682.45  
## + Personal.Male.Divorced.Seperated 1 600.46 682.46  
## + SavingsAccountBonds.gt.1000 1 600.52 682.52  
## + SavingsAccountBonds.Unknown 1 600.52 682.52  
## - Purpose.Radio.Television 1 604.54 682.54  
## + EmploymentDuration.1.to.4 1 600.59 682.59  
## + EmploymentDuration.Unemployed 1 600.59 682.59  
## + Personal.Female.NotSingle 1 600.65 682.65  
## + Job.Management.SelfEmp.HighlyQualified 1 600.66 682.66  
## + Job.UnskilledResident 1 600.67 682.67  
## + NumberPeopleMaintenance 1 600.68 682.68  
## + ResidenceDuration 1 600.68 682.68  
## + Job.UnemployedUnskilled 1 600.68 682.68  
## - Purpose.Business 1 605.17 683.17  
## - SavingsAccountBonds.500.to.1000 1 605.49 683.49  
## - CreditHistory.ThisBank.AllPaid 1 605.92 683.92  
## - EmploymentDuration.4.to.7 1 605.99 683.99  
## - CheckingAccountStatus.gt.200 1 606.09 684.09  
## - CreditHistory.Delay 1 606.20 684.20  
## - Purpose.Education 1 606.61 684.61  
## - CreditHistory.NoCredit.AllPaid 1 607.04 685.04  
## - Purpose.NewCar 1 607.15 685.15  
## - Duration 1 607.48 685.48  
## - Amount 1 607.89 685.89  
## - Personal.Male.Single 1 608.25 686.25  
## - CreditHistory.PaidDuly 1 608.74 686.74  
## - OtherInstallmentPlans.Bank 1 610.84 688.84  
## - InstallmentRatePercentage 1 611.44 689.44  
## - SavingsAccountBonds.lt.100 1 618.46 696.46  
## - CheckingAccountStatus.0.to.200 1 631.14 709.14  
## - CheckingAccountStatus.lt.0 1 654.13 732.13  
##   
## Step: AIC=678.95  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 +   
## Personal.Male.Single + OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Job.SkilledEmployee 1 601.25 677.25  
## - Age 1 601.38 677.38  
## - EmploymentDuration.gt.7 1 601.44 677.44  
## - Telephone 1 601.48 677.48  
## - Purpose.DomesticAppliance 1 601.75 677.75  
## - Property.CarOther 1 601.84 677.84  
## - OtherDebtorsGuarantors.None 1 602.14 678.14  
## - Housing.Rent 1 602.29 678.29  
## - NumberExistingCredits 1 602.31 678.31  
## - OtherInstallmentPlans.Stores 1 602.38 678.38  
## - EmploymentDuration.lt.1 1 602.39 678.39  
## - Purpose.Retraining 1 602.50 678.50  
## <none> 600.95 678.95  
## - SavingsAccountBonds.100.to.500 1 603.04 679.04  
## - ForeignWorker 1 603.33 679.33  
## - OtherDebtorsGuarantors.CoApplicant 1 603.83 679.83  
## - Property.Insurance 1 603.97 679.97  
## - Property.RealEstate 1 604.00 680.00  
## + Personal.Male.Married.Widowed 1 600.66 680.66  
## + Purpose.UsedCar 1 600.68 680.68  
## + Purpose.Other 1 600.68 680.68  
## + Housing.Own 1 600.73 680.73  
## + Housing.ForFree 1 600.73 680.73  
## + Personal.Male.Divorced.Seperated 1 600.73 680.73  
## + SavingsAccountBonds.gt.1000 1 600.79 680.79  
## + SavingsAccountBonds.Unknown 1 600.79 680.79  
## + EmploymentDuration.1.to.4 1 600.87 680.87  
## + EmploymentDuration.Unemployed 1 600.87 680.87  
## - Purpose.Repairs 1 604.89 680.89  
## + Job.Management.SelfEmp.HighlyQualified 1 600.93 680.93  
## + Job.UnskilledResident 1 600.93 680.93  
## + Personal.Female.NotSingle 1 600.93 680.93  
## + ResidenceDuration 1 600.94 680.94  
## + NumberPeopleMaintenance 1 600.95 680.95  
## + Job.UnemployedUnskilled 1 600.95 680.95  
## - SavingsAccountBonds.500.to.1000 1 605.74 681.74  
## - EmploymentDuration.4.to.7 1 606.08 682.08  
## - CreditHistory.ThisBank.AllPaid 1 606.15 682.15  
## - CheckingAccountStatus.gt.200 1 606.32 682.32  
## - CreditHistory.Delay 1 606.34 682.34  
## - Purpose.Furniture.Equipment 1 607.00 683.00  
## - CreditHistory.NoCredit.AllPaid 1 607.22 683.22  
## - Duration 1 607.70 683.70  
## - Amount 1 608.10 684.10  
## - Personal.Male.Single 1 608.53 684.53  
## - CreditHistory.PaidDuly 1 608.97 684.97  
## - Purpose.Business 1 610.78 686.78  
## - OtherInstallmentPlans.Bank 1 610.84 686.84  
## - Purpose.Radio.Television 1 611.06 687.06  
## - InstallmentRatePercentage 1 611.72 687.72  
## - Purpose.Education 1 612.60 688.60  
## - SavingsAccountBonds.lt.100 1 618.59 694.59  
## - Purpose.NewCar 1 621.30 697.30  
## - CheckingAccountStatus.0.to.200 1 631.19 707.19  
## - CheckingAccountStatus.lt.0 1 654.48 730.48  
##   
## Step: AIC=677.25  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 +   
## Personal.Male.Single + OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent  
##   
## Df Deviance AIC  
## - EmploymentDuration.gt.7 1 601.71 675.71  
## - Age 1 601.79 675.79  
## - Telephone 1 601.80 675.80  
## - Purpose.DomesticAppliance 1 602.05 676.05  
## - Property.CarOther 1 602.08 676.08  
## - OtherDebtorsGuarantors.None 1 602.40 676.40  
## - Housing.Rent 1 602.54 676.54  
## - NumberExistingCredits 1 602.61 676.61  
## - OtherInstallmentPlans.Stores 1 602.71 676.71  
## - EmploymentDuration.lt.1 1 602.74 676.74  
## - Purpose.Retraining 1 602.88 676.88  
## <none> 601.25 677.25  
## - SavingsAccountBonds.100.to.500 1 603.27 677.27  
## - ForeignWorker 1 603.72 677.72  
## - OtherDebtorsGuarantors.CoApplicant 1 604.18 678.18  
## - Property.Insurance 1 604.19 678.19  
## - Property.RealEstate 1 604.30 678.30  
## + Job.SkilledEmployee 1 600.95 678.95  
## + Purpose.UsedCar 1 600.95 678.95  
## + Purpose.Other 1 600.95 678.95  
## + Personal.Male.Married.Widowed 1 600.98 678.98  
## + Personal.Male.Divorced.Seperated 1 601.04 679.04  
## + Housing.Own 1 601.06 679.06  
## + Housing.ForFree 1 601.06 679.06  
## + Job.Management.SelfEmp.HighlyQualified 1 601.06 679.06  
## + SavingsAccountBonds.gt.1000 1 601.13 679.13  
## + SavingsAccountBonds.Unknown 1 601.13 679.13  
## + Job.UnskilledResident 1 601.17 679.17  
## - Purpose.Repairs 1 605.19 679.19  
## + EmploymentDuration.1.to.4 1 601.23 679.23  
## + EmploymentDuration.Unemployed 1 601.23 679.23  
## + Personal.Female.NotSingle 1 601.24 679.24  
## + Job.UnemployedUnskilled 1 601.24 679.24  
## + NumberPeopleMaintenance 1 601.25 679.25  
## + ResidenceDuration 1 601.25 679.25  
## - SavingsAccountBonds.500.to.1000 1 606.00 680.00  
## - EmploymentDuration.4.to.7 1 606.22 680.22  
## - CreditHistory.ThisBank.AllPaid 1 606.41 680.41  
## - CheckingAccountStatus.gt.200 1 606.58 680.58  
## - CreditHistory.Delay 1 606.59 680.59  
## - Purpose.Furniture.Equipment 1 607.54 681.54  
## - CreditHistory.NoCredit.AllPaid 1 607.75 681.75  
## - Amount 1 608.13 682.13  
## - Duration 1 608.59 682.59  
## - Personal.Male.Single 1 608.86 682.86  
## - CreditHistory.PaidDuly 1 609.24 683.24  
## - OtherInstallmentPlans.Bank 1 611.05 685.05  
## - Purpose.Business 1 611.11 685.11  
## - Purpose.Radio.Television 1 611.62 685.62  
## - InstallmentRatePercentage 1 611.85 685.85  
## - Purpose.Education 1 613.35 687.35  
## - SavingsAccountBonds.lt.100 1 618.64 692.64  
## - Purpose.NewCar 1 622.06 696.06  
## - CheckingAccountStatus.0.to.200 1 631.20 705.20  
## - CheckingAccountStatus.lt.0 1 654.52 728.52  
##   
## Step: AIC=675.71  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent  
##   
## Df Deviance AIC  
## - Telephone 1 602.23 674.23  
## - Property.CarOther 1 602.47 674.47  
## - Age 1 602.60 674.60  
## - Purpose.DomesticAppliance 1 602.61 674.61  
## - OtherDebtorsGuarantors.None 1 602.80 674.80  
## - NumberExistingCredits 1 602.92 674.92  
## - Housing.Rent 1 602.94 674.94  
## - OtherInstallmentPlans.Stores 1 603.27 675.27  
## - Purpose.Retraining 1 603.41 675.41  
## - SavingsAccountBonds.100.to.500 1 603.68 675.68  
## <none> 601.71 675.71  
## - EmploymentDuration.lt.1 1 603.77 675.77  
## - ForeignWorker 1 604.05 676.05  
## - Property.RealEstate 1 604.56 676.56  
## - Property.Insurance 1 604.57 676.57  
## - OtherDebtorsGuarantors.CoApplicant 1 604.66 676.66  
## + EmploymentDuration.gt.7 1 601.25 677.25  
## + Personal.Male.Married.Widowed 1 601.44 677.44  
## + Job.SkilledEmployee 1 601.44 677.44  
## + Purpose.UsedCar 1 601.45 677.45  
## + Purpose.Other 1 601.45 677.45  
## + Personal.Male.Divorced.Seperated 1 601.50 677.50  
## + Job.Management.SelfEmp.HighlyQualified 1 601.52 677.52  
## + Housing.Own 1 601.54 677.54  
## + Housing.ForFree 1 601.54 677.54  
## + EmploymentDuration.1.to.4 1 601.55 677.55  
## + EmploymentDuration.Unemployed 1 601.58 677.58  
## + SavingsAccountBonds.gt.1000 1 601.58 677.58  
## + SavingsAccountBonds.Unknown 1 601.58 677.58  
## + Job.UnskilledResident 1 601.63 677.63  
## + ResidenceDuration 1 601.69 677.69  
## + Personal.Female.NotSingle 1 601.69 677.69  
## + NumberPeopleMaintenance 1 601.70 677.70  
## + Job.UnemployedUnskilled 1 601.70 677.70  
## - Purpose.Repairs 1 605.84 677.84  
## - EmploymentDuration.4.to.7 1 606.23 678.23  
## - SavingsAccountBonds.500.to.1000 1 606.41 678.41  
## - CheckingAccountStatus.gt.200 1 606.90 678.90  
## - CreditHistory.ThisBank.AllPaid 1 606.92 678.92  
## - CreditHistory.Delay 1 607.10 679.10  
## - Purpose.Furniture.Equipment 1 608.13 680.13  
## - CreditHistory.NoCredit.AllPaid 1 608.38 680.38  
## - Amount 1 608.73 680.73  
## - Duration 1 609.04 681.04  
## - Personal.Male.Single 1 609.62 681.62  
## - CreditHistory.PaidDuly 1 609.79 681.79  
## - OtherInstallmentPlans.Bank 1 611.32 683.32  
## - Purpose.Business 1 611.76 683.76  
## - InstallmentRatePercentage 1 611.99 683.99  
## - Purpose.Radio.Television 1 612.35 684.35  
## - Purpose.Education 1 614.05 686.05  
## - SavingsAccountBonds.lt.100 1 619.21 691.21  
## - Purpose.NewCar 1 622.82 694.82  
## - CheckingAccountStatus.0.to.200 1 631.82 703.82  
## - CheckingAccountStatus.lt.0 1 655.43 727.43  
##   
## Step: AIC=674.23  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent  
##   
## Df Deviance AIC  
## - Property.CarOther 1 602.95 672.95  
## - Purpose.DomesticAppliance 1 603.16 673.16  
## - OtherDebtorsGuarantors.None 1 603.28 673.28  
## - Age 1 603.29 673.29  
## - NumberExistingCredits 1 603.31 673.31  
## - Housing.Rent 1 603.47 673.47  
## - OtherInstallmentPlans.Stores 1 603.78 673.78  
## - Purpose.Retraining 1 603.85 673.85  
## <none> 602.23 674.23  
## - SavingsAccountBonds.100.to.500 1 604.28 674.28  
## - EmploymentDuration.lt.1 1 604.38 674.38  
## - ForeignWorker 1 604.45 674.45  
## - Property.RealEstate 1 604.96 674.96  
## - Property.Insurance 1 605.11 675.11  
## - OtherDebtorsGuarantors.CoApplicant 1 605.19 675.19  
## + Telephone 1 601.71 675.71  
## + EmploymentDuration.gt.7 1 601.80 675.80  
## + Job.Management.SelfEmp.HighlyQualified 1 601.85 675.85  
## + Personal.Male.Married.Widowed 1 601.89 675.89  
## + Purpose.UsedCar 1 601.91 675.91  
## + Purpose.Other 1 601.91 675.91  
## + Job.SkilledEmployee 1 601.95 675.95  
## + Personal.Male.Divorced.Seperated 1 601.99 675.99  
## + EmploymentDuration.1.to.4 1 602.07 676.07  
## + SavingsAccountBonds.gt.1000 1 602.10 676.10  
## + SavingsAccountBonds.Unknown 1 602.10 676.10  
## + Housing.Own 1 602.10 676.10  
## + Housing.ForFree 1 602.10 676.10  
## + EmploymentDuration.Unemployed 1 602.13 676.13  
## + Personal.Female.NotSingle 1 602.21 676.21  
## + ResidenceDuration 1 602.21 676.21  
## + Job.UnskilledResident 1 602.22 676.22  
## + NumberPeopleMaintenance 1 602.23 676.23  
## + Job.UnemployedUnskilled 1 602.23 676.23  
## - Purpose.Repairs 1 606.71 676.71  
## - EmploymentDuration.4.to.7 1 606.87 676.87  
## - SavingsAccountBonds.500.to.1000 1 606.90 676.90  
## - CreditHistory.ThisBank.AllPaid 1 607.44 677.44  
## - CreditHistory.Delay 1 607.44 677.44  
## - CheckingAccountStatus.gt.200 1 607.54 677.54  
## - Amount 1 608.76 678.76  
## - CreditHistory.NoCredit.AllPaid 1 608.78 678.78  
## - Purpose.Furniture.Equipment 1 609.17 679.17  
## - Personal.Male.Single 1 609.91 679.91  
## - Duration 1 609.92 679.92  
## - CreditHistory.PaidDuly 1 610.07 680.07  
## - OtherInstallmentPlans.Bank 1 611.88 681.88  
## - InstallmentRatePercentage 1 612.15 682.15  
## - Purpose.Business 1 612.49 682.49  
## - Purpose.Radio.Television 1 613.60 683.60  
## - Purpose.Education 1 614.75 684.75  
## - SavingsAccountBonds.lt.100 1 619.90 689.90  
## - Purpose.NewCar 1 624.21 694.21  
## - CheckingAccountStatus.0.to.200 1 632.49 702.49  
## - CheckingAccountStatus.lt.0 1 656.48 726.48  
##   
## Step: AIC=672.95  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent  
##   
## Df Deviance AIC  
## - Age 1 603.72 671.72  
## - Purpose.DomesticAppliance 1 603.80 671.80  
## - NumberExistingCredits 1 603.98 671.98  
## - OtherDebtorsGuarantors.None 1 604.00 672.00  
## - Housing.Rent 1 604.09 672.09  
## - OtherInstallmentPlans.Stores 1 604.39 672.39  
## - Purpose.Retraining 1 604.74 672.74  
## <none> 602.95 672.95  
## - Property.RealEstate 1 605.11 673.11  
## - SavingsAccountBonds.100.to.500 1 605.12 673.12  
## - ForeignWorker 1 605.19 673.19  
## - EmploymentDuration.lt.1 1 605.22 673.22  
## - Property.Insurance 1 605.23 673.23  
## + Property.CarOther 1 602.23 674.23  
## + Property.Unknown 1 602.23 674.23  
## - OtherDebtorsGuarantors.CoApplicant 1 606.24 674.24  
## + Telephone 1 602.47 674.47  
## + EmploymentDuration.gt.7 1 602.58 674.58  
## + Personal.Male.Married.Widowed 1 602.60 674.60  
## + Purpose.UsedCar 1 602.61 674.61  
## + Purpose.Other 1 602.61 674.61  
## + Job.Management.SelfEmp.HighlyQualified 1 602.63 674.63  
## + Job.SkilledEmployee 1 602.72 674.72  
## + Housing.Own 1 602.74 674.74  
## + Housing.ForFree 1 602.74 674.74  
## + Personal.Male.Divorced.Seperated 1 602.76 674.76  
## + EmploymentDuration.Unemployed 1 602.80 674.80  
## + SavingsAccountBonds.Unknown 1 602.83 674.83  
## + SavingsAccountBonds.gt.1000 1 602.83 674.83  
## + EmploymentDuration.1.to.4 1 602.85 674.85  
## + Personal.Female.NotSingle 1 602.91 674.91  
## + Job.UnskilledResident 1 602.93 674.93  
## + Job.UnemployedUnskilled 1 602.94 674.94  
## + ResidenceDuration 1 602.95 674.95  
## + NumberPeopleMaintenance 1 602.95 674.95  
## - Purpose.Repairs 1 607.38 675.38  
## - SavingsAccountBonds.500.to.1000 1 607.75 675.75  
## - EmploymentDuration.4.to.7 1 607.84 675.84  
## - CheckingAccountStatus.gt.200 1 608.30 676.30  
## - CreditHistory.ThisBank.AllPaid 1 608.37 676.37  
## - CreditHistory.Delay 1 608.39 676.39  
## - Purpose.Furniture.Equipment 1 609.46 677.46  
## - CreditHistory.NoCredit.AllPaid 1 609.57 677.57  
## - Amount 1 609.81 677.81  
## - Personal.Male.Single 1 610.32 678.32  
## - CreditHistory.PaidDuly 1 610.73 678.73  
## - Duration 1 611.08 679.08  
## - OtherInstallmentPlans.Bank 1 612.52 680.52  
## - Purpose.Business 1 612.61 680.61  
## - InstallmentRatePercentage 1 612.97 680.97  
## - Purpose.Radio.Television 1 613.75 681.75  
## - Purpose.Education 1 615.61 683.61  
## - SavingsAccountBonds.lt.100 1 620.61 688.61  
## - Purpose.NewCar 1 624.40 692.40  
## - CheckingAccountStatus.0.to.200 1 633.49 701.49  
## - CheckingAccountStatus.lt.0 1 658.80 726.80  
##   
## Step: AIC=671.72  
## Class ~ Duration + Amount + InstallmentRatePercentage + NumberExistingCredits +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Retraining + Purpose.Business +   
## SavingsAccountBonds.lt.100 + SavingsAccountBonds.100.to.500 +   
## SavingsAccountBonds.500.to.1000 + EmploymentDuration.lt.1 +   
## EmploymentDuration.4.to.7 + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent  
##   
## Df Deviance AIC  
## - Purpose.DomesticAppliance 1 604.49 670.49  
## - NumberExistingCredits 1 604.58 670.58  
## - OtherDebtorsGuarantors.None 1 604.73 670.73  
## - OtherInstallmentPlans.Stores 1 605.22 671.22  
## - Housing.Rent 1 605.25 671.25  
## - Purpose.Retraining 1 605.54 671.54  
## <none> 603.72 671.72  
## - Property.Insurance 1 605.87 671.87  
## - Property.RealEstate 1 605.91 671.91  
## - SavingsAccountBonds.100.to.500 1 605.91 671.91  
## - ForeignWorker 1 605.97 671.97  
## - EmploymentDuration.lt.1 1 606.63 672.63  
## + Age 1 602.95 672.95  
## - OtherDebtorsGuarantors.CoApplicant 1 606.96 672.96  
## + EmploymentDuration.gt.7 1 603.03 673.03  
## + Telephone 1 603.09 673.09  
## + Job.Management.SelfEmp.HighlyQualified 1 603.27 673.27  
## + Property.CarOther 1 603.29 673.29  
## + Property.Unknown 1 603.29 673.29  
## + Job.SkilledEmployee 1 603.37 673.37  
## + Purpose.UsedCar 1 603.39 673.39  
## + Purpose.Other 1 603.39 673.39  
## + EmploymentDuration.1.to.4 1 603.41 673.41  
## + Personal.Male.Married.Widowed 1 603.47 673.47  
## + EmploymentDuration.Unemployed 1 603.59 673.59  
## + Personal.Male.Divorced.Seperated 1 603.59 673.59  
## + SavingsAccountBonds.gt.1000 1 603.60 673.60  
## + SavingsAccountBonds.Unknown 1 603.60 673.60  
## + Housing.Own 1 603.66 673.66  
## + Housing.ForFree 1 603.66 673.66  
## + Job.UnskilledResident 1 603.67 673.67  
## + ResidenceDuration 1 603.68 673.68  
## + Personal.Female.NotSingle 1 603.68 673.68  
## + Job.UnemployedUnskilled 1 603.70 673.70  
## + NumberPeopleMaintenance 1 603.71 673.71  
## - Purpose.Repairs 1 608.09 674.09  
## - EmploymentDuration.4.to.7 1 608.12 674.12  
## - SavingsAccountBonds.500.to.1000 1 608.53 674.53  
## - CheckingAccountStatus.gt.200 1 609.02 675.02  
## - CreditHistory.Delay 1 609.12 675.12  
## - CreditHistory.ThisBank.AllPaid 1 609.20 675.20  
## - CreditHistory.NoCredit.AllPaid 1 610.40 676.40  
## - Amount 1 610.47 676.47  
## - Purpose.Furniture.Equipment 1 610.70 676.70  
## - Personal.Male.Single 1 611.46 677.46  
## - CreditHistory.PaidDuly 1 611.65 677.65  
## - Duration 1 612.02 678.02  
## - OtherInstallmentPlans.Bank 1 613.18 679.18  
## - InstallmentRatePercentage 1 613.35 679.35  
## - Purpose.Business 1 613.39 679.39  
## - Purpose.Radio.Television 1 615.12 681.12  
## - Purpose.Education 1 616.47 682.47  
## - SavingsAccountBonds.lt.100 1 621.46 687.46  
## - Purpose.NewCar 1 625.27 691.27  
## - CheckingAccountStatus.0.to.200 1 634.42 700.42  
## - CheckingAccountStatus.lt.0 1 659.10 725.10  
##   
## Step: AIC=670.49  
## Class ~ Duration + Amount + InstallmentRatePercentage + NumberExistingCredits +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent  
##   
## Df Deviance AIC  
## - NumberExistingCredits 1 605.33 669.33  
## - OtherDebtorsGuarantors.None 1 605.53 669.53  
## - OtherInstallmentPlans.Stores 1 605.90 669.90  
## - Housing.Rent 1 605.93 669.93  
## <none> 604.49 670.49  
## - Purpose.Retraining 1 606.52 670.52  
## - SavingsAccountBonds.100.to.500 1 606.55 670.55  
## - Property.RealEstate 1 606.58 670.58  
## - Property.Insurance 1 606.65 670.65  
## - ForeignWorker 1 606.75 670.75  
## - EmploymentDuration.lt.1 1 607.54 671.54  
## + EmploymentDuration.gt.7 1 603.70 671.70  
## + Purpose.DomesticAppliance 1 603.72 671.72  
## - OtherDebtorsGuarantors.CoApplicant 1 607.78 671.78  
## + Age 1 603.80 671.80  
## + Telephone 1 603.84 671.84  
## + Job.Management.SelfEmp.HighlyQualified 1 603.96 671.96  
## + Purpose.Other 1 604.04 672.04  
## + EmploymentDuration.1.to.4 1 604.08 672.08  
## + Property.CarOther 1 604.10 672.10  
## + Property.Unknown 1 604.10 672.10  
## + Job.SkilledEmployee 1 604.15 672.15  
## + Personal.Male.Married.Widowed 1 604.27 672.27  
## + SavingsAccountBonds.gt.1000 1 604.33 672.33  
## + SavingsAccountBonds.Unknown 1 604.33 672.33  
## + Personal.Male.Divorced.Seperated 1 604.37 672.37  
## + EmploymentDuration.Unemployed 1 604.39 672.39  
## - Purpose.Repairs 1 608.43 672.43  
## + Job.UnemployedUnskilled 1 604.44 672.44  
## + ResidenceDuration 1 604.44 672.44  
## + Job.UnskilledResident 1 604.45 672.45  
## + Personal.Female.NotSingle 1 604.46 672.46  
## + Housing.Own 1 604.47 672.47  
## + Housing.ForFree 1 604.47 672.47  
## + NumberPeopleMaintenance 1 604.48 672.48  
## + Purpose.UsedCar 1 604.48 672.48  
## - EmploymentDuration.4.to.7 1 608.92 672.92  
## - SavingsAccountBonds.500.to.1000 1 609.16 673.16  
## - CheckingAccountStatus.gt.200 1 609.79 673.79  
## - CreditHistory.Delay 1 609.93 673.93  
## - CreditHistory.ThisBank.AllPaid 1 610.37 674.37  
## - Amount 1 610.70 674.70  
## - Purpose.Furniture.Equipment 1 610.73 674.73  
## - CreditHistory.NoCredit.AllPaid 1 611.23 675.23  
## - Personal.Male.Single 1 612.32 676.32  
## - CreditHistory.PaidDuly 1 612.59 676.59  
## - Purpose.Business 1 613.42 677.42  
## - Duration 1 613.43 677.43  
## - OtherInstallmentPlans.Bank 1 613.92 677.92  
## - InstallmentRatePercentage 1 613.94 677.94  
## - Purpose.Radio.Television 1 615.12 679.12  
## - Purpose.Education 1 616.51 680.51  
## - SavingsAccountBonds.lt.100 1 621.99 685.99  
## - Purpose.NewCar 1 625.40 689.40  
## - CheckingAccountStatus.0.to.200 1 635.15 699.15  
## - CheckingAccountStatus.lt.0 1 660.05 724.05  
##   
## Step: AIC=669.33  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent  
##   
## Df Deviance AIC  
## - OtherDebtorsGuarantors.None 1 606.33 668.33  
## - Housing.Rent 1 606.82 668.82  
## - OtherInstallmentPlans.Stores 1 606.96 668.96  
## <none> 605.33 669.33  
## - Purpose.Retraining 1 607.37 669.37  
## - Property.RealEstate 1 607.48 669.48  
## - SavingsAccountBonds.100.to.500 1 607.48 669.48  
## - Property.Insurance 1 607.58 669.58  
## - ForeignWorker 1 607.73 669.73  
## - EmploymentDuration.lt.1 1 608.25 670.25  
## + NumberExistingCredits 1 604.49 670.49  
## + Purpose.DomesticAppliance 1 604.58 670.58  
## - OtherDebtorsGuarantors.CoApplicant 1 608.71 670.71  
## + EmploymentDuration.gt.7 1 604.75 670.75  
## + Age 1 604.80 670.80  
## + Job.Management.SelfEmp.HighlyQualified 1 604.81 670.81  
## + Telephone 1 604.84 670.84  
## + Purpose.Other 1 604.87 670.87  
## + Property.CarOther 1 604.95 670.95  
## + Property.Unknown 1 604.95 670.95  
## + Job.SkilledEmployee 1 605.00 671.00  
## + EmploymentDuration.1.to.4 1 605.05 671.05  
## + Personal.Male.Married.Widowed 1 605.11 671.11  
## + SavingsAccountBonds.gt.1000 1 605.21 671.21  
## + SavingsAccountBonds.Unknown 1 605.21 671.21  
## + Personal.Male.Divorced.Seperated 1 605.22 671.22  
## + EmploymentDuration.Unemployed 1 605.24 671.24  
## + Job.UnemployedUnskilled 1 605.25 671.25  
## + Job.UnskilledResident 1 605.29 671.29  
## + Personal.Female.NotSingle 1 605.30 671.30  
## + Housing.Own 1 605.31 671.31  
## + Housing.ForFree 1 605.31 671.31  
## + ResidenceDuration 1 605.32 671.32  
## + Purpose.UsedCar 1 605.33 671.33  
## + NumberPeopleMaintenance 1 605.33 671.33  
## - Purpose.Repairs 1 609.52 671.52  
## - EmploymentDuration.4.to.7 1 609.54 671.54  
## - SavingsAccountBonds.500.to.1000 1 609.74 671.74  
## - CheckingAccountStatus.gt.200 1 610.29 672.29  
## - CreditHistory.Delay 1 610.32 672.32  
## - CreditHistory.ThisBank.AllPaid 1 610.39 672.39  
## - Purpose.Furniture.Equipment 1 611.44 673.44  
## - Amount 1 611.75 673.75  
## - CreditHistory.NoCredit.AllPaid 1 611.76 673.76  
## - Personal.Male.Single 1 613.00 675.00  
## - CreditHistory.PaidDuly 1 613.21 675.21  
## - Duration 1 613.86 675.86  
## - Purpose.Business 1 614.43 676.43  
## - InstallmentRatePercentage 1 614.91 676.91  
## - OtherInstallmentPlans.Bank 1 615.22 677.22  
## - Purpose.Radio.Television 1 616.01 678.01  
## - Purpose.Education 1 617.12 679.12  
## - SavingsAccountBonds.lt.100 1 622.84 684.84  
## - Purpose.NewCar 1 626.26 688.26  
## - CheckingAccountStatus.0.to.200 1 635.40 697.40  
## - CheckingAccountStatus.lt.0 1 660.79 722.79  
##   
## Step: AIC=668.33  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent  
##   
## Df Deviance AIC  
## - Housing.Rent 1 607.90 667.90  
## - OtherInstallmentPlans.Stores 1 608.11 668.11  
## <none> 606.33 668.33  
## - Purpose.Retraining 1 608.34 668.34  
## - SavingsAccountBonds.100.to.500 1 608.34 668.34  
## - OtherDebtorsGuarantors.CoApplicant 1 608.78 668.78  
## - ForeignWorker 1 608.86 668.86  
## - Property.Insurance 1 609.14 669.14  
## - Property.RealEstate 1 609.15 669.15  
## + OtherDebtorsGuarantors.None 1 605.33 669.33  
## + OtherDebtorsGuarantors.Guarantor 1 605.33 669.33  
## - EmploymentDuration.lt.1 1 609.50 669.50  
## + NumberExistingCredits 1 605.53 669.53  
## + Purpose.DomesticAppliance 1 605.54 669.54  
## + EmploymentDuration.gt.7 1 605.81 669.81  
## + Purpose.Other 1 605.81 669.81  
## + Age 1 605.83 669.83  
## + Job.Management.SelfEmp.HighlyQualified 1 605.88 669.88  
## + Telephone 1 605.89 669.89  
## + Property.CarOther 1 605.95 669.95  
## + Property.Unknown 1 605.95 669.95  
## + Job.SkilledEmployee 1 606.06 670.06  
## + Personal.Male.Married.Widowed 1 606.06 670.06  
## + EmploymentDuration.1.to.4 1 606.13 670.13  
## + EmploymentDuration.Unemployed 1 606.21 670.21  
## + SavingsAccountBonds.gt.1000 1 606.22 670.22  
## + SavingsAccountBonds.Unknown 1 606.22 670.22  
## + Personal.Male.Divorced.Seperated 1 606.23 670.23  
## + Job.UnemployedUnskilled 1 606.24 670.24  
## + Personal.Female.NotSingle 1 606.29 670.29  
## + Job.UnskilledResident 1 606.29 670.29  
## + ResidenceDuration 1 606.32 670.32  
## + Housing.Own 1 606.32 670.32  
## + Housing.ForFree 1 606.32 670.32  
## + NumberPeopleMaintenance 1 606.33 670.33  
## + Purpose.UsedCar 1 606.33 670.33  
## - Purpose.Repairs 1 610.45 670.45  
## - EmploymentDuration.4.to.7 1 610.72 670.72  
## - SavingsAccountBonds.500.to.1000 1 610.76 670.76  
## - CreditHistory.ThisBank.AllPaid 1 611.16 671.16  
## - CheckingAccountStatus.gt.200 1 611.36 671.36  
## - CreditHistory.Delay 1 611.61 671.61  
## - Purpose.Furniture.Equipment 1 612.37 672.37  
## - CreditHistory.NoCredit.AllPaid 1 612.74 672.74  
## - Amount 1 612.90 672.90  
## - Personal.Male.Single 1 614.01 674.01  
## - CreditHistory.PaidDuly 1 614.15 674.15  
## - Duration 1 614.54 674.54  
## - Purpose.Business 1 615.63 675.63  
## - OtherInstallmentPlans.Bank 1 615.97 675.97  
## - InstallmentRatePercentage 1 616.05 676.05  
## - Purpose.Radio.Television 1 616.58 676.58  
## - Purpose.Education 1 618.21 678.21  
## - SavingsAccountBonds.lt.100 1 623.25 683.25  
## - Purpose.NewCar 1 627.29 687.29  
## - CheckingAccountStatus.0.to.200 1 635.57 695.57  
## - CheckingAccountStatus.lt.0 1 661.08 721.08  
##   
## Step: AIC=667.9  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores  
##   
## Df Deviance AIC  
## - OtherInstallmentPlans.Stores 1 609.38 667.38  
## <none> 607.90 667.90  
## - Purpose.Retraining 1 610.00 668.00  
## - SavingsAccountBonds.100.to.500 1 610.14 668.14  
## + Housing.Rent 1 606.33 668.33  
## - ForeignWorker 1 610.37 668.37  
## - Property.RealEstate 1 610.51 668.51  
## - Property.Insurance 1 610.63 668.63  
## - OtherDebtorsGuarantors.CoApplicant 1 610.75 668.75  
## + OtherDebtorsGuarantors.None 1 606.82 668.82  
## + OtherDebtorsGuarantors.Guarantor 1 606.82 668.82  
## + Housing.Own 1 606.90 668.90  
## + NumberExistingCredits 1 607.04 669.04  
## + Age 1 607.05 669.05  
## + Purpose.DomesticAppliance 1 607.20 669.20  
## + Purpose.Other 1 607.25 669.25  
## + EmploymentDuration.gt.7 1 607.35 669.35  
## - EmploymentDuration.lt.1 1 611.39 669.39  
## + Telephone 1 607.40 669.40  
## + Job.Management.SelfEmp.HighlyQualified 1 607.45 669.45  
## + Personal.Male.Married.Widowed 1 607.52 669.52  
## + Job.SkilledEmployee 1 607.63 669.63  
## + Property.CarOther 1 607.63 669.63  
## + Property.Unknown 1 607.63 669.63  
## + EmploymentDuration.1.to.4 1 607.66 669.66  
## + Personal.Female.NotSingle 1 607.77 669.77  
## + EmploymentDuration.Unemployed 1 607.78 669.78  
## + SavingsAccountBonds.gt.1000 1 607.79 669.79  
## + SavingsAccountBonds.Unknown 1 607.79 669.79  
## + Job.UnemployedUnskilled 1 607.80 669.80  
## + Personal.Male.Divorced.Seperated 1 607.83 669.83  
## + Job.UnskilledResident 1 607.86 669.86  
## - Purpose.Repairs 1 611.87 669.87  
## + Purpose.UsedCar 1 607.88 669.88  
## + ResidenceDuration 1 607.88 669.88  
## + Housing.ForFree 1 607.88 669.88  
## + NumberPeopleMaintenance 1 607.89 669.89  
## - EmploymentDuration.4.to.7 1 612.03 670.03  
## - SavingsAccountBonds.500.to.1000 1 612.50 670.50  
## - CreditHistory.ThisBank.AllPaid 1 612.80 670.80  
## - CheckingAccountStatus.gt.200 1 612.92 670.92  
## - CreditHistory.Delay 1 613.23 671.23  
## - Purpose.Furniture.Equipment 1 614.13 672.13  
## - Amount 1 614.47 672.47  
## - CreditHistory.NoCredit.AllPaid 1 614.65 672.65  
## - Duration 1 615.96 673.96  
## - CreditHistory.PaidDuly 1 616.38 674.38  
## - Personal.Male.Single 1 617.04 675.04  
## - Purpose.Business 1 617.09 675.09  
## - OtherInstallmentPlans.Bank 1 617.45 675.45  
## - InstallmentRatePercentage 1 617.56 675.56  
## - Purpose.Radio.Television 1 617.86 675.86  
## - Purpose.Education 1 620.50 678.50  
## - SavingsAccountBonds.lt.100 1 624.93 682.93  
## - Purpose.NewCar 1 628.57 686.57  
## - CheckingAccountStatus.0.to.200 1 637.92 695.92  
## - CheckingAccountStatus.lt.0 1 664.40 722.40  
##   
## Step: AIC=667.38  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## <none> 609.38 667.38  
## - Purpose.Retraining 1 611.58 667.58  
## - SavingsAccountBonds.100.to.500 1 611.70 667.70  
## - Property.RealEstate 1 611.76 667.76  
## + OtherInstallmentPlans.None 1 607.90 667.90  
## + OtherInstallmentPlans.Stores 1 607.90 667.90  
## - ForeignWorker 1 611.91 667.91  
## - Property.Insurance 1 612.10 668.10  
## + Housing.Rent 1 608.11 668.11  
## + OtherDebtorsGuarantors.None 1 608.16 668.16  
## + OtherDebtorsGuarantors.Guarantor 1 608.16 668.16  
## - OtherDebtorsGuarantors.CoApplicant 1 612.22 668.22  
## + NumberExistingCredits 1 608.33 668.33  
## + Age 1 608.52 668.52  
## + Housing.Own 1 608.65 668.65  
## + Purpose.Other 1 608.70 668.70  
## + EmploymentDuration.gt.7 1 608.74 668.74  
## + Purpose.DomesticAppliance 1 608.76 668.76  
## + Telephone 1 608.93 668.93  
## - EmploymentDuration.lt.1 1 612.94 668.94  
## + Job.Management.SelfEmp.HighlyQualified 1 608.95 668.95  
## + Personal.Male.Married.Widowed 1 608.97 668.97  
## + Job.SkilledEmployee 1 609.09 669.09  
## + EmploymentDuration.1.to.4 1 609.10 669.10  
## + Property.CarOther 1 609.17 669.17  
## + Property.Unknown 1 609.17 669.17  
## - Purpose.Repairs 1 613.23 669.23  
## + Personal.Female.NotSingle 1 609.23 669.23  
## + EmploymentDuration.Unemployed 1 609.25 669.25  
## + SavingsAccountBonds.gt.1000 1 609.30 669.30  
## + SavingsAccountBonds.Unknown 1 609.30 669.30  
## + Job.UnemployedUnskilled 1 609.32 669.32  
## + Personal.Male.Divorced.Seperated 1 609.32 669.32  
## + Job.UnskilledResident 1 609.34 669.34  
## + Purpose.UsedCar 1 609.35 669.35  
## + Housing.ForFree 1 609.35 669.35  
## + NumberPeopleMaintenance 1 609.37 669.37  
## + ResidenceDuration 1 609.38 669.38  
## - EmploymentDuration.4.to.7 1 613.87 669.87  
## - SavingsAccountBonds.500.to.1000 1 614.13 670.13  
## - CheckingAccountStatus.gt.200 1 614.25 670.25  
## - CreditHistory.Delay 1 615.13 671.13  
## - CreditHistory.ThisBank.AllPaid 1 615.30 671.30  
## - Purpose.Furniture.Equipment 1 615.74 671.74  
## - Amount 1 616.01 672.01  
## - CreditHistory.NoCredit.AllPaid 1 616.21 672.21  
## - Duration 1 617.70 673.70  
## - Personal.Male.Single 1 617.84 673.84  
## - CreditHistory.PaidDuly 1 617.92 673.92  
## - OtherInstallmentPlans.Bank 1 618.01 674.01  
## - Purpose.Business 1 619.12 675.12  
## - InstallmentRatePercentage 1 619.42 675.42  
## - Purpose.Radio.Television 1 619.58 675.58  
## - Purpose.Education 1 622.14 678.14  
## - SavingsAccountBonds.lt.100 1 626.67 682.67  
## - Purpose.NewCar 1 629.92 685.92  
## - CheckingAccountStatus.0.to.200 1 639.04 695.04  
## - CheckingAccountStatus.lt.0 1 666.02 722.02

summary(var\_select)

##   
## Call:  
## glm(formula = Class ~ Duration + Amount + InstallmentRatePercentage +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + OtherInstallmentPlans.Bank, family = "binomial",   
## data = train)  
##   
## Deviance Residuals:   
## Min 1Q Median 3Q Max   
## -2.6340 -0.7046 0.3457 0.6983 2.3334   
##   
## Coefficients:  
## Estimate Std. Error z value Pr(>|z|)  
## (Intercept) 7.735e+00 1.066e+00 7.256 3.98e-13  
## Duration -3.188e-02 1.108e-02 -2.878 0.004003  
## Amount -1.378e-04 5.368e-05 -2.567 0.010261  
## InstallmentRatePercentage -3.189e-01 1.023e-01 -3.119 0.001814  
## ForeignWorker -1.129e+00 7.644e-01 -1.477 0.139780  
## CheckingAccountStatus.lt.0 -2.035e+00 2.875e-01 -7.076 1.48e-12  
## CheckingAccountStatus.0.to.200 -1.480e+00 2.801e-01 -5.284 1.26e-07  
## CheckingAccountStatus.gt.200 -1.051e+00 4.623e-01 -2.274 0.022962  
## CreditHistory.NoCredit.AllPaid -1.346e+00 5.237e-01 -2.571 0.010135  
## CreditHistory.ThisBank.AllPaid -1.245e+00 5.174e-01 -2.406 0.016130  
## CreditHistory.PaidDuly -7.168e-01 2.503e-01 -2.863 0.004192  
## CreditHistory.Delay -9.424e-01 3.906e-01 -2.413 0.015843  
## Purpose.NewCar -1.779e+00 4.154e-01 -4.283 1.84e-05  
## Purpose.Furniture.Equipment -1.021e+00 4.157e-01 -2.457 0.014019  
## Purpose.Radio.Television -1.272e+00 4.141e-01 -3.071 0.002133  
## Purpose.Repairs -1.528e+00 7.543e-01 -2.026 0.042816  
## Purpose.Education -2.028e+00 5.801e-01 -3.496 0.000472  
## Purpose.Retraining 1.475e+01 7.109e+02 0.021 0.983452  
## Purpose.Business -1.481e+00 4.835e-01 -3.063 0.002193  
## SavingsAccountBonds.lt.100 -1.254e+00 3.213e-01 -3.904 9.44e-05  
## SavingsAccountBonds.100.to.500 -6.695e-01 4.382e-01 -1.528 0.126554  
## SavingsAccountBonds.500.to.1000 -1.144e+00 5.099e-01 -2.243 0.024903  
## EmploymentDuration.lt.1 -5.104e-01 2.701e-01 -1.890 0.058801  
## EmploymentDuration.4.to.7 6.384e-01 3.085e-01 2.070 0.038488  
## Personal.Male.Single 6.266e-01 2.172e-01 2.885 0.003911  
## OtherDebtorsGuarantors.CoApplicant -8.949e-01 5.296e-01 -1.690 0.091072  
## Property.RealEstate 4.054e-01 2.639e-01 1.536 0.124519  
## Property.Insurance 4.379e-01 2.676e-01 1.636 0.101791  
## OtherInstallmentPlans.Bank -8.251e-01 2.792e-01 -2.955 0.003123  
##   
## (Intercept) \*\*\*  
## Duration \*\*   
## Amount \*   
## InstallmentRatePercentage \*\*   
## ForeignWorker   
## CheckingAccountStatus.lt.0 \*\*\*  
## CheckingAccountStatus.0.to.200 \*\*\*  
## CheckingAccountStatus.gt.200 \*   
## CreditHistory.NoCredit.AllPaid \*   
## CreditHistory.ThisBank.AllPaid \*   
## CreditHistory.PaidDuly \*\*   
## CreditHistory.Delay \*   
## Purpose.NewCar \*\*\*  
## Purpose.Furniture.Equipment \*   
## Purpose.Radio.Television \*\*   
## Purpose.Repairs \*   
## Purpose.Education \*\*\*  
## Purpose.Retraining   
## Purpose.Business \*\*   
## SavingsAccountBonds.lt.100 \*\*\*  
## SavingsAccountBonds.100.to.500   
## SavingsAccountBonds.500.to.1000 \*   
## EmploymentDuration.lt.1 .   
## EmploymentDuration.4.to.7 \*   
## Personal.Male.Single \*\*   
## OtherDebtorsGuarantors.CoApplicant .   
## Property.RealEstate   
## Property.Insurance   
## OtherInstallmentPlans.Bank \*\*   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## (Dispersion parameter for binomial family taken to be 1)  
##   
## Null deviance: 855.21 on 699 degrees of freedom  
## Residual deviance: 609.38 on 671 degrees of freedom  
## AIC: 667.38  
##   
## Number of Fisher Scoring iterations: 15

Comment: Based on the AIC values for “model\_1”, the following 28 variables have been recognized as potential for model building. Duration Amount  
InstallmentRatePercentage  
ForeignWorker  
CheckingAccountStatus.lt.0  
CheckingAccountStatus.0.to.200 CheckingAccountStatus.gt.200  
CreditHistory.NoCredit.AllPaid  
CreditHistory.ThisBank.AllPaid  
CreditHistory.PaidDuly  
CreditHistory.Delay  
Purpose.NewCar  
Purpose.Furniture.Equipment  
Purpose.Radio.Television  
Purpose.Repairs  
Purpose.Education  
Purpose.Retraining  
Purpose.Business  
SavingsAccountBonds.lt.100  
SavingsAccountBonds.100.to.500  
SavingsAccountBonds.500.to.1000  
EmploymentDuration.lt.1  
EmploymentDuration.4.to.7  
Personal.Male.Single  
OtherDebtorsGuarantors.CoApplicant  
Property.RealEstate  
Property.Insurance  
OtherInstallmentPlans.Bank

Also we can use BIC criterion for model selection. Which results the following variables as potential. But here we use the AIC criterion for variable selection.

step.bic <- step(model\_1, k = log(nrow(train)))

## Start: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + Personal.Female.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## OtherDebtorsGuarantors.Guarantor + Property.RealEstate +   
## Property.Insurance + Property.CarOther + Property.Unknown +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## OtherInstallmentPlans.None + Housing.Rent + Housing.Own +   
## Housing.ForFree + Job.UnemployedUnskilled + Job.UnskilledResident +   
## Job.SkilledEmployee + Job.Management.SelfEmp.HighlyQualified  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + Personal.Female.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## OtherDebtorsGuarantors.Guarantor + Property.RealEstate +   
## Property.Insurance + Property.CarOther + Property.Unknown +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## OtherInstallmentPlans.None + Housing.Rent + Housing.Own +   
## Housing.ForFree + Job.UnemployedUnskilled + Job.UnskilledResident +   
## Job.SkilledEmployee  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + Personal.Female.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## OtherDebtorsGuarantors.Guarantor + Property.RealEstate +   
## Property.Insurance + Property.CarOther + Property.Unknown +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## OtherInstallmentPlans.None + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + Personal.Female.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## OtherDebtorsGuarantors.Guarantor + Property.RealEstate +   
## Property.Insurance + Property.CarOther + Property.Unknown +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Housing.Own + Job.UnemployedUnskilled + Job.UnskilledResident +   
## Job.SkilledEmployee  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + Personal.Female.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## OtherDebtorsGuarantors.Guarantor + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + Personal.Female.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Housing.Own + Job.UnemployedUnskilled + Job.UnskilledResident +   
## Job.SkilledEmployee  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + Personal.Male.Married.Widowed + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + EmploymentDuration.Unemployed +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Housing.Own + Job.UnemployedUnskilled + Job.UnskilledResident +   
## Job.SkilledEmployee  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + SavingsAccountBonds.Unknown +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + Purpose.Other + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Vacation + Purpose.Retraining +   
## Purpose.Business + SavingsAccountBonds.lt.100 + SavingsAccountBonds.100.to.500 +   
## SavingsAccountBonds.500.to.1000 + SavingsAccountBonds.gt.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + CreditHistory.Critical +   
## Purpose.NewCar + Purpose.UsedCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Retraining + Purpose.Business +   
## SavingsAccountBonds.lt.100 + SavingsAccountBonds.100.to.500 +   
## SavingsAccountBonds.500.to.1000 + SavingsAccountBonds.gt.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CheckingAccountStatus.none +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
##   
## Step: AIC=920.68  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + NumberPeopleMaintenance + Telephone +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.UsedCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - NumberPeopleMaintenance 1 599.68 914.13  
## - ResidenceDuration 1 599.68 914.13  
## - Job.UnemployedUnskilled 1 599.68 914.14  
## - Job.UnskilledResident 1 599.76 914.21  
## - EmploymentDuration.lt.1 1 599.77 914.22  
## - SavingsAccountBonds.gt.1000 1 599.83 914.28  
## - EmploymentDuration.1.to.4 1 599.85 914.30  
## - Housing.Own 1 599.88 914.33  
## - Personal.Female.NotSingle 1 599.91 914.37  
## - Telephone 1 599.93 914.38  
## - Purpose.UsedCar 1 599.98 914.43  
## - Job.SkilledEmployee 1 600.05 914.50  
## - Personal.Male.Divorced.Seperated 1 600.09 914.54  
## - Age 1 600.17 914.62  
## - EmploymentDuration.gt.7 1 600.29 914.74  
## - Housing.Rent 1 600.47 914.92  
## - Property.CarOther 1 600.55 915.00  
## - Purpose.Retraining 1 600.58 915.03  
## - Purpose.DomesticAppliance 1 600.70 915.15  
## - OtherDebtorsGuarantors.None 1 600.72 915.17  
## - OtherInstallmentPlans.Stores 1 601.01 915.46  
## - NumberExistingCredits 1 601.07 915.52  
## - SavingsAccountBonds.100.to.500 1 601.08 915.53  
## - Personal.Male.Single 1 601.10 915.55  
## - ForeignWorker 1 601.63 916.08  
## - Property.RealEstate 1 601.77 916.22  
## - Property.Insurance 1 601.84 916.29  
## - Purpose.Furniture.Equipment 1 602.22 916.68  
## - OtherDebtorsGuarantors.CoApplicant 1 602.44 916.89  
## - Purpose.Repairs 1 602.59 917.04  
## - EmploymentDuration.4.to.7 1 602.61 917.07  
## - Purpose.Radio.Television 1 603.51 917.97  
## - SavingsAccountBonds.500.to.1000 1 603.67 918.12  
## - Purpose.Business 1 604.07 918.52  
## - CheckingAccountStatus.gt.200 1 604.97 919.42  
## - CreditHistory.ThisBank.AllPaid 1 604.97 919.42  
## - CreditHistory.Delay 1 605.05 919.51  
## - Purpose.Education 1 605.57 920.02  
## - CreditHistory.NoCredit.AllPaid 1 606.08 920.53  
## - Purpose.NewCar 1 606.12 920.57  
## <none> 599.68 920.68  
## - Duration 1 606.34 920.79  
## - Amount 1 606.56 921.01  
## - CreditHistory.PaidDuly 1 607.94 922.40  
## - OtherInstallmentPlans.Bank 1 609.76 924.21  
## - InstallmentRatePercentage 1 610.62 925.07  
## - SavingsAccountBonds.lt.100 1 612.52 926.97  
## - CheckingAccountStatus.0.to.200 1 629.43 943.88  
## - CheckingAccountStatus.lt.0 1 651.58 966.03  
##   
## Step: AIC=914.13  
## Class ~ Duration + Amount + InstallmentRatePercentage + ResidenceDuration +   
## Age + NumberExistingCredits + Telephone + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.UsedCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - ResidenceDuration 1 599.68 907.58  
## - Job.UnemployedUnskilled 1 599.68 907.58  
## - Job.UnskilledResident 1 599.76 907.66  
## - EmploymentDuration.lt.1 1 599.77 907.67  
## - SavingsAccountBonds.gt.1000 1 599.83 907.73  
## - EmploymentDuration.1.to.4 1 599.85 907.75  
## - Housing.Own 1 599.88 907.78  
## - Personal.Female.NotSingle 1 599.91 907.82  
## - Telephone 1 599.93 907.83  
## - Purpose.UsedCar 1 599.98 907.88  
## - Job.SkilledEmployee 1 600.05 907.95  
## - Personal.Male.Divorced.Seperated 1 600.09 907.99  
## - Age 1 600.17 908.07  
## - EmploymentDuration.gt.7 1 600.29 908.19  
## - Housing.Rent 1 600.47 908.37  
## - Property.CarOther 1 600.55 908.45  
## - Purpose.Retraining 1 600.58 908.48  
## - Purpose.DomesticAppliance 1 600.70 908.60  
## - OtherDebtorsGuarantors.None 1 600.73 908.63  
## - OtherInstallmentPlans.Stores 1 601.01 908.91  
## - SavingsAccountBonds.100.to.500 1 601.08 908.98  
## - NumberExistingCredits 1 601.10 909.00  
## - Personal.Male.Single 1 601.13 909.03  
## - ForeignWorker 1 601.64 909.54  
## - Property.RealEstate 1 601.77 909.67  
## - Property.Insurance 1 601.84 909.75  
## - Purpose.Furniture.Equipment 1 602.23 910.13  
## - OtherDebtorsGuarantors.CoApplicant 1 602.44 910.34  
## - Purpose.Repairs 1 602.60 910.50  
## - EmploymentDuration.4.to.7 1 602.62 910.52  
## - Purpose.Radio.Television 1 603.52 911.42  
## - SavingsAccountBonds.500.to.1000 1 603.67 911.57  
## - Purpose.Business 1 604.08 911.98  
## - CheckingAccountStatus.gt.200 1 604.97 912.87  
## - CreditHistory.ThisBank.AllPaid 1 604.98 912.88  
## - CreditHistory.Delay 1 605.06 912.96  
## - Purpose.Education 1 605.58 913.48  
## - CreditHistory.NoCredit.AllPaid 1 606.09 913.99  
## - Purpose.NewCar 1 606.13 914.03  
## <none> 599.68 914.13  
## - Duration 1 606.35 914.25  
## - Amount 1 606.58 914.48  
## - CreditHistory.PaidDuly 1 607.96 915.86  
## - OtherInstallmentPlans.Bank 1 609.80 917.70  
## - InstallmentRatePercentage 1 610.68 918.58  
## - SavingsAccountBonds.lt.100 1 612.52 920.42  
## - CheckingAccountStatus.0.to.200 1 629.46 937.36  
## - CheckingAccountStatus.lt.0 1 651.71 959.61  
##   
## Step: AIC=907.58  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnemployedUnskilled + Job.UnskilledResident + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Job.UnemployedUnskilled 1 599.69 901.04  
## - Job.UnskilledResident 1 599.76 901.11  
## - EmploymentDuration.lt.1 1 599.78 901.13  
## - SavingsAccountBonds.gt.1000 1 599.83 901.18  
## - EmploymentDuration.1.to.4 1 599.85 901.20  
## - Housing.Own 1 599.89 901.24  
## - Personal.Female.NotSingle 1 599.91 901.26  
## - Telephone 1 599.94 901.29  
## - Purpose.UsedCar 1 599.99 901.33  
## - Job.SkilledEmployee 1 600.05 901.40  
## - Personal.Male.Divorced.Seperated 1 600.09 901.44  
## - Age 1 600.18 901.53  
## - EmploymentDuration.gt.7 1 600.30 901.65  
## - Housing.Rent 1 600.48 901.82  
## - Property.CarOther 1 600.55 901.90  
## - Purpose.Retraining 1 600.58 901.93  
## - Purpose.DomesticAppliance 1 600.70 902.05  
## - OtherDebtorsGuarantors.None 1 600.73 902.08  
## - OtherInstallmentPlans.Stores 1 601.02 902.37  
## - SavingsAccountBonds.100.to.500 1 601.08 902.43  
## - NumberExistingCredits 1 601.10 902.45  
## - Personal.Male.Single 1 601.14 902.49  
## - ForeignWorker 1 601.64 902.99  
## - Property.RealEstate 1 601.77 903.12  
## - Property.Insurance 1 601.85 903.20  
## - Purpose.Furniture.Equipment 1 602.25 903.60  
## - OtherDebtorsGuarantors.CoApplicant 1 602.44 903.79  
## - Purpose.Repairs 1 602.61 903.96  
## - EmploymentDuration.4.to.7 1 602.62 903.97  
## - Purpose.Radio.Television 1 603.55 904.90  
## - SavingsAccountBonds.500.to.1000 1 603.67 905.02  
## - Purpose.Business 1 604.13 905.48  
## - CheckingAccountStatus.gt.200 1 604.97 906.32  
## - CreditHistory.ThisBank.AllPaid 1 604.98 906.33  
## - CreditHistory.Delay 1 605.06 906.41  
## - Purpose.Education 1 605.63 906.98  
## - CreditHistory.NoCredit.AllPaid 1 606.09 907.44  
## - Purpose.NewCar 1 606.16 907.51  
## <none> 599.68 907.58  
## - Duration 1 606.35 907.70  
## - Amount 1 606.60 907.95  
## - CreditHistory.PaidDuly 1 607.99 909.34  
## - OtherInstallmentPlans.Bank 1 609.83 911.18  
## - InstallmentRatePercentage 1 610.70 912.05  
## - SavingsAccountBonds.lt.100 1 612.55 913.90  
## - CheckingAccountStatus.0.to.200 1 629.47 930.82  
## - CheckingAccountStatus.lt.0 1 652.17 953.52  
##   
## Step: AIC=901.04  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.UnskilledResident + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Job.UnskilledResident 1 599.79 894.58  
## - EmploymentDuration.lt.1 1 599.81 894.60  
## - SavingsAccountBonds.gt.1000 1 599.83 894.63  
## - EmploymentDuration.1.to.4 1 599.85 894.65  
## - Housing.Own 1 599.89 894.69  
## - Personal.Female.NotSingle 1 599.92 894.72  
## - Telephone 1 599.94 894.74  
## - Purpose.UsedCar 1 600.00 894.80  
## - Personal.Male.Divorced.Seperated 1 600.10 894.90  
## - Job.SkilledEmployee 1 600.11 894.91  
## - Age 1 600.19 894.98  
## - EmploymentDuration.gt.7 1 600.32 895.12  
## - Housing.Rent 1 600.48 895.27  
## - Property.CarOther 1 600.55 895.35  
## - Purpose.Retraining 1 600.59 895.38  
## - Purpose.DomesticAppliance 1 600.70 895.50  
## - OtherDebtorsGuarantors.None 1 600.73 895.53  
## - OtherInstallmentPlans.Stores 1 601.04 895.84  
## - NumberExistingCredits 1 601.10 895.90  
## - SavingsAccountBonds.100.to.500 1 601.14 895.94  
## - Personal.Male.Single 1 601.15 895.94  
## - ForeignWorker 1 601.64 896.44  
## - Property.RealEstate 1 601.77 896.57  
## - Property.Insurance 1 601.85 896.65  
## - Purpose.Furniture.Equipment 1 602.28 897.07  
## - OtherDebtorsGuarantors.CoApplicant 1 602.45 897.25  
## - Purpose.Repairs 1 602.62 897.42  
## - EmploymentDuration.4.to.7 1 602.77 897.56  
## - Purpose.Radio.Television 1 603.58 898.38  
## - SavingsAccountBonds.500.to.1000 1 603.69 898.49  
## - Purpose.Business 1 604.14 898.94  
## - CheckingAccountStatus.gt.200 1 604.98 899.78  
## - CreditHistory.ThisBank.AllPaid 1 605.00 899.80  
## - CreditHistory.Delay 1 605.12 899.92  
## - Purpose.Education 1 605.64 900.44  
## - CreditHistory.NoCredit.AllPaid 1 606.11 900.91  
## - Purpose.NewCar 1 606.20 900.99  
## <none> 599.69 901.04  
## - Duration 1 606.39 901.19  
## - Amount 1 606.64 901.44  
## - CreditHistory.PaidDuly 1 607.99 902.79  
## - OtherInstallmentPlans.Bank 1 609.89 904.68  
## - InstallmentRatePercentage 1 610.78 905.58  
## - SavingsAccountBonds.lt.100 1 613.06 907.86  
## - CheckingAccountStatus.0.to.200 1 629.55 924.35  
## - CheckingAccountStatus.lt.0 1 652.27 947.07  
##   
## Step: AIC=894.58  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.1.to.4 +   
## EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - EmploymentDuration.1.to.4 1 599.88 888.13  
## - SavingsAccountBonds.gt.1000 1 599.93 888.17  
## - Housing.Own 1 599.99 888.24  
## - Personal.Female.NotSingle 1 600.01 888.26  
## - EmploymentDuration.lt.1 1 600.02 888.27  
## - Purpose.UsedCar 1 600.11 888.36  
## - Personal.Male.Divorced.Seperated 1 600.17 888.42  
## - Job.SkilledEmployee 1 600.17 888.42  
## - Telephone 1 600.18 888.43  
## - Age 1 600.26 888.51  
## - EmploymentDuration.gt.7 1 600.32 888.57  
## - Housing.Rent 1 600.57 888.82  
## - Property.CarOther 1 600.64 888.88  
## - Purpose.Retraining 1 600.65 888.89  
## - Purpose.DomesticAppliance 1 600.81 889.06  
## - OtherDebtorsGuarantors.None 1 600.83 889.07  
## - OtherInstallmentPlans.Stores 1 601.15 889.40  
## - NumberExistingCredits 1 601.19 889.44  
## - Personal.Male.Single 1 601.25 889.49  
## - SavingsAccountBonds.100.to.500 1 601.33 889.58  
## - ForeignWorker 1 601.74 889.98  
## - Property.RealEstate 1 601.81 890.06  
## - Property.Insurance 1 601.90 890.14  
## - Purpose.Furniture.Equipment 1 602.42 890.67  
## - OtherDebtorsGuarantors.CoApplicant 1 602.55 890.80  
## - Purpose.Repairs 1 602.85 891.09  
## - EmploymentDuration.4.to.7 1 602.87 891.12  
## - Purpose.Radio.Television 1 603.75 892.00  
## - SavingsAccountBonds.500.to.1000 1 603.79 892.03  
## - Purpose.Business 1 604.32 892.57  
## - CheckingAccountStatus.gt.200 1 605.00 893.25  
## - CreditHistory.ThisBank.AllPaid 1 605.05 893.29  
## - CreditHistory.Delay 1 605.16 893.41  
## - Purpose.Education 1 605.81 894.06  
## - CreditHistory.NoCredit.AllPaid 1 606.24 894.48  
## <none> 599.79 894.58  
## - Purpose.NewCar 1 606.38 894.63  
## - Duration 1 606.46 894.71  
## - Amount 1 606.65 894.89  
## - CreditHistory.PaidDuly 1 608.07 896.31  
## - OtherInstallmentPlans.Bank 1 610.05 898.30  
## - InstallmentRatePercentage 1 610.78 899.03  
## - SavingsAccountBonds.lt.100 1 613.13 901.37  
## - CheckingAccountStatus.0.to.200 1 629.64 917.89  
## - CheckingAccountStatus.lt.0 1 652.79 941.04  
##   
## Step: AIC=888.13  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## SavingsAccountBonds.gt.1000 + EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 +   
## EmploymentDuration.gt.7 + Personal.Male.Divorced.Seperated +   
## Personal.Female.NotSingle + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + Property.CarOther + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent + Housing.Own +   
## Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - SavingsAccountBonds.gt.1000 1 600.03 881.73  
## - Housing.Own 1 600.08 881.78  
## - Personal.Female.NotSingle 1 600.11 881.80  
## - Purpose.UsedCar 1 600.20 881.89  
## - Job.SkilledEmployee 1 600.21 881.90  
## - Personal.Male.Divorced.Seperated 1 600.25 881.94  
## - Telephone 1 600.26 881.96  
## - Age 1 600.32 882.02  
## - EmploymentDuration.gt.7 1 600.46 882.16  
## - Housing.Rent 1 600.67 882.36  
## - Purpose.Retraining 1 600.76 882.45  
## - Property.CarOther 1 600.76 882.46  
## - Purpose.DomesticAppliance 1 600.86 882.55  
## - OtherDebtorsGuarantors.None 1 600.96 882.66  
## - EmploymentDuration.lt.1 1 601.15 882.85  
## - OtherInstallmentPlans.Stores 1 601.25 882.95  
## - NumberExistingCredits 1 601.30 882.99  
## - Personal.Male.Single 1 601.38 883.08  
## - SavingsAccountBonds.100.to.500 1 601.41 883.10  
## - ForeignWorker 1 601.91 883.60  
## - Property.RealEstate 1 602.00 883.69  
## - Property.Insurance 1 602.03 883.73  
## - Purpose.Furniture.Equipment 1 602.46 884.15  
## - OtherDebtorsGuarantors.CoApplicant 1 602.69 884.39  
## - Purpose.Repairs 1 602.92 884.61  
## - Purpose.Radio.Television 1 603.77 885.46  
## - SavingsAccountBonds.500.to.1000 1 603.86 885.55  
## - Purpose.Business 1 604.34 886.04  
## - CheckingAccountStatus.gt.200 1 605.09 886.79  
## - EmploymentDuration.4.to.7 1 605.11 886.81  
## - CreditHistory.ThisBank.AllPaid 1 605.21 886.91  
## - CreditHistory.Delay 1 605.26 886.96  
## - Purpose.Education 1 605.82 887.51  
## - CreditHistory.NoCredit.AllPaid 1 606.26 887.95  
## - Purpose.NewCar 1 606.39 888.09  
## <none> 599.88 888.13  
## - Duration 1 606.48 888.18  
## - Amount 1 606.77 888.46  
## - CreditHistory.PaidDuly 1 608.22 889.91  
## - OtherInstallmentPlans.Bank 1 610.10 891.79  
## - InstallmentRatePercentage 1 610.89 892.59  
## - SavingsAccountBonds.lt.100 1 613.22 894.91  
## - CheckingAccountStatus.0.to.200 1 630.14 911.84  
## - CheckingAccountStatus.lt.0 1 653.22 934.91  
##   
## Step: AIC=881.73  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Housing.Own + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Housing.Own 1 600.22 875.37  
## - Personal.Female.NotSingle 1 600.27 875.41  
## - Job.SkilledEmployee 1 600.33 875.47  
## - Purpose.UsedCar 1 600.35 875.49  
## - Personal.Male.Divorced.Seperated 1 600.42 875.57  
## - Telephone 1 600.42 875.57  
## - Age 1 600.48 875.62  
## - EmploymentDuration.gt.7 1 600.62 875.76  
## - Housing.Rent 1 600.79 875.94  
## - Property.CarOther 1 600.88 876.03  
## - Purpose.Retraining 1 600.90 876.05  
## - Purpose.DomesticAppliance 1 601.04 876.19  
## - OtherDebtorsGuarantors.None 1 601.10 876.24  
## - EmploymentDuration.lt.1 1 601.28 876.43  
## - OtherInstallmentPlans.Stores 1 601.38 876.53  
## - NumberExistingCredits 1 601.42 876.57  
## - Personal.Male.Single 1 601.51 876.65  
## - ForeignWorker 1 602.06 877.20  
## - Property.RealEstate 1 602.12 877.27  
## - SavingsAccountBonds.100.to.500 1 602.13 877.28  
## - Property.Insurance 1 602.14 877.28  
## - Purpose.Furniture.Equipment 1 602.59 877.74  
## - OtherDebtorsGuarantors.CoApplicant 1 602.80 877.94  
## - Purpose.Repairs 1 603.09 878.23  
## - Purpose.Radio.Television 1 603.94 879.09  
## - Purpose.Business 1 604.46 879.60  
## - SavingsAccountBonds.500.to.1000 1 604.79 879.94  
## - CheckingAccountStatus.gt.200 1 605.23 880.37  
## - EmploymentDuration.4.to.7 1 605.28 880.43  
## - CreditHistory.ThisBank.AllPaid 1 605.28 880.43  
## - CreditHistory.Delay 1 605.55 880.70  
## - Purpose.Education 1 605.92 881.07  
## - CreditHistory.NoCredit.AllPaid 1 606.48 881.62  
## - Purpose.NewCar 1 606.56 881.71  
## <none> 600.03 881.73  
## - Duration 1 606.72 881.87  
## - Amount 1 606.99 882.13  
## - CreditHistory.PaidDuly 1 608.35 883.50  
## - OtherInstallmentPlans.Bank 1 610.28 885.43  
## - InstallmentRatePercentage 1 611.01 886.15  
## - SavingsAccountBonds.lt.100 1 617.99 893.14  
## - CheckingAccountStatus.0.to.200 1 630.16 905.31  
## - CheckingAccountStatus.lt.0 1 653.28 928.43  
##   
## Step: AIC=875.37  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 +   
## Personal.Male.Divorced.Seperated + Personal.Female.NotSingle +   
## Personal.Male.Single + OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Personal.Female.NotSingle 1 600.46 869.06  
## - Job.SkilledEmployee 1 600.50 869.09  
## - Purpose.UsedCar 1 600.53 869.12  
## - Telephone 1 600.58 869.18  
## - Personal.Male.Divorced.Seperated 1 600.65 869.24  
## - EmploymentDuration.gt.7 1 600.78 869.38  
## - Age 1 600.79 869.38  
## - Purpose.Retraining 1 601.07 869.67  
## - Property.CarOther 1 601.13 869.72  
## - OtherDebtorsGuarantors.None 1 601.33 869.92  
## - Purpose.DomesticAppliance 1 601.36 869.96  
## - Housing.Rent 1 601.38 869.98  
## - EmploymentDuration.lt.1 1 601.57 870.16  
## - NumberExistingCredits 1 601.60 870.19  
## - OtherInstallmentPlans.Stores 1 601.60 870.20  
## - Personal.Male.Single 1 601.70 870.29  
## - ForeignWorker 1 602.19 870.79  
## - SavingsAccountBonds.100.to.500 1 602.37 870.97  
## - Purpose.Furniture.Equipment 1 602.84 871.43  
## - Property.RealEstate 1 603.12 871.72  
## - Property.Insurance 1 603.24 871.83  
## - OtherDebtorsGuarantors.CoApplicant 1 603.26 871.85  
## - Purpose.Repairs 1 603.42 872.02  
## - Purpose.Radio.Television 1 604.24 872.84  
## - Purpose.Business 1 604.73 873.32  
## - SavingsAccountBonds.500.to.1000 1 604.99 873.58  
## - CheckingAccountStatus.gt.200 1 605.37 873.97  
## - CreditHistory.ThisBank.AllPaid 1 605.42 874.01  
## - EmploymentDuration.4.to.7 1 605.44 874.04  
## - CreditHistory.Delay 1 605.73 874.32  
## - Purpose.Education 1 606.18 874.78  
## - CreditHistory.NoCredit.AllPaid 1 606.59 875.18  
## <none> 600.22 875.37  
## - Purpose.NewCar 1 606.79 875.39  
## - Duration 1 606.83 875.43  
## - Amount 1 607.18 875.78  
## - CreditHistory.PaidDuly 1 608.37 876.96  
## - OtherInstallmentPlans.Bank 1 610.60 879.20  
## - InstallmentRatePercentage 1 611.21 879.80  
## - SavingsAccountBonds.lt.100 1 618.00 886.60  
## - CheckingAccountStatus.0.to.200 1 630.60 899.19  
## - CheckingAccountStatus.lt.0 1 653.43 922.02  
##   
## Step: AIC=869.06  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 +   
## Personal.Male.Divorced.Seperated + Personal.Male.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Personal.Male.Divorced.Seperated 1 600.68 862.72  
## - Job.SkilledEmployee 1 600.73 862.78  
## - Purpose.UsedCar 1 600.73 862.78  
## - Telephone 1 600.89 862.93  
## - Age 1 600.97 863.02  
## - EmploymentDuration.gt.7 1 601.01 863.06  
## - Property.CarOther 1 601.39 863.43  
## - Purpose.Retraining 1 601.43 863.47  
## - Purpose.DomesticAppliance 1 601.54 863.59  
## - OtherDebtorsGuarantors.None 1 601.64 863.68  
## - Housing.Rent 1 601.76 863.80  
## - EmploymentDuration.lt.1 1 601.82 863.87  
## - NumberExistingCredits 1 601.84 863.88  
## - OtherInstallmentPlans.Stores 1 601.89 863.93  
## - SavingsAccountBonds.100.to.500 1 602.57 864.62  
## - ForeignWorker 1 602.60 864.64  
## - Purpose.Furniture.Equipment 1 603.04 865.08  
## - Property.Insurance 1 603.44 865.49  
## - Property.RealEstate 1 603.49 865.53  
## - OtherDebtorsGuarantors.CoApplicant 1 603.55 865.60  
## - Purpose.Repairs 1 603.59 865.64  
## - Purpose.Radio.Television 1 604.36 866.40  
## - Purpose.Business 1 604.86 866.90  
## - SavingsAccountBonds.500.to.1000 1 605.23 867.28  
## - CheckingAccountStatus.gt.200 1 605.63 867.68  
## - EmploymentDuration.4.to.7 1 605.72 867.76  
## - CreditHistory.ThisBank.AllPaid 1 605.83 867.87  
## - CreditHistory.Delay 1 605.91 867.95  
## - Purpose.Education 1 606.38 868.42  
## - Personal.Male.Single 1 606.77 868.81  
## - CreditHistory.NoCredit.AllPaid 1 606.86 868.91  
## - Purpose.NewCar 1 606.91 868.95  
## <none> 600.46 869.06  
## - Duration 1 607.09 869.13  
## - Amount 1 607.65 869.70  
## - CreditHistory.PaidDuly 1 608.60 870.64  
## - OtherInstallmentPlans.Bank 1 610.71 872.75  
## - InstallmentRatePercentage 1 611.31 873.35  
## - SavingsAccountBonds.lt.100 1 618.17 880.22  
## - CheckingAccountStatus.0.to.200 1 630.60 892.64  
## - CheckingAccountStatus.lt.0 1 653.56 915.60  
##   
## Step: AIC=862.72  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.UsedCar + Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 +   
## Personal.Male.Single + OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Purpose.UsedCar 1 600.95 856.44  
## - Job.SkilledEmployee 1 600.95 856.44  
## - Age 1 601.12 856.61  
## - Telephone 1 601.14 856.63  
## - EmploymentDuration.gt.7 1 601.22 856.71  
## - Property.CarOther 1 601.55 857.04  
## - Purpose.Retraining 1 601.66 857.15  
## - Purpose.DomesticAppliance 1 601.74 857.23  
## - OtherDebtorsGuarantors.None 1 601.84 857.34  
## - Housing.Rent 1 601.93 857.43  
## - NumberExistingCredits 1 602.03 857.53  
## - EmploymentDuration.lt.1 1 602.04 857.53  
## - OtherInstallmentPlans.Stores 1 602.08 857.57  
## - SavingsAccountBonds.100.to.500 1 602.84 858.33  
## - ForeignWorker 1 602.88 858.37  
## - Purpose.Furniture.Equipment 1 603.29 858.79  
## - Property.RealEstate 1 603.65 859.15  
## - Property.Insurance 1 603.66 859.15  
## - OtherDebtorsGuarantors.CoApplicant 1 603.71 859.20  
## - Purpose.Repairs 1 603.81 859.30  
## - Purpose.Radio.Television 1 604.54 860.04  
## - Purpose.Business 1 605.17 860.66  
## - SavingsAccountBonds.500.to.1000 1 605.49 860.98  
## - CreditHistory.ThisBank.AllPaid 1 605.92 861.42  
## - EmploymentDuration.4.to.7 1 605.99 861.48  
## - CheckingAccountStatus.gt.200 1 606.09 861.58  
## - CreditHistory.Delay 1 606.20 861.69  
## - Purpose.Education 1 606.61 862.11  
## - CreditHistory.NoCredit.AllPaid 1 607.04 862.53  
## - Purpose.NewCar 1 607.15 862.65  
## <none> 600.68 862.72  
## - Duration 1 607.48 862.97  
## - Amount 1 607.89 863.38  
## - Personal.Male.Single 1 608.25 863.74  
## - CreditHistory.PaidDuly 1 608.74 864.23  
## - OtherInstallmentPlans.Bank 1 610.84 866.33  
## - InstallmentRatePercentage 1 611.44 866.94  
## - SavingsAccountBonds.lt.100 1 618.46 873.96  
## - CheckingAccountStatus.0.to.200 1 631.14 886.63  
## - CheckingAccountStatus.lt.0 1 654.13 909.62  
##   
## Step: AIC=856.44  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 +   
## Personal.Male.Single + OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent + Job.SkilledEmployee  
##   
## Df Deviance AIC  
## - Job.SkilledEmployee 1 601.25 850.19  
## - Age 1 601.38 850.32  
## - EmploymentDuration.gt.7 1 601.44 850.38  
## - Telephone 1 601.48 850.42  
## - Purpose.DomesticAppliance 1 601.75 850.69  
## - Property.CarOther 1 601.84 850.78  
## - OtherDebtorsGuarantors.None 1 602.14 851.08  
## - Housing.Rent 1 602.29 851.23  
## - NumberExistingCredits 1 602.31 851.25  
## - OtherInstallmentPlans.Stores 1 602.38 851.32  
## - EmploymentDuration.lt.1 1 602.39 851.33  
## - Purpose.Retraining 1 602.50 851.45  
## - SavingsAccountBonds.100.to.500 1 603.04 851.98  
## - ForeignWorker 1 603.33 852.27  
## - OtherDebtorsGuarantors.CoApplicant 1 603.83 852.77  
## - Property.Insurance 1 603.97 852.91  
## - Property.RealEstate 1 604.00 852.94  
## - Purpose.Repairs 1 604.89 853.83  
## - SavingsAccountBonds.500.to.1000 1 605.74 854.68  
## - EmploymentDuration.4.to.7 1 606.08 855.02  
## - CreditHistory.ThisBank.AllPaid 1 606.15 855.09  
## - CheckingAccountStatus.gt.200 1 606.32 855.26  
## - CreditHistory.Delay 1 606.34 855.28  
## - Purpose.Furniture.Equipment 1 607.00 855.95  
## - CreditHistory.NoCredit.AllPaid 1 607.22 856.17  
## <none> 600.95 856.44  
## - Duration 1 607.70 856.64  
## - Amount 1 608.10 857.04  
## - Personal.Male.Single 1 608.53 857.47  
## - CreditHistory.PaidDuly 1 608.97 857.92  
## - Purpose.Business 1 610.78 859.72  
## - OtherInstallmentPlans.Bank 1 610.84 859.79  
## - Purpose.Radio.Television 1 611.06 860.00  
## - InstallmentRatePercentage 1 611.72 860.66  
## - Purpose.Education 1 612.60 861.54  
## - SavingsAccountBonds.lt.100 1 618.59 867.53  
## - Purpose.NewCar 1 621.30 870.24  
## - CheckingAccountStatus.0.to.200 1 631.19 880.13  
## - CheckingAccountStatus.lt.0 1 654.48 903.42  
##   
## Step: AIC=850.19  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + EmploymentDuration.gt.7 +   
## Personal.Male.Single + OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent  
##   
## Df Deviance AIC  
## - EmploymentDuration.gt.7 1 601.71 844.10  
## - Age 1 601.79 844.18  
## - Telephone 1 601.80 844.19  
## - Purpose.DomesticAppliance 1 602.05 844.44  
## - Property.CarOther 1 602.08 844.47  
## - OtherDebtorsGuarantors.None 1 602.40 844.79  
## - Housing.Rent 1 602.54 844.93  
## - NumberExistingCredits 1 602.61 845.00  
## - OtherInstallmentPlans.Stores 1 602.71 845.10  
## - EmploymentDuration.lt.1 1 602.74 845.13  
## - Purpose.Retraining 1 602.88 845.27  
## - SavingsAccountBonds.100.to.500 1 603.27 845.66  
## - ForeignWorker 1 603.72 846.11  
## - OtherDebtorsGuarantors.CoApplicant 1 604.18 846.57  
## - Property.Insurance 1 604.19 846.58  
## - Property.RealEstate 1 604.30 846.69  
## - Purpose.Repairs 1 605.19 847.58  
## - SavingsAccountBonds.500.to.1000 1 606.00 848.39  
## - EmploymentDuration.4.to.7 1 606.22 848.61  
## - CreditHistory.ThisBank.AllPaid 1 606.41 848.80  
## - CheckingAccountStatus.gt.200 1 606.58 848.97  
## - CreditHistory.Delay 1 606.59 848.98  
## - Purpose.Furniture.Equipment 1 607.54 849.93  
## - CreditHistory.NoCredit.AllPaid 1 607.75 850.14  
## <none> 601.25 850.19  
## - Amount 1 608.13 850.52  
## - Duration 1 608.59 850.98  
## - Personal.Male.Single 1 608.86 851.25  
## - CreditHistory.PaidDuly 1 609.24 851.63  
## - OtherInstallmentPlans.Bank 1 611.05 853.44  
## - Purpose.Business 1 611.11 853.50  
## - Purpose.Radio.Television 1 611.62 854.01  
## - InstallmentRatePercentage 1 611.85 854.24  
## - Purpose.Education 1 613.35 855.74  
## - SavingsAccountBonds.lt.100 1 618.64 861.03  
## - Purpose.NewCar 1 622.06 864.45  
## - CheckingAccountStatus.0.to.200 1 631.20 873.59  
## - CheckingAccountStatus.lt.0 1 654.52 896.91  
##   
## Step: AIC=844.1  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + Telephone + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent  
##   
## Df Deviance AIC  
## - Telephone 1 602.23 838.07  
## - Property.CarOther 1 602.47 838.31  
## - Age 1 602.60 838.44  
## - Purpose.DomesticAppliance 1 602.61 838.45  
## - OtherDebtorsGuarantors.None 1 602.80 838.64  
## - NumberExistingCredits 1 602.92 838.76  
## - Housing.Rent 1 602.94 838.77  
## - OtherInstallmentPlans.Stores 1 603.27 839.11  
## - Purpose.Retraining 1 603.41 839.25  
## - SavingsAccountBonds.100.to.500 1 603.68 839.52  
## - EmploymentDuration.lt.1 1 603.77 839.61  
## - ForeignWorker 1 604.05 839.89  
## - Property.RealEstate 1 604.56 840.40  
## - Property.Insurance 1 604.57 840.41  
## - OtherDebtorsGuarantors.CoApplicant 1 604.66 840.50  
## - Purpose.Repairs 1 605.84 841.67  
## - EmploymentDuration.4.to.7 1 606.23 842.06  
## - SavingsAccountBonds.500.to.1000 1 606.41 842.25  
## - CheckingAccountStatus.gt.200 1 606.90 842.74  
## - CreditHistory.ThisBank.AllPaid 1 606.92 842.76  
## - CreditHistory.Delay 1 607.10 842.94  
## - Purpose.Furniture.Equipment 1 608.13 843.97  
## <none> 601.71 844.10  
## - CreditHistory.NoCredit.AllPaid 1 608.38 844.22  
## - Amount 1 608.73 844.57  
## - Duration 1 609.04 844.88  
## - Personal.Male.Single 1 609.62 845.46  
## - CreditHistory.PaidDuly 1 609.79 845.63  
## - OtherInstallmentPlans.Bank 1 611.32 847.16  
## - Purpose.Business 1 611.76 847.60  
## - InstallmentRatePercentage 1 611.99 847.82  
## - Purpose.Radio.Television 1 612.35 848.18  
## - Purpose.Education 1 614.05 849.89  
## - SavingsAccountBonds.lt.100 1 619.21 855.05  
## - Purpose.NewCar 1 622.82 858.65  
## - CheckingAccountStatus.0.to.200 1 631.82 867.66  
## - CheckingAccountStatus.lt.0 1 655.43 891.27  
##   
## Step: AIC=838.07  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + Property.CarOther +   
## OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent  
##   
## Df Deviance AIC  
## - Property.CarOther 1 602.95 832.24  
## - Purpose.DomesticAppliance 1 603.16 832.45  
## - OtherDebtorsGuarantors.None 1 603.28 832.57  
## - Age 1 603.29 832.58  
## - NumberExistingCredits 1 603.31 832.59  
## - Housing.Rent 1 603.47 832.76  
## - OtherInstallmentPlans.Stores 1 603.78 833.07  
## - Purpose.Retraining 1 603.85 833.14  
## - SavingsAccountBonds.100.to.500 1 604.28 833.57  
## - EmploymentDuration.lt.1 1 604.38 833.67  
## - ForeignWorker 1 604.45 833.73  
## - Property.RealEstate 1 604.96 834.25  
## - Property.Insurance 1 605.11 834.40  
## - OtherDebtorsGuarantors.CoApplicant 1 605.19 834.47  
## - Purpose.Repairs 1 606.71 836.00  
## - EmploymentDuration.4.to.7 1 606.87 836.15  
## - SavingsAccountBonds.500.to.1000 1 606.90 836.19  
## - CreditHistory.ThisBank.AllPaid 1 607.44 836.73  
## - CreditHistory.Delay 1 607.44 836.73  
## - CheckingAccountStatus.gt.200 1 607.54 836.83  
## - Amount 1 608.76 838.05  
## - CreditHistory.NoCredit.AllPaid 1 608.78 838.07  
## <none> 602.23 838.07  
## - Purpose.Furniture.Equipment 1 609.17 838.46  
## - Personal.Male.Single 1 609.91 839.20  
## - Duration 1 609.92 839.21  
## - CreditHistory.PaidDuly 1 610.07 839.36  
## - OtherInstallmentPlans.Bank 1 611.88 841.17  
## - InstallmentRatePercentage 1 612.15 841.44  
## - Purpose.Business 1 612.49 841.78  
## - Purpose.Radio.Television 1 613.60 842.89  
## - Purpose.Education 1 614.75 844.04  
## - SavingsAccountBonds.lt.100 1 619.90 849.18  
## - Purpose.NewCar 1 624.21 853.50  
## - CheckingAccountStatus.0.to.200 1 632.49 861.78  
## - CheckingAccountStatus.lt.0 1 656.48 885.76  
##   
## Step: AIC=832.24  
## Class ~ Duration + Amount + InstallmentRatePercentage + Age +   
## NumberExistingCredits + ForeignWorker + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.DomesticAppliance + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent  
##   
## Df Deviance AIC  
## - Age 1 603.72 826.45  
## - Purpose.DomesticAppliance 1 603.80 826.54  
## - NumberExistingCredits 1 603.98 826.71  
## - OtherDebtorsGuarantors.None 1 604.00 826.74  
## - Housing.Rent 1 604.09 826.83  
## - OtherInstallmentPlans.Stores 1 604.39 827.13  
## - Purpose.Retraining 1 604.74 827.47  
## - Property.RealEstate 1 605.11 827.85  
## - SavingsAccountBonds.100.to.500 1 605.12 827.86  
## - ForeignWorker 1 605.19 827.93  
## - EmploymentDuration.lt.1 1 605.22 827.96  
## - Property.Insurance 1 605.23 827.97  
## - OtherDebtorsGuarantors.CoApplicant 1 606.24 828.98  
## - Purpose.Repairs 1 607.38 830.11  
## - SavingsAccountBonds.500.to.1000 1 607.75 830.49  
## - EmploymentDuration.4.to.7 1 607.84 830.58  
## - CheckingAccountStatus.gt.200 1 608.30 831.04  
## - CreditHistory.ThisBank.AllPaid 1 608.37 831.11  
## - CreditHistory.Delay 1 608.39 831.12  
## - Purpose.Furniture.Equipment 1 609.46 832.20  
## <none> 602.95 832.24  
## - CreditHistory.NoCredit.AllPaid 1 609.57 832.30  
## - Amount 1 609.81 832.55  
## - Personal.Male.Single 1 610.32 833.06  
## - CreditHistory.PaidDuly 1 610.73 833.47  
## - Duration 1 611.08 833.81  
## - OtherInstallmentPlans.Bank 1 612.52 835.26  
## - Purpose.Business 1 612.61 835.35  
## - InstallmentRatePercentage 1 612.97 835.71  
## - Purpose.Radio.Television 1 613.75 836.48  
## - Purpose.Education 1 615.61 838.35  
## - SavingsAccountBonds.lt.100 1 620.61 843.34  
## - Purpose.NewCar 1 624.40 847.14  
## - CheckingAccountStatus.0.to.200 1 633.49 856.23  
## - CheckingAccountStatus.lt.0 1 658.80 881.54  
##   
## Step: AIC=826.45  
## Class ~ Duration + Amount + InstallmentRatePercentage + NumberExistingCredits +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.DomesticAppliance + Purpose.Repairs +   
## Purpose.Education + Purpose.Retraining + Purpose.Business +   
## SavingsAccountBonds.lt.100 + SavingsAccountBonds.100.to.500 +   
## SavingsAccountBonds.500.to.1000 + EmploymentDuration.lt.1 +   
## EmploymentDuration.4.to.7 + Personal.Male.Single + OtherDebtorsGuarantors.None +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent  
##   
## Df Deviance AIC  
## - Purpose.DomesticAppliance 1 604.49 820.67  
## - NumberExistingCredits 1 604.58 820.77  
## - OtherDebtorsGuarantors.None 1 604.73 820.91  
## - OtherInstallmentPlans.Stores 1 605.22 821.41  
## - Housing.Rent 1 605.25 821.44  
## - Purpose.Retraining 1 605.54 821.72  
## - Property.Insurance 1 605.87 822.06  
## - Property.RealEstate 1 605.91 822.09  
## - SavingsAccountBonds.100.to.500 1 605.91 822.09  
## - ForeignWorker 1 605.97 822.16  
## - EmploymentDuration.lt.1 1 606.63 822.82  
## - OtherDebtorsGuarantors.CoApplicant 1 606.96 823.14  
## - Purpose.Repairs 1 608.09 824.28  
## - EmploymentDuration.4.to.7 1 608.12 824.31  
## - SavingsAccountBonds.500.to.1000 1 608.53 824.71  
## - CheckingAccountStatus.gt.200 1 609.02 825.20  
## - CreditHistory.Delay 1 609.12 825.31  
## - CreditHistory.ThisBank.AllPaid 1 609.20 825.39  
## <none> 603.72 826.45  
## - CreditHistory.NoCredit.AllPaid 1 610.40 826.58  
## - Amount 1 610.47 826.66  
## - Purpose.Furniture.Equipment 1 610.70 826.88  
## - Personal.Male.Single 1 611.46 827.65  
## - CreditHistory.PaidDuly 1 611.65 827.83  
## - Duration 1 612.02 828.21  
## - OtherInstallmentPlans.Bank 1 613.18 829.36  
## - InstallmentRatePercentage 1 613.35 829.54  
## - Purpose.Business 1 613.39 829.58  
## - Purpose.Radio.Television 1 615.12 831.30  
## - Purpose.Education 1 616.47 832.66  
## - SavingsAccountBonds.lt.100 1 621.46 837.64  
## - Purpose.NewCar 1 625.27 841.45  
## - CheckingAccountStatus.0.to.200 1 634.42 850.61  
## - CheckingAccountStatus.lt.0 1 659.10 875.29  
##   
## Step: AIC=820.67  
## Class ~ Duration + Amount + InstallmentRatePercentage + NumberExistingCredits +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent  
##   
## Df Deviance AIC  
## - NumberExistingCredits 1 605.33 814.97  
## - OtherDebtorsGuarantors.None 1 605.53 815.17  
## - OtherInstallmentPlans.Stores 1 605.90 815.54  
## - Housing.Rent 1 605.93 815.56  
## - Purpose.Retraining 1 606.52 816.16  
## - SavingsAccountBonds.100.to.500 1 606.55 816.19  
## - Property.RealEstate 1 606.58 816.21  
## - Property.Insurance 1 606.65 816.28  
## - ForeignWorker 1 606.75 816.39  
## - EmploymentDuration.lt.1 1 607.54 817.17  
## - OtherDebtorsGuarantors.CoApplicant 1 607.78 817.42  
## - Purpose.Repairs 1 608.43 818.07  
## - EmploymentDuration.4.to.7 1 608.92 818.56  
## - SavingsAccountBonds.500.to.1000 1 609.16 818.79  
## - CheckingAccountStatus.gt.200 1 609.79 819.43  
## - CreditHistory.Delay 1 609.93 819.56  
## - CreditHistory.ThisBank.AllPaid 1 610.37 820.00  
## - Amount 1 610.70 820.33  
## - Purpose.Furniture.Equipment 1 610.73 820.36  
## <none> 604.49 820.67  
## - CreditHistory.NoCredit.AllPaid 1 611.23 820.86  
## - Personal.Male.Single 1 612.32 821.95  
## - CreditHistory.PaidDuly 1 612.59 822.23  
## - Purpose.Business 1 613.42 823.06  
## - Duration 1 613.43 823.06  
## - OtherInstallmentPlans.Bank 1 613.92 823.55  
## - InstallmentRatePercentage 1 613.94 823.58  
## - Purpose.Radio.Television 1 615.12 824.76  
## - Purpose.Education 1 616.51 826.14  
## - SavingsAccountBonds.lt.100 1 621.99 831.63  
## - Purpose.NewCar 1 625.40 835.04  
## - CheckingAccountStatus.0.to.200 1 635.15 844.78  
## - CheckingAccountStatus.lt.0 1 660.05 869.68  
##   
## Step: AIC=814.97  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.None + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + OtherInstallmentPlans.Bank +   
## OtherInstallmentPlans.Stores + Housing.Rent  
##   
## Df Deviance AIC  
## - OtherDebtorsGuarantors.None 1 606.33 809.42  
## - Housing.Rent 1 606.82 809.91  
## - OtherInstallmentPlans.Stores 1 606.96 810.04  
## - Purpose.Retraining 1 607.37 810.45  
## - Property.RealEstate 1 607.48 810.56  
## - SavingsAccountBonds.100.to.500 1 607.48 810.56  
## - Property.Insurance 1 607.58 810.66  
## - ForeignWorker 1 607.73 810.81  
## - EmploymentDuration.lt.1 1 608.25 811.33  
## - OtherDebtorsGuarantors.CoApplicant 1 608.71 811.80  
## - Purpose.Repairs 1 609.52 812.61  
## - EmploymentDuration.4.to.7 1 609.54 812.62  
## - SavingsAccountBonds.500.to.1000 1 609.74 812.82  
## - CheckingAccountStatus.gt.200 1 610.29 813.38  
## - CreditHistory.Delay 1 610.32 813.40  
## - CreditHistory.ThisBank.AllPaid 1 610.39 813.47  
## - Purpose.Furniture.Equipment 1 611.44 814.53  
## - Amount 1 611.75 814.83  
## - CreditHistory.NoCredit.AllPaid 1 611.76 814.85  
## <none> 605.33 814.97  
## - Personal.Male.Single 1 613.00 816.08  
## - CreditHistory.PaidDuly 1 613.21 816.30  
## - Duration 1 613.86 816.94  
## - Purpose.Business 1 614.43 817.51  
## - InstallmentRatePercentage 1 614.91 817.99  
## - OtherInstallmentPlans.Bank 1 615.22 818.30  
## - Purpose.Radio.Television 1 616.01 819.09  
## - Purpose.Education 1 617.12 820.21  
## - SavingsAccountBonds.lt.100 1 622.84 825.92  
## - Purpose.NewCar 1 626.26 829.34  
## - CheckingAccountStatus.0.to.200 1 635.40 838.48  
## - CheckingAccountStatus.lt.0 1 660.79 863.87  
##   
## Step: AIC=809.42  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores +   
## Housing.Rent  
##   
## Df Deviance AIC  
## - Housing.Rent 1 607.90 804.43  
## - OtherInstallmentPlans.Stores 1 608.11 804.65  
## - Purpose.Retraining 1 608.34 804.87  
## - SavingsAccountBonds.100.to.500 1 608.34 804.88  
## - OtherDebtorsGuarantors.CoApplicant 1 608.78 805.31  
## - ForeignWorker 1 608.86 805.39  
## - Property.Insurance 1 609.14 805.67  
## - Property.RealEstate 1 609.15 805.68  
## - EmploymentDuration.lt.1 1 609.50 806.03  
## - Purpose.Repairs 1 610.45 806.98  
## - EmploymentDuration.4.to.7 1 610.72 807.26  
## - SavingsAccountBonds.500.to.1000 1 610.76 807.30  
## - CreditHistory.ThisBank.AllPaid 1 611.16 807.69  
## - CheckingAccountStatus.gt.200 1 611.36 807.90  
## - CreditHistory.Delay 1 611.61 808.15  
## - Purpose.Furniture.Equipment 1 612.37 808.90  
## - CreditHistory.NoCredit.AllPaid 1 612.74 809.28  
## <none> 606.33 809.42  
## - Amount 1 612.90 809.44  
## - Personal.Male.Single 1 614.01 810.54  
## - CreditHistory.PaidDuly 1 614.15 810.68  
## - Duration 1 614.54 811.08  
## - Purpose.Business 1 615.63 812.17  
## - OtherInstallmentPlans.Bank 1 615.97 812.50  
## - InstallmentRatePercentage 1 616.05 812.59  
## - Purpose.Radio.Television 1 616.58 813.11  
## - Purpose.Education 1 618.21 814.74  
## - SavingsAccountBonds.lt.100 1 623.25 819.78  
## - Purpose.NewCar 1 627.29 823.82  
## - CheckingAccountStatus.0.to.200 1 635.57 832.10  
## - CheckingAccountStatus.lt.0 1 661.08 857.61  
##   
## Step: AIC=804.43  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + OtherInstallmentPlans.Bank + OtherInstallmentPlans.Stores  
##   
## Df Deviance AIC  
## - OtherInstallmentPlans.Stores 1 609.38 799.36  
## - Purpose.Retraining 1 610.00 799.98  
## - SavingsAccountBonds.100.to.500 1 610.14 800.12  
## - ForeignWorker 1 610.37 800.35  
## - Property.RealEstate 1 610.51 800.50  
## - Property.Insurance 1 610.63 800.61  
## - OtherDebtorsGuarantors.CoApplicant 1 610.75 800.73  
## - EmploymentDuration.lt.1 1 611.39 801.37  
## - Purpose.Repairs 1 611.87 801.86  
## - EmploymentDuration.4.to.7 1 612.03 802.01  
## - SavingsAccountBonds.500.to.1000 1 612.50 802.48  
## - CreditHistory.ThisBank.AllPaid 1 612.80 802.78  
## - CheckingAccountStatus.gt.200 1 612.92 802.90  
## - CreditHistory.Delay 1 613.23 803.21  
## - Purpose.Furniture.Equipment 1 614.13 804.12  
## <none> 607.90 804.43  
## - Amount 1 614.47 804.45  
## - CreditHistory.NoCredit.AllPaid 1 614.65 804.63  
## - Duration 1 615.96 805.94  
## - CreditHistory.PaidDuly 1 616.38 806.36  
## - Personal.Male.Single 1 617.04 807.02  
## - Purpose.Business 1 617.09 807.07  
## - OtherInstallmentPlans.Bank 1 617.45 807.43  
## - InstallmentRatePercentage 1 617.56 807.54  
## - Purpose.Radio.Television 1 617.86 807.84  
## - Purpose.Education 1 620.50 810.49  
## - SavingsAccountBonds.lt.100 1 624.93 814.91  
## - Purpose.NewCar 1 628.57 818.55  
## - CheckingAccountStatus.0.to.200 1 637.92 827.90  
## - CheckingAccountStatus.lt.0 1 664.40 854.38  
##   
## Step: AIC=799.36  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - Purpose.Retraining 1 611.58 795.01  
## - SavingsAccountBonds.100.to.500 1 611.70 795.14  
## - Property.RealEstate 1 611.76 795.19  
## - ForeignWorker 1 611.91 795.34  
## - Property.Insurance 1 612.10 795.53  
## - OtherDebtorsGuarantors.CoApplicant 1 612.22 795.65  
## - EmploymentDuration.lt.1 1 612.94 796.37  
## - Purpose.Repairs 1 613.23 796.66  
## - EmploymentDuration.4.to.7 1 613.87 797.30  
## - SavingsAccountBonds.500.to.1000 1 614.13 797.56  
## - CheckingAccountStatus.gt.200 1 614.25 797.68  
## - CreditHistory.Delay 1 615.13 798.56  
## - CreditHistory.ThisBank.AllPaid 1 615.30 798.73  
## - Purpose.Furniture.Equipment 1 615.74 799.17  
## <none> 609.38 799.36  
## - Amount 1 616.01 799.44  
## - CreditHistory.NoCredit.AllPaid 1 616.21 799.64  
## - Duration 1 617.70 801.13  
## - Personal.Male.Single 1 617.84 801.27  
## - CreditHistory.PaidDuly 1 617.92 801.35  
## - OtherInstallmentPlans.Bank 1 618.01 801.44  
## - Purpose.Business 1 619.12 802.55  
## - InstallmentRatePercentage 1 619.42 802.85  
## - Purpose.Radio.Television 1 619.58 803.01  
## - Purpose.Education 1 622.14 805.57  
## - SavingsAccountBonds.lt.100 1 626.67 810.10  
## - Purpose.NewCar 1 629.92 813.35  
## - CheckingAccountStatus.0.to.200 1 639.04 822.48  
## - CheckingAccountStatus.lt.0 1 666.02 849.45  
##   
## Step: AIC=795.01  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Business + SavingsAccountBonds.lt.100 + SavingsAccountBonds.100.to.500 +   
## SavingsAccountBonds.500.to.1000 + EmploymentDuration.lt.1 +   
## EmploymentDuration.4.to.7 + Personal.Male.Single + OtherDebtorsGuarantors.CoApplicant +   
## Property.RealEstate + Property.Insurance + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - Property.RealEstate 1 613.86 790.74  
## - SavingsAccountBonds.100.to.500 1 613.94 790.82  
## - ForeignWorker 1 614.10 790.98  
## - Property.Insurance 1 614.29 791.17  
## - OtherDebtorsGuarantors.CoApplicant 1 614.47 791.34  
## - EmploymentDuration.lt.1 1 615.28 792.16  
## - Purpose.Repairs 1 615.87 792.75  
## - EmploymentDuration.4.to.7 1 616.02 792.90  
## - SavingsAccountBonds.500.to.1000 1 616.37 793.24  
## - CheckingAccountStatus.gt.200 1 616.55 793.43  
## - CreditHistory.ThisBank.AllPaid 1 616.60 793.48  
## - CreditHistory.Delay 1 617.15 794.03  
## <none> 611.58 795.01  
## - CreditHistory.NoCredit.AllPaid 1 618.32 795.20  
## - Amount 1 618.64 795.52  
## - Purpose.Furniture.Equipment 1 619.39 796.27  
## - Personal.Male.Single 1 619.58 796.46  
## - OtherInstallmentPlans.Bank 1 619.88 796.76  
## - CreditHistory.PaidDuly 1 620.03 796.91  
## - Duration 1 620.16 797.04  
## - InstallmentRatePercentage 1 621.33 798.21  
## - Purpose.Business 1 622.70 799.58  
## - Purpose.Radio.Television 1 623.53 800.41  
## - Purpose.Education 1 625.85 802.72  
## - SavingsAccountBonds.lt.100 1 628.67 805.55  
## - Purpose.NewCar 1 634.80 811.68  
## - CheckingAccountStatus.0.to.200 1 641.82 818.70  
## - CheckingAccountStatus.lt.0 1 668.49 845.37  
##   
## Step: AIC=790.74  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Business + SavingsAccountBonds.lt.100 + SavingsAccountBonds.100.to.500 +   
## SavingsAccountBonds.500.to.1000 + EmploymentDuration.lt.1 +   
## EmploymentDuration.4.to.7 + Personal.Male.Single + OtherDebtorsGuarantors.CoApplicant +   
## Property.Insurance + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - Property.Insurance 1 615.31 785.64  
## - OtherDebtorsGuarantors.CoApplicant 1 616.80 787.13  
## - SavingsAccountBonds.100.to.500 1 616.82 787.15  
## - ForeignWorker 1 616.98 787.31  
## - EmploymentDuration.lt.1 1 617.51 787.83  
## - Purpose.Repairs 1 618.24 788.57  
## - EmploymentDuration.4.to.7 1 618.26 788.59  
## - SavingsAccountBonds.500.to.1000 1 618.84 789.16  
## - CreditHistory.ThisBank.AllPaid 1 619.06 789.39  
## - CheckingAccountStatus.gt.200 1 619.15 789.48  
## - CreditHistory.Delay 1 619.64 789.96  
## <none> 613.86 790.74  
## - CreditHistory.NoCredit.AllPaid 1 621.12 791.45  
## - Purpose.Furniture.Equipment 1 621.25 791.58  
## - Personal.Male.Single 1 621.35 791.68  
## - Amount 1 622.09 792.42  
## - CreditHistory.PaidDuly 1 622.26 792.58  
## - OtherInstallmentPlans.Bank 1 622.69 793.01  
## - Duration 1 623.33 793.66  
## - Purpose.Business 1 623.77 794.10  
## - InstallmentRatePercentage 1 624.60 794.92  
## - Purpose.Radio.Television 1 624.64 794.97  
## - Purpose.Education 1 628.36 798.69  
## - SavingsAccountBonds.lt.100 1 631.49 801.81  
## - Purpose.NewCar 1 636.24 806.56  
## - CheckingAccountStatus.0.to.200 1 644.27 814.60  
## - CheckingAccountStatus.lt.0 1 671.85 842.18  
##   
## Step: AIC=785.64  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Business + SavingsAccountBonds.lt.100 + SavingsAccountBonds.100.to.500 +   
## SavingsAccountBonds.500.to.1000 + EmploymentDuration.lt.1 +   
## EmploymentDuration.4.to.7 + Personal.Male.Single + OtherDebtorsGuarantors.CoApplicant +   
## OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - OtherDebtorsGuarantors.CoApplicant 1 618.30 782.08  
## - SavingsAccountBonds.100.to.500 1 618.41 782.19  
## - EmploymentDuration.lt.1 1 618.53 782.30  
## - ForeignWorker 1 618.62 782.40  
## - Purpose.Repairs 1 619.67 783.45  
## - EmploymentDuration.4.to.7 1 619.89 783.67  
## - SavingsAccountBonds.500.to.1000 1 620.59 784.36  
## - CheckingAccountStatus.gt.200 1 620.67 784.45  
## - CreditHistory.Delay 1 620.80 784.58  
## - CreditHistory.ThisBank.AllPaid 1 621.12 784.90  
## - Purpose.Furniture.Equipment 1 621.85 785.62  
## <none> 615.31 785.64  
## - CreditHistory.NoCredit.AllPaid 1 622.36 786.14  
## - Personal.Male.Single 1 622.86 786.63  
## - Amount 1 623.50 787.27  
## - CreditHistory.PaidDuly 1 623.86 787.64  
## - OtherInstallmentPlans.Bank 1 624.17 787.94  
## - Purpose.Business 1 624.86 788.64  
## - Duration 1 625.13 788.91  
## - InstallmentRatePercentage 1 625.89 789.67  
## - Purpose.Radio.Television 1 625.93 789.70  
## - Purpose.Education 1 629.07 792.84  
## - SavingsAccountBonds.lt.100 1 633.49 797.27  
## - Purpose.NewCar 1 637.06 800.84  
## - CheckingAccountStatus.0.to.200 1 645.65 809.43  
## - CheckingAccountStatus.lt.0 1 671.99 835.76  
##   
## Step: AIC=782.08  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Business + SavingsAccountBonds.lt.100 + SavingsAccountBonds.100.to.500 +   
## SavingsAccountBonds.500.to.1000 + EmploymentDuration.lt.1 +   
## EmploymentDuration.4.to.7 + Personal.Male.Single + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - EmploymentDuration.lt.1 1 621.16 778.39  
## - ForeignWorker 1 621.70 778.93  
## - SavingsAccountBonds.100.to.500 1 621.76 778.98  
## - Purpose.Repairs 1 622.61 779.84  
## - SavingsAccountBonds.500.to.1000 1 623.33 780.56  
## - EmploymentDuration.4.to.7 1 623.40 780.62  
## - CreditHistory.Delay 1 623.71 780.94  
## - CheckingAccountStatus.gt.200 1 623.74 780.97  
## - CreditHistory.ThisBank.AllPaid 1 624.61 781.84  
## <none> 618.30 782.08  
## - CreditHistory.NoCredit.AllPaid 1 624.96 782.19  
## - Purpose.Furniture.Equipment 1 625.50 782.72  
## - Personal.Male.Single 1 625.92 783.15  
## - CreditHistory.PaidDuly 1 627.20 784.42  
## - OtherInstallmentPlans.Bank 1 627.31 784.54  
## - Duration 1 627.65 784.88  
## - Purpose.Business 1 627.89 785.11  
## - Amount 1 627.89 785.12  
## - InstallmentRatePercentage 1 629.16 786.39  
## - Purpose.Radio.Television 1 629.71 786.93  
## - Purpose.Education 1 631.92 789.15  
## - SavingsAccountBonds.lt.100 1 637.18 794.40  
## - Purpose.NewCar 1 640.72 797.95  
## - CheckingAccountStatus.0.to.200 1 648.55 805.78  
## - CheckingAccountStatus.lt.0 1 674.43 831.66  
##   
## Step: AIC=778.39  
## Class ~ Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Business + SavingsAccountBonds.lt.100 + SavingsAccountBonds.100.to.500 +   
## SavingsAccountBonds.500.to.1000 + EmploymentDuration.4.to.7 +   
## Personal.Male.Single + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - ForeignWorker 1 624.07 774.74  
## - SavingsAccountBonds.100.to.500 1 625.12 775.80  
## - Purpose.Repairs 1 625.93 776.60  
## - SavingsAccountBonds.500.to.1000 1 626.20 776.87  
## - CreditHistory.Delay 1 626.84 777.51  
## - CheckingAccountStatus.gt.200 1 627.31 777.98  
## <none> 621.16 778.39  
## - CreditHistory.NoCredit.AllPaid 1 627.77 778.45  
## - EmploymentDuration.4.to.7 1 628.11 778.79  
## - CreditHistory.ThisBank.AllPaid 1 628.13 778.81  
## - Purpose.Furniture.Equipment 1 628.85 779.53  
## - OtherInstallmentPlans.Bank 1 630.12 780.80  
## - Duration 1 630.35 781.02  
## - CreditHistory.PaidDuly 1 630.69 781.37  
## - Amount 1 630.71 781.39  
## - Personal.Male.Single 1 630.89 781.57  
## - Purpose.Business 1 630.95 781.62  
## - InstallmentRatePercentage 1 632.11 782.78  
## - Purpose.Radio.Television 1 633.51 784.19  
## - Purpose.Education 1 635.77 786.44  
## - SavingsAccountBonds.lt.100 1 641.04 791.72  
## - Purpose.NewCar 1 644.15 794.83  
## - CheckingAccountStatus.0.to.200 1 654.49 805.17  
## - CheckingAccountStatus.lt.0 1 677.96 828.63  
##   
## Step: AIC=774.74  
## Class ~ Duration + Amount + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.Repairs + Purpose.Education + Purpose.Business +   
## SavingsAccountBonds.lt.100 + SavingsAccountBonds.100.to.500 +   
## SavingsAccountBonds.500.to.1000 + EmploymentDuration.4.to.7 +   
## Personal.Male.Single + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - SavingsAccountBonds.100.to.500 1 628.09 772.21  
## - Purpose.Repairs 1 628.68 772.80  
## - SavingsAccountBonds.500.to.1000 1 629.27 773.40  
## - CheckingAccountStatus.gt.200 1 630.11 774.23  
## - CreditHistory.Delay 1 630.23 774.35  
## <none> 624.07 774.74  
## - CreditHistory.NoCredit.AllPaid 1 630.81 774.93  
## - EmploymentDuration.4.to.7 1 630.98 775.11  
## - CreditHistory.ThisBank.AllPaid 1 631.70 775.82  
## - Purpose.Furniture.Equipment 1 631.85 775.98  
## - OtherInstallmentPlans.Bank 1 632.54 776.66  
## - Amount 1 633.16 777.28  
## - Purpose.Business 1 633.70 777.82  
## - Personal.Male.Single 1 633.77 777.90  
## - Duration 1 634.37 778.49  
## - CreditHistory.PaidDuly 1 634.58 778.71  
## - InstallmentRatePercentage 1 635.41 779.53  
## - Purpose.Radio.Television 1 636.14 780.26  
## - Purpose.Education 1 638.88 783.01  
## - SavingsAccountBonds.lt.100 1 644.37 788.50  
## - Purpose.NewCar 1 645.93 790.06  
## - CheckingAccountStatus.0.to.200 1 657.48 801.60  
## - CheckingAccountStatus.lt.0 1 679.25 823.38  
##   
## Step: AIC=772.21  
## Class ~ Duration + Amount + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.Repairs + Purpose.Education + Purpose.Business +   
## SavingsAccountBonds.lt.100 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.4.to.7 + Personal.Male.Single + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - SavingsAccountBonds.500.to.1000 1 631.14 768.72  
## - Purpose.Repairs 1 632.87 770.44  
## - EmploymentDuration.4.to.7 1 634.06 771.64  
## - CheckingAccountStatus.gt.200 1 634.16 771.74  
## <none> 628.09 772.21  
## - CreditHistory.Delay 1 634.66 772.23  
## - CreditHistory.NoCredit.AllPaid 1 635.35 772.92  
## - Purpose.Furniture.Equipment 1 635.77 773.34  
## - OtherInstallmentPlans.Bank 1 635.80 773.37  
## - CreditHistory.ThisBank.AllPaid 1 635.95 773.52  
## - Amount 1 636.41 773.98  
## - Personal.Male.Single 1 637.53 775.11  
## - Purpose.Business 1 638.00 775.58  
## - CreditHistory.PaidDuly 1 638.24 775.82  
## - Duration 1 639.13 776.70  
## - InstallmentRatePercentage 1 639.37 776.95  
## - Purpose.Radio.Television 1 640.37 777.95  
## - Purpose.Education 1 642.71 780.28  
## - SavingsAccountBonds.lt.100 1 644.64 782.21  
## - Purpose.NewCar 1 650.08 787.65  
## - CheckingAccountStatus.0.to.200 1 664.20 801.78  
## - CheckingAccountStatus.lt.0 1 683.92 821.49  
##   
## Step: AIC=768.72  
## Class ~ Duration + Amount + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.Repairs + Purpose.Education + Purpose.Business +   
## SavingsAccountBonds.lt.100 + EmploymentDuration.4.to.7 +   
## Personal.Male.Single + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - Purpose.Repairs 1 635.82 766.84  
## - CheckingAccountStatus.gt.200 1 636.76 767.78  
## - CreditHistory.Delay 1 637.12 768.14  
## - EmploymentDuration.4.to.7 1 637.56 768.58  
## <none> 631.14 768.72  
## - CreditHistory.NoCredit.AllPaid 1 638.39 769.41  
## - OtherInstallmentPlans.Bank 1 638.49 769.51  
## - Amount 1 638.82 769.84  
## - Purpose.Furniture.Equipment 1 638.95 769.97  
## - CreditHistory.ThisBank.AllPaid 1 639.66 770.68  
## - Personal.Male.Single 1 639.79 770.81  
## - CreditHistory.PaidDuly 1 640.89 771.92  
## - Purpose.Business 1 640.96 771.98  
## - InstallmentRatePercentage 1 641.48 772.50  
## - Duration 1 642.00 773.03  
## - Purpose.Radio.Television 1 643.64 774.66  
## - SavingsAccountBonds.lt.100 1 644.79 775.81  
## - Purpose.Education 1 645.58 776.61  
## - Purpose.NewCar 1 652.69 783.71  
## - CheckingAccountStatus.0.to.200 1 665.33 796.35  
## - CheckingAccountStatus.lt.0 1 685.44 816.46  
##   
## Step: AIC=766.84  
## Class ~ Duration + Amount + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Furniture.Equipment + Purpose.Radio.Television +   
## Purpose.Education + Purpose.Business + SavingsAccountBonds.lt.100 +   
## EmploymentDuration.4.to.7 + Personal.Male.Single + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - Purpose.Furniture.Equipment 1 640.64 765.11  
## - CheckingAccountStatus.gt.200 1 641.05 765.52  
## - CreditHistory.Delay 1 641.68 766.15  
## - OtherInstallmentPlans.Bank 1 642.29 766.76  
## - Amount 1 642.30 766.77  
## - EmploymentDuration.4.to.7 1 642.33 766.80  
## <none> 635.82 766.84  
## - Purpose.Business 1 642.76 767.23  
## - CreditHistory.NoCredit.AllPaid 1 643.50 767.97  
## - Personal.Male.Single 1 644.07 768.54  
## - CreditHistory.ThisBank.AllPaid 1 644.10 768.57  
## - Purpose.Radio.Television 1 644.54 769.01  
## - InstallmentRatePercentage 1 646.04 770.51  
## - CreditHistory.PaidDuly 1 646.14 770.61  
## - Duration 1 646.70 771.17  
## - Purpose.Education 1 647.37 771.84  
## - SavingsAccountBonds.lt.100 1 650.27 774.74  
## - Purpose.NewCar 1 653.07 777.54  
## - CheckingAccountStatus.0.to.200 1 670.41 794.88  
## - CheckingAccountStatus.lt.0 1 688.41 812.88  
##   
## Step: AIC=765.11  
## Class ~ Duration + Amount + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Radio.Television + Purpose.Education + Purpose.Business +   
## SavingsAccountBonds.lt.100 + EmploymentDuration.4.to.7 +   
## Personal.Male.Single + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - Purpose.Business 1 643.88 761.80  
## - Purpose.Radio.Television 1 644.73 762.65  
## - Amount 1 645.70 763.62  
## - CheckingAccountStatus.gt.200 1 646.13 764.05  
## - EmploymentDuration.4.to.7 1 646.70 764.62  
## - CreditHistory.Delay 1 646.77 764.69  
## - OtherInstallmentPlans.Bank 1 646.78 764.70  
## <none> 640.64 765.11  
## - Purpose.Education 1 648.14 766.06  
## - CreditHistory.ThisBank.AllPaid 1 648.79 766.71  
## - CreditHistory.NoCredit.AllPaid 1 648.82 766.74  
## - Personal.Male.Single 1 649.56 767.48  
## - InstallmentRatePercentage 1 650.27 768.19  
## - CreditHistory.PaidDuly 1 651.03 768.95  
## - Duration 1 651.25 769.17  
## - Purpose.NewCar 1 653.30 771.22  
## - SavingsAccountBonds.lt.100 1 655.09 773.01  
## - CheckingAccountStatus.0.to.200 1 674.79 792.71  
## - CheckingAccountStatus.lt.0 1 696.50 814.42  
##   
## Step: AIC=761.8  
## Class ~ Duration + Amount + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Radio.Television + Purpose.Education + SavingsAccountBonds.lt.100 +   
## EmploymentDuration.4.to.7 + Personal.Male.Single + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - Purpose.Radio.Television 1 646.22 757.59  
## - Amount 1 648.05 759.42  
## - EmploymentDuration.4.to.7 1 649.31 760.68  
## - CheckingAccountStatus.gt.200 1 649.54 760.91  
## - Purpose.Education 1 650.03 761.40  
## - OtherInstallmentPlans.Bank 1 650.25 761.62  
## <none> 643.88 761.80  
## - CreditHistory.Delay 1 650.85 762.22  
## - CreditHistory.ThisBank.AllPaid 1 652.25 763.61  
## - Personal.Male.Single 1 653.08 764.45  
## - InstallmentRatePercentage 1 653.20 764.56  
## - CreditHistory.PaidDuly 1 653.75 765.11  
## - Purpose.NewCar 1 654.04 765.41  
## - CreditHistory.NoCredit.AllPaid 1 654.62 765.99  
## - Duration 1 656.77 768.14  
## - SavingsAccountBonds.lt.100 1 658.37 769.73  
## - CheckingAccountStatus.0.to.200 1 677.58 788.94  
## - CheckingAccountStatus.lt.0 1 697.36 808.73  
##   
## Step: AIC=757.59  
## Class ~ Duration + Amount + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Education + SavingsAccountBonds.lt.100 + EmploymentDuration.4.to.7 +   
## Personal.Male.Single + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - Amount 1 649.50 754.32  
## - Purpose.Education 1 651.14 755.96  
## - EmploymentDuration.4.to.7 1 651.24 756.05  
## - CheckingAccountStatus.gt.200 1 652.03 756.84  
## - OtherInstallmentPlans.Bank 1 652.34 757.16  
## <none> 646.22 757.59  
## - CreditHistory.Delay 1 653.47 758.28  
## - CreditHistory.ThisBank.AllPaid 1 653.97 758.78  
## - Purpose.NewCar 1 654.23 759.04  
## - Personal.Male.Single 1 655.30 760.11  
## - InstallmentRatePercentage 1 656.36 761.18  
## - CreditHistory.NoCredit.AllPaid 1 656.43 761.25  
## - CreditHistory.PaidDuly 1 656.64 761.46  
## - Duration 1 659.42 764.24  
## - SavingsAccountBonds.lt.100 1 660.78 765.59  
## - CheckingAccountStatus.0.to.200 1 679.54 784.35  
## - CheckingAccountStatus.lt.0 1 697.87 802.69  
##   
## Step: AIC=754.32  
## Class ~ Duration + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## Purpose.Education + SavingsAccountBonds.lt.100 + EmploymentDuration.4.to.7 +   
## Personal.Male.Single + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - Purpose.Education 1 654.47 752.74  
## - EmploymentDuration.4.to.7 1 654.51 752.78  
## - CheckingAccountStatus.gt.200 1 654.91 753.18  
## - OtherInstallmentPlans.Bank 1 655.40 753.67  
## <none> 649.50 754.32  
## - CreditHistory.Delay 1 656.14 754.40  
## - InstallmentRatePercentage 1 656.78 755.04  
## - CreditHistory.ThisBank.AllPaid 1 656.82 755.08  
## - Purpose.NewCar 1 657.12 755.38  
## - Personal.Male.Single 1 657.43 755.70  
## - CreditHistory.PaidDuly 1 659.35 757.62  
## - CreditHistory.NoCredit.AllPaid 1 660.75 759.01  
## - SavingsAccountBonds.lt.100 1 663.45 761.72  
## - CheckingAccountStatus.0.to.200 1 684.39 782.65  
## - Duration 1 685.79 784.06  
## - CheckingAccountStatus.lt.0 1 701.58 799.85  
##   
## Step: AIC=752.74  
## Class ~ Duration + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## SavingsAccountBonds.lt.100 + EmploymentDuration.4.to.7 +   
## Personal.Male.Single + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - EmploymentDuration.4.to.7 1 659.53 751.25  
## - CheckingAccountStatus.gt.200 1 660.53 752.24  
## - Purpose.NewCar 1 660.74 752.46  
## - OtherInstallmentPlans.Bank 1 660.87 752.59  
## <none> 654.47 752.74  
## - CreditHistory.Delay 1 661.49 753.21  
## - CreditHistory.ThisBank.AllPaid 1 662.02 753.73  
## - Personal.Male.Single 1 662.40 754.11  
## - InstallmentRatePercentage 1 662.48 754.19  
## - CreditHistory.PaidDuly 1 663.92 755.64  
## - CreditHistory.NoCredit.AllPaid 1 664.91 756.62  
## - SavingsAccountBonds.lt.100 1 668.95 760.66  
## - CheckingAccountStatus.0.to.200 1 689.17 780.89  
## - Duration 1 690.19 781.90  
## - CheckingAccountStatus.lt.0 1 708.26 799.98  
##   
## Step: AIC=751.25  
## Class ~ Duration + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## SavingsAccountBonds.lt.100 + Personal.Male.Single + OtherInstallmentPlans.Bank  
##   
## Df Deviance AIC  
## - OtherInstallmentPlans.Bank 1 665.29 750.46  
## - Purpose.NewCar 1 665.36 750.52  
## - CheckingAccountStatus.gt.200 1 665.73 750.89  
## <none> 659.53 751.25  
## - CreditHistory.ThisBank.AllPaid 1 666.59 751.75  
## - CreditHistory.Delay 1 666.95 752.12  
## - InstallmentRatePercentage 1 668.50 753.66  
## - CreditHistory.PaidDuly 1 668.96 754.13  
## - Personal.Male.Single 1 669.20 754.36  
## - CreditHistory.NoCredit.AllPaid 1 671.00 756.17  
## - SavingsAccountBonds.lt.100 1 674.14 759.31  
## - Duration 1 692.31 777.48  
## - CheckingAccountStatus.0.to.200 1 694.22 779.39  
## - CheckingAccountStatus.lt.0 1 713.52 798.69  
##   
## Step: AIC=750.46  
## Class ~ Duration + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + Purpose.NewCar +   
## SavingsAccountBonds.lt.100 + Personal.Male.Single  
##   
## Df Deviance AIC  
## - Purpose.NewCar 1 670.98 749.59  
## - CheckingAccountStatus.gt.200 1 671.22 749.83  
## <none> 665.29 750.46  
## - CreditHistory.Delay 1 672.60 751.21  
## - InstallmentRatePercentage 1 673.71 752.33  
## - CreditHistory.PaidDuly 1 674.44 753.05  
## - Personal.Male.Single 1 674.45 753.06  
## - CreditHistory.ThisBank.AllPaid 1 675.14 753.75  
## - CreditHistory.NoCredit.AllPaid 1 677.85 756.47  
## - SavingsAccountBonds.lt.100 1 679.32 757.93  
## - Duration 1 697.69 776.31  
## - CheckingAccountStatus.0.to.200 1 700.85 779.46  
## - CheckingAccountStatus.lt.0 1 718.80 797.41  
##   
## Step: AIC=749.59  
## Class ~ Duration + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CheckingAccountStatus.gt.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + SavingsAccountBonds.lt.100 +   
## Personal.Male.Single  
##   
## Df Deviance AIC  
## - CheckingAccountStatus.gt.200 1 676.71 748.77  
## <none> 670.98 749.59  
## - CreditHistory.Delay 1 677.70 749.76  
## - InstallmentRatePercentage 1 678.57 750.63  
## - CreditHistory.PaidDuly 1 679.06 751.12  
## - Personal.Male.Single 1 679.44 751.50  
## - CreditHistory.ThisBank.AllPaid 1 680.48 752.54  
## - CreditHistory.NoCredit.AllPaid 1 682.04 754.10  
## - SavingsAccountBonds.lt.100 1 683.98 756.04  
## - Duration 1 700.63 772.69  
## - CheckingAccountStatus.0.to.200 1 707.14 779.20  
## - CheckingAccountStatus.lt.0 1 726.65 798.71  
##   
## Step: AIC=748.77  
## Class ~ Duration + InstallmentRatePercentage + CheckingAccountStatus.lt.0 +   
## CheckingAccountStatus.0.to.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + SavingsAccountBonds.lt.100 + Personal.Male.Single  
##   
## Df Deviance AIC  
## <none> 676.71 748.77  
## - CreditHistory.Delay 1 683.33 748.84  
## - InstallmentRatePercentage 1 684.00 749.51  
## - Personal.Male.Single 1 684.64 750.15  
## - CreditHistory.PaidDuly 1 685.40 750.91  
## - CreditHistory.ThisBank.AllPaid 1 686.79 752.30  
## - CreditHistory.NoCredit.AllPaid 1 688.56 754.07  
## - SavingsAccountBonds.lt.100 1 692.14 757.65  
## - Duration 1 705.91 771.42  
## - CheckingAccountStatus.0.to.200 1 707.78 773.29  
## - CheckingAccountStatus.lt.0 1 726.67 792.18

summary(step.bic)

##   
## Call:  
## glm(formula = Class ~ Duration + InstallmentRatePercentage +   
## CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CreditHistory.NoCredit.AllPaid + CreditHistory.ThisBank.AllPaid +   
## CreditHistory.PaidDuly + CreditHistory.Delay + SavingsAccountBonds.lt.100 +   
## Personal.Male.Single, family = "binomial", data = train)  
##   
## Deviance Residuals:   
## Min 1Q Median 3Q Max   
## -2.6663 -0.8018 0.4435 0.7340 1.8660   
##   
## Coefficients:  
## Estimate Std. Error z value Pr(>|z|)   
## (Intercept) 4.314385 0.452451 9.536 < 2e-16 \*\*\*  
## Duration -0.042617 0.008056 -5.290 1.22e-07 \*\*\*  
## InstallmentRatePercentage -0.233640 0.087675 -2.665 0.007703 \*\*   
## CheckingAccountStatus.lt.0 -1.637344 0.238896 -6.854 7.19e-12 \*\*\*  
## CheckingAccountStatus.0.to.200 -1.325477 0.241316 -5.493 3.96e-08 \*\*\*  
## CreditHistory.NoCredit.AllPaid -1.637285 0.487883 -3.356 0.000791 \*\*\*  
## CreditHistory.ThisBank.AllPaid -1.450807 0.461630 -3.143 0.001673 \*\*   
## CreditHistory.PaidDuly -0.673925 0.233234 -2.889 0.003859 \*\*   
## CreditHistory.Delay -0.932578 0.358750 -2.600 0.009335 \*\*   
## SavingsAccountBonds.lt.100 -0.842156 0.219471 -3.837 0.000124 \*\*\*  
## Personal.Male.Single 0.551453 0.197249 2.796 0.005179 \*\*   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## (Dispersion parameter for binomial family taken to be 1)  
##   
## Null deviance: 855.21 on 699 degrees of freedom  
## Residual deviance: 676.71 on 689 degrees of freedom  
## AIC: 698.71  
##   
## Number of Fisher Scoring iterations: 5

#####################  
model\_2= glm(Class~Duration + Amount + InstallmentRatePercentage + ForeignWorker +   
 CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
 CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
 CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
 CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
 Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
 Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
 SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
 EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
 OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
 Property.Insurance + OtherInstallmentPlans.Bank, data=train, family="binomial")  
summary(model\_2)

##   
## Call:  
## glm(formula = Class ~ Duration + Amount + InstallmentRatePercentage +   
## ForeignWorker + CheckingAccountStatus.lt.0 + CheckingAccountStatus.0.to.200 +   
## CheckingAccountStatus.gt.200 + CreditHistory.NoCredit.AllPaid +   
## CreditHistory.ThisBank.AllPaid + CreditHistory.PaidDuly +   
## CreditHistory.Delay + Purpose.NewCar + Purpose.Furniture.Equipment +   
## Purpose.Radio.Television + Purpose.Repairs + Purpose.Education +   
## Purpose.Retraining + Purpose.Business + SavingsAccountBonds.lt.100 +   
## SavingsAccountBonds.100.to.500 + SavingsAccountBonds.500.to.1000 +   
## EmploymentDuration.lt.1 + EmploymentDuration.4.to.7 + Personal.Male.Single +   
## OtherDebtorsGuarantors.CoApplicant + Property.RealEstate +   
## Property.Insurance + OtherInstallmentPlans.Bank, family = "binomial",   
## data = train)  
##   
## Deviance Residuals:   
## Min 1Q Median 3Q Max   
## -2.6340 -0.7046 0.3457 0.6983 2.3334   
##   
## Coefficients:  
## Estimate Std. Error z value Pr(>|z|)  
## (Intercept) 7.735e+00 1.066e+00 7.256 3.98e-13  
## Duration -3.188e-02 1.108e-02 -2.878 0.004003  
## Amount -1.378e-04 5.368e-05 -2.567 0.010261  
## InstallmentRatePercentage -3.189e-01 1.023e-01 -3.119 0.001814  
## ForeignWorker -1.129e+00 7.644e-01 -1.477 0.139780  
## CheckingAccountStatus.lt.0 -2.035e+00 2.875e-01 -7.076 1.48e-12  
## CheckingAccountStatus.0.to.200 -1.480e+00 2.801e-01 -5.284 1.26e-07  
## CheckingAccountStatus.gt.200 -1.051e+00 4.623e-01 -2.274 0.022962  
## CreditHistory.NoCredit.AllPaid -1.346e+00 5.237e-01 -2.571 0.010135  
## CreditHistory.ThisBank.AllPaid -1.245e+00 5.174e-01 -2.406 0.016130  
## CreditHistory.PaidDuly -7.168e-01 2.503e-01 -2.863 0.004192  
## CreditHistory.Delay -9.424e-01 3.906e-01 -2.413 0.015843  
## Purpose.NewCar -1.779e+00 4.154e-01 -4.283 1.84e-05  
## Purpose.Furniture.Equipment -1.021e+00 4.157e-01 -2.457 0.014019  
## Purpose.Radio.Television -1.272e+00 4.141e-01 -3.071 0.002133  
## Purpose.Repairs -1.528e+00 7.543e-01 -2.026 0.042816  
## Purpose.Education -2.028e+00 5.801e-01 -3.496 0.000472  
## Purpose.Retraining 1.475e+01 7.109e+02 0.021 0.983452  
## Purpose.Business -1.481e+00 4.835e-01 -3.063 0.002193  
## SavingsAccountBonds.lt.100 -1.254e+00 3.213e-01 -3.904 9.44e-05  
## SavingsAccountBonds.100.to.500 -6.695e-01 4.382e-01 -1.528 0.126554  
## SavingsAccountBonds.500.to.1000 -1.144e+00 5.099e-01 -2.243 0.024903  
## EmploymentDuration.lt.1 -5.104e-01 2.701e-01 -1.890 0.058801  
## EmploymentDuration.4.to.7 6.384e-01 3.085e-01 2.070 0.038488  
## Personal.Male.Single 6.266e-01 2.172e-01 2.885 0.003911  
## OtherDebtorsGuarantors.CoApplicant -8.949e-01 5.296e-01 -1.690 0.091072  
## Property.RealEstate 4.054e-01 2.639e-01 1.536 0.124519  
## Property.Insurance 4.379e-01 2.676e-01 1.636 0.101791  
## OtherInstallmentPlans.Bank -8.251e-01 2.792e-01 -2.955 0.003123  
##   
## (Intercept) \*\*\*  
## Duration \*\*   
## Amount \*   
## InstallmentRatePercentage \*\*   
## ForeignWorker   
## CheckingAccountStatus.lt.0 \*\*\*  
## CheckingAccountStatus.0.to.200 \*\*\*  
## CheckingAccountStatus.gt.200 \*   
## CreditHistory.NoCredit.AllPaid \*   
## CreditHistory.ThisBank.AllPaid \*   
## CreditHistory.PaidDuly \*\*   
## CreditHistory.Delay \*   
## Purpose.NewCar \*\*\*  
## Purpose.Furniture.Equipment \*   
## Purpose.Radio.Television \*\*   
## Purpose.Repairs \*   
## Purpose.Education \*\*\*  
## Purpose.Retraining   
## Purpose.Business \*\*   
## SavingsAccountBonds.lt.100 \*\*\*  
## SavingsAccountBonds.100.to.500   
## SavingsAccountBonds.500.to.1000 \*   
## EmploymentDuration.lt.1 .   
## EmploymentDuration.4.to.7 \*   
## Personal.Male.Single \*\*   
## OtherDebtorsGuarantors.CoApplicant .   
## Property.RealEstate   
## Property.Insurance   
## OtherInstallmentPlans.Bank \*\*   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## (Dispersion parameter for binomial family taken to be 1)  
##   
## Null deviance: 855.21 on 699 degrees of freedom  
## Residual deviance: 609.38 on 671 degrees of freedom  
## AIC: 667.38  
##   
## Number of Fisher Scoring iterations: 15

library(car)  
vif(model\_2)

## Duration Amount   
## 1.849480 2.184310   
## InstallmentRatePercentage ForeignWorker   
## 1.263664 1.067719   
## CheckingAccountStatus.lt.0 CheckingAccountStatus.0.to.200   
## 1.911627 1.724701   
## CheckingAccountStatus.gt.200 CreditHistory.NoCredit.AllPaid   
## 1.248464 1.250875   
## CreditHistory.ThisBank.AllPaid CreditHistory.PaidDuly   
## 1.253026 1.536513   
## CreditHistory.Delay Purpose.NewCar   
## 1.394352 3.072190   
## Purpose.Furniture.Equipment Purpose.Radio.Television   
## 2.889782 3.407326   
## Purpose.Repairs Purpose.Education   
## 1.313419 1.585044   
## Purpose.Retraining Purpose.Business   
## 1.000001 2.167523   
## SavingsAccountBonds.lt.100 SavingsAccountBonds.100.to.500   
## 2.101321 1.714037   
## SavingsAccountBonds.500.to.1000 EmploymentDuration.lt.1   
## 1.479118 1.174240   
## EmploymentDuration.4.to.7 Personal.Male.Single   
## 1.154172 1.171409   
## OtherDebtorsGuarantors.CoApplicant Property.RealEstate   
## 1.041134 1.307016   
## Property.Insurance OtherInstallmentPlans.Bank   
## 1.256513 1.103736

Comment: Finally we use those 28 variables to build a logistic model for the data set. Also we check the VIF to make sure that final model variables does not have multicollinearity.

train$predicted\_risk = predict(model\_2, type="response")  
train$predicted\_risk

## [1] 0.93722417 0.55445476 0.23665289 0.73851573 0.98550349 0.29712198  
## [7] 0.11568931 0.48953662 0.38023562 0.42448861 0.98242760 0.34988903  
## [13] 0.87052801 0.91230534 0.78195538 0.90392084 0.99581257 0.74761809  
## [19] 0.76982643 0.09184464 0.55082826 0.56175338 0.98052876 0.44756357  
## [25] 0.60677104 0.57681404 0.95624388 0.78398157 0.67292841 0.91776212  
## [31] 0.41685529 0.79575530 0.92071029 0.81970064 0.62919445 0.82548224  
## [37] 0.92245006 0.99491487 0.14447012 0.98194066 0.72632121 0.50084156  
## [43] 0.08381582 0.53435898 0.94884445 0.26467073 0.07696410 0.69235616  
## [49] 0.92917066 0.77527063 0.63621678 0.86576355 0.99182961 0.85143545  
## [55] 0.45318646 0.88841615 0.15231068 0.48462621 0.90061366 0.93194416  
## [61] 0.91908130 0.67318294 0.68256852 0.67906367 0.84885646 0.02377909  
## [67] 0.96375757 0.70810552 0.92375279 0.83237936 0.59973049 0.90602751  
## [73] 0.90787022 0.98238647 0.68624653 0.85087859 0.77390048 0.41939638  
## [79] 0.65763384 0.61585375 0.60952948 0.76424505 0.46368293 0.94144566  
## [85] 0.95530685 0.80929175 0.65735747 0.49466950 0.62407107 0.92977756  
## [91] 0.12328926 0.86448045 0.78443400 0.73950059 0.98035943 0.97352268  
## [97] 0.77932308 0.92888034 0.95913298 0.88048246 0.42518611 0.71277816  
## [103] 0.62605485 0.98002486 0.42775269 0.93425113 0.95744087 0.99999938  
## [109] 0.62562893 0.99629506 0.97285246 0.81829117 0.98923186 0.81488175  
## [115] 0.96862934 0.39486865 0.80830262 0.93930327 0.61975636 0.90509274  
## [121] 0.58398067 0.29371540 0.84262150 0.55058799 0.93696862 0.63314617  
## [127] 0.40911365 0.36685038 0.48059605 0.34043986 0.96884743 0.39138336  
## [133] 0.40719841 0.96398182 0.59972397 0.67076030 0.96703996 0.39971233  
## [139] 0.85684595 0.36956186 0.91442737 0.84165334 0.93934354 0.63793327  
## [145] 0.96884245 0.99924392 0.99521137 0.93754396 0.33761164 0.60202099  
## [151] 0.95592472 1.00000000 0.35639265 0.73476098 0.54109804 0.84694490  
## [157] 0.31180946 0.40502445 0.85984044 0.94066985 0.96024347 0.57934707  
## [163] 0.33692534 0.36892256 0.94590890 0.48367058 0.91073194 0.97283855  
## [169] 0.57915463 0.99160677 0.41646648 0.76473736 0.29052562 0.93591132  
## [175] 0.28562669 0.37174749 0.94121747 0.99999997 0.93150382 0.96625122  
## [181] 0.87277813 0.78295673 0.82495619 0.96917783 0.66596257 0.93708097  
## [187] 0.96728833 0.96389428 0.55527207 0.75008468 0.65586439 0.94609329  
## [193] 0.95544073 0.99120956 0.97198546 0.06605089 0.58071023 0.08574447  
## [199] 0.96824286 0.92667078 0.91645879 0.90649366 0.99519510 0.94103257  
## [205] 0.99085664 0.39931649 0.07052755 0.69786062 0.71661405 0.61761497  
## [211] 0.23427167 0.97123118 0.47070972 0.73677270 0.83904552 0.60893842  
## [217] 0.98258774 0.97432883 0.93450732 0.15519311 0.48029521 0.99105962  
## [223] 0.41199694 0.54492142 0.72751988 0.88335054 0.53296495 0.51848808  
## [229] 0.98299088 0.12458162 0.89492352 0.89979048 0.62051950 0.32622116  
## [235] 0.25880288 0.88705221 0.77620244 0.87936510 0.96424681 0.92395884  
## [241] 0.70995717 0.83601233 0.79350885 0.17684659 0.84868258 0.61503754  
## [247] 0.50693549 0.58152439 0.67540100 0.89326931 0.78743381 0.59670612  
## [253] 0.97800668 0.88133259 0.97709922 0.92580459 0.32093404 0.83876375  
## [259] 0.42179387 0.98843944 0.67379854 0.88110782 0.51468789 0.96434356  
## [265] 0.50370025 0.98959694 0.41885665 0.33334947 0.82518266 0.90840630  
## [271] 0.91207040 0.96414052 0.07447665 0.11948179 0.88197151 0.97637857  
## [277] 0.93340937 0.45909039 0.91642602 0.92820987 0.92467368 0.70397205  
## [283] 0.91283910 0.86186548 0.92025595 0.27440087 0.87029167 0.97587886  
## [289] 0.32068453 0.47102241 0.57572418 0.71318533 0.97039475 0.82116393  
## [295] 0.60953654 0.61134169 0.78682744 0.86852091 0.96179830 0.57005238  
## [301] 0.80342895 0.96058306 0.95680339 0.93152120 0.97007091 0.87196290  
## [307] 0.86747848 0.89658493 0.98736020 0.60183998 0.97958429 0.28849846  
## [313] 0.76798046 0.91034243 0.96581495 0.95320136 0.43225551 0.46950660  
## [319] 0.74888589 0.49494286 0.08574454 0.84538548 0.93621176 0.92748825  
## [325] 0.93384962 0.84737210 0.73944019 0.80542445 0.66322295 0.49732856  
## [331] 0.56787520 0.99999999 0.90891963 0.15745702 0.67015302 0.70212185  
## [337] 0.96467810 0.45251113 0.26319241 1.00000000 0.64070875 0.92406046  
## [343] 0.50018805 0.72398609 0.85951197 0.43124873 0.63175195 0.94767190  
## [349] 0.64122529 0.92723609 0.35480366 0.93125046 0.96830117 0.98812989  
## [355] 0.88762058 0.73444062 0.15075949 0.97754696 0.89037069 0.66465476  
## [361] 0.56642630 0.18864896 0.96768893 0.97330381 0.82708518 0.89508220  
## [367] 0.94427117 0.91045123 0.36094864 0.89950601 0.89764998 0.81607894  
## [373] 0.87753928 0.52058022 0.13096774 0.97480013 0.66961389 0.99165366  
## [379] 0.19585076 0.49345802 0.94281509 0.90592223 0.53364223 0.70200092  
## [385] 0.77894643 0.03721091 0.70371088 0.71820475 0.68793210 0.86610507  
## [391] 0.98881882 0.98695516 0.89231888 0.39140517 0.70271634 0.68894945  
## [397] 0.80460589 0.32720363 0.26623608 0.56588648 0.52074172 0.79940455  
## [403] 0.56212687 0.98526212 0.74041588 0.11007475 0.26642516 0.98486253  
## [409] 0.42360484 0.68946328 0.85172195 0.93023386 0.22617036 0.99999994  
## [415] 0.65090768 0.65856741 0.90590760 0.26717474 0.49629645 0.77888903  
## [421] 0.69149036 0.72869554 0.84696346 0.79858072 0.52316344 0.86137495  
## [427] 0.42970275 0.67293185 0.60054870 0.94562889 0.87418217 0.71399957  
## [433] 0.67443516 0.44098053 0.92804610 0.22818622 0.85223790 0.97718798  
## [439] 0.82929118 0.91154940 0.14811387 0.43192410 0.81970799 0.90745672  
## [445] 0.65551071 0.30024287 0.43706554 0.96147772 0.92224497 0.82844862  
## [451] 0.90897300 0.97722673 0.35914052 0.22942634 0.73307576 0.73018333  
## [457] 0.28547121 0.27374667 0.57909341 0.91849719 0.73353816 0.29496039  
## [463] 0.89959353 0.51818951 0.36489744 0.11929024 0.36860520 0.98596683  
## [469] 0.53364367 0.84130257 0.57272803 0.91615266 0.79580964 0.79364297  
## [475] 0.68404528 0.66481201 0.42568732 0.80922554 0.96186753 0.91887143  
## [481] 0.48527662 0.94716095 0.60701258 0.90079607 0.82156824 0.96343932  
## [487] 0.68132817 0.75844871 0.71328103 0.65672618 0.38785532 0.87383369  
## [493] 0.81499789 0.68611536 0.89602393 0.90655224 0.99192028 0.93141019  
## [499] 0.54124230 0.62728758 0.80776583 0.56770864 0.34606427 0.63630584  
## [505] 0.84530003 0.16961951 0.99038362 0.79535148 0.99268498 0.97400502  
## [511] 0.87351587 0.94012559 0.46087828 0.51279238 0.36092359 0.67424751  
## [517] 0.74823545 0.96547204 0.16716570 0.07281653 0.94787583 0.45194160  
## [523] 0.66450645 0.98413049 0.47285416 0.47458858 0.23275964 0.39997022  
## [529] 0.96446770 0.45272930 0.68570305 0.48652984 0.42012502 0.31023799  
## [535] 0.99187063 0.57522458 0.84431993 0.96440433 0.90826001 0.70026645  
## [541] 0.96559397 0.63610961 0.94548991 0.99139382 0.97943005 0.92196704  
## [547] 0.12707498 0.92802712 0.87289478 0.47039710 0.84673559 0.95104907  
## [553] 0.86711827 0.88829249 0.98283163 0.10563761 0.09218464 0.99524550  
## [559] 0.60862460 0.86850135 0.94704199 0.95537149 0.85127771 0.79826978  
## [565] 0.76640302 0.98475072 0.78657617 0.27348266 0.84253835 0.37545485  
## [571] 0.70822284 0.69668849 0.57909894 0.22067864 0.98852599 0.98190191  
## [577] 0.24482135 0.63566776 0.41550481 0.71871870 0.85422525 0.34788586  
## [583] 0.42037347 0.79658690 0.77348270 0.15359589 0.07014877 0.68350693  
## [589] 0.94463596 0.87356417 0.76664531 0.53605762 0.96777389 0.70773289  
## [595] 0.82221938 0.94254322 0.63124564 0.64660989 0.51446488 0.99759994  
## [601] 0.93988633 0.37979141 0.74867196 1.00000000 0.32700223 0.98904054  
## [607] 0.99181510 0.68561171 0.23981691 0.96597424 0.92817046 0.90903070  
## [613] 0.20408464 0.98045040 0.56666739 0.98177462 0.86530723 0.98034691  
## [619] 0.55799826 0.82319555 0.74471715 0.37692932 0.88881389 0.21951018  
## [625] 0.11639694 0.49738790 0.93703821 0.72077682 0.83121788 0.97317414  
## [631] 0.25949369 0.38374304 0.95102305 0.95596676 0.89824266 0.95452673  
## [637] 0.87967270 0.36795596 0.97914235 0.24578339 0.98695790 0.76716248  
## [643] 0.53526018 0.90291145 0.45604854 0.81201638 0.10243941 0.55693545  
## [649] 0.41100925 0.94016625 0.39643211 0.96052752 0.97137907 0.46551470  
## [655] 0.95921066 0.97146324 0.98136348 0.06571244 0.22710042 0.59031617  
## [661] 0.51936254 0.61450716 0.42012370 0.34064232 0.93159430 0.92742670  
## [667] 0.27808760 0.70703412 0.96820406 0.56835384 0.94329799 0.77256697  
## [673] 0.58504420 0.66124493 0.78433775 0.57251198 0.79532472 0.78263415  
## [679] 0.86024080 0.13581374 0.03412251 0.70388285 0.85853952 0.45037086  
## [685] 0.98726371 0.68607137 0.19109154 0.95717015 0.56933090 0.79947900  
## [691] 0.97392168 0.77748894 0.85102292 0.41924693 0.93985186 0.95599567  
## [697] 0.56811996 0.90205466 0.26702331 0.88705419

train$pred\_Class <- factor(ifelse(train$predicted\_risk>0.67,1,0))  
train$pred\_Class

## [1] 1 0 0 1 1 0 0 0 0 0 1 0 1 1 1 1 1 1 1 0 0 0 1 0 0 0 1 1 1 1 0 1 1 1 0  
## [36] 1 1 1 0 1 1 0 0 0 1 0 0 1 1 1 0 1 1 1 0 1 0 0 1 1 1 1 1 1 1 0 1 1 1 1  
## [71] 0 1 1 1 1 1 1 0 0 0 0 1 0 1 1 1 0 0 0 1 0 1 1 1 1 1 1 1 1 1 0 1 0 1 0  
## [106] 1 1 1 0 1 1 1 1 1 1 0 1 1 0 1 0 0 1 0 1 0 0 0 0 0 1 0 0 1 0 1 1 0 1 0  
## [141] 1 1 1 0 1 1 1 1 0 0 1 1 0 1 0 1 0 0 1 1 1 0 0 0 1 0 1 1 0 1 0 1 0 1 0  
## [176] 0 1 1 1 1 1 1 1 1 0 1 1 1 0 1 0 1 1 1 1 0 0 0 1 1 1 1 1 1 1 0 0 1 1 0  
## [211] 0 1 0 1 1 0 1 1 1 0 0 1 0 0 1 1 0 0 1 0 1 1 0 0 0 1 1 1 1 1 1 1 1 0 1  
## [246] 0 0 0 1 1 1 0 1 1 1 1 0 1 0 1 1 1 0 1 0 1 0 0 1 1 1 1 0 0 1 1 1 0 1 1  
## [281] 1 1 1 1 1 0 1 1 0 0 0 1 1 1 0 0 1 1 1 0 1 1 1 1 1 1 1 1 1 0 1 0 1 1 1  
## [316] 1 0 0 1 0 0 1 1 1 1 1 1 1 0 0 0 1 1 0 1 1 1 0 0 1 0 1 0 1 1 0 0 1 0 1  
## [351] 0 1 1 1 1 1 0 1 1 0 0 0 1 1 1 1 1 1 0 1 1 1 1 0 0 1 0 1 0 0 1 1 0 1 1  
## [386] 0 1 1 1 1 1 1 1 0 1 1 1 0 0 0 0 1 0 1 1 0 0 1 0 1 1 1 0 1 0 0 1 0 0 1  
## [421] 1 1 1 1 0 1 0 1 0 1 1 1 1 0 1 0 1 1 1 1 0 0 1 1 0 0 0 1 1 1 1 1 0 0 1  
## [456] 1 0 0 0 1 1 0 1 0 0 0 0 1 0 1 0 1 1 1 1 0 0 1 1 1 0 1 0 1 1 1 1 1 1 0  
## [491] 0 1 1 1 1 1 1 1 0 0 1 0 0 0 1 0 1 1 1 1 1 1 0 0 0 1 1 1 0 0 1 0 0 1 0  
## [526] 0 0 0 1 0 1 0 0 0 1 0 1 1 1 1 1 0 1 1 1 1 0 1 1 0 1 1 1 1 1 0 0 1 0 1  
## [561] 1 1 1 1 1 1 1 0 1 0 1 1 0 0 1 1 0 0 0 1 1 0 0 1 1 0 0 1 1 1 1 0 1 1 1  
## [596] 1 0 0 0 1 1 0 1 1 0 1 1 1 0 1 1 1 0 1 0 1 1 1 0 1 1 0 1 0 0 0 1 1 1 1  
## [631] 0 0 1 1 1 1 1 0 1 0 1 1 0 1 0 1 0 0 0 1 0 1 1 0 1 1 1 0 0 0 0 0 0 0 1  
## [666] 1 0 1 1 0 1 1 0 0 1 0 1 1 1 0 0 1 1 0 1 1 0 1 0 1 1 1 1 0 1 1 0 1 0 1  
## Levels: 0 1

train$Class\_1<- factor(ifelse((train$Class)=="Good",1,0))  
train$Class\_1

## [1] 1 1 0 1 1 0 0 0 1 0 1 0 1 1 1 1 1 1 1 0 1 1 1 0 1 0 1 1 1 1 0 1 1 1 1  
## [36] 1 1 1 0 1 1 1 0 1 1 0 0 1 1 1 0 1 1 1 1 1 0 1 0 1 1 1 1 1 1 0 1 1 1 1  
## [71] 1 1 1 1 1 1 1 1 1 0 0 1 0 1 1 1 1 1 0 1 0 1 1 1 1 1 0 1 1 1 1 1 1 1 1  
## [106] 1 1 1 1 1 1 1 1 1 1 0 1 1 0 1 0 0 0 1 1 1 0 0 0 1 0 0 0 1 0 0 1 0 1 0  
## [141] 1 1 1 1 1 1 1 1 0 0 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 1 0  
## [176] 0 1 1 1 1 1 0 1 1 1 1 1 1 1 1 0 1 1 1 1 1 0 0 1 1 0 1 1 1 1 1 1 1 1 1  
## [211] 0 1 0 1 1 1 1 1 1 0 0 1 0 1 1 1 1 0 1 0 1 1 1 0 0 1 1 1 1 1 1 1 0 0 0  
## [246] 1 1 1 1 1 1 1 1 0 1 0 0 1 0 1 0 1 0 1 0 1 1 0 1 1 1 1 0 0 1 1 1 0 1 1  
## [281] 1 1 1 1 1 1 1 1 1 1 1 0 1 1 0 1 1 0 1 0 1 1 1 1 1 0 1 1 1 0 1 0 1 0 1  
## [316] 1 0 1 1 0 0 1 1 1 1 1 1 0 1 1 1 1 1 0 1 1 1 0 0 1 0 1 1 1 1 1 1 1 0 1  
## [351] 1 1 1 1 1 0 0 1 1 1 0 0 0 1 1 1 1 1 1 1 1 0 1 0 0 1 1 1 0 1 1 1 0 1 1  
## [386] 0 0 1 0 1 1 1 1 0 1 0 0 0 0 1 0 1 0 1 1 0 0 1 1 1 1 1 0 1 0 1 1 0 0 1  
## [421] 1 0 0 1 1 1 0 0 0 0 1 1 0 1 1 0 1 1 0 0 1 1 1 1 0 1 0 1 1 0 1 1 1 0 0  
## [456] 1 0 0 1 1 1 1 0 0 0 1 0 1 1 1 0 1 1 1 1 1 0 1 1 1 1 1 0 1 1 1 1 1 1 1  
## [491] 1 1 1 1 1 1 1 1 1 1 1 0 0 1 1 0 1 1 1 1 1 1 1 0 0 1 0 1 0 0 1 1 0 1 1  
## [526] 1 0 1 1 1 1 1 1 0 1 1 1 0 1 0 1 0 1 1 1 1 0 1 1 1 0 1 1 1 1 0 0 1 1 1  
## [561] 1 1 1 1 1 1 1 0 1 1 1 0 0 0 1 1 0 1 0 1 1 1 0 0 0 0 0 0 1 1 1 0 1 0 1  
## [596] 1 1 0 0 1 1 0 1 1 0 1 1 0 0 1 0 1 1 1 1 1 1 1 1 1 1 0 1 0 0 1 1 1 1 1  
## [631] 1 0 1 1 1 1 1 0 1 0 1 0 0 1 0 1 0 1 0 1 0 1 1 0 1 1 1 1 0 1 0 0 0 1 1  
## [666] 1 0 1 1 1 1 0 1 1 0 1 1 1 1 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 1  
## Levels: 0 1

library(caret)

## Loading required package: lattice

## Loading required package: ggplot2

confusionMatrix(train$pred\_Class,train$Class\_1)

## Confusion Matrix and Statistics  
##   
## Reference  
## Prediction 0 1  
## 0 158 113  
## 1 52 377  
##   
## Accuracy : 0.7643   
## 95% CI : (0.7311, 0.7953)  
## No Information Rate : 0.7   
## P-Value [Acc > NIR] : 8.875e-05   
##   
## Kappa : 0.4818   
## Mcnemar's Test P-Value : 2.997e-06   
##   
## Sensitivity : 0.7524   
## Specificity : 0.7694   
## Pos Pred Value : 0.5830   
## Neg Pred Value : 0.8788   
## Prevalence : 0.3000   
## Detection Rate : 0.2257   
## Detection Prevalence : 0.3871   
## Balanced Accuracy : 0.7609   
##   
## 'Positive' Class : 0   
##

Comment: The confusion matrix shows the distribution of actual values and predicted values. The top left value is the number of observations correctly predicted as denied credit and the bottom right is the number of observations correctly predicted as credit granted. The other values are the false positive and false negative values. Out of Of the 700 observations from the “train” data, the model predicted 535 approval decisions correctly and has 76% accuracy.

library(verification)

## Loading required package: fields

## Loading required package: spam

## Loading required package: dotCall64

## Loading required package: grid

## Spam version 2.2-0 (2018-06-19) is loaded.  
## Type 'help( Spam)' or 'demo( spam)' for a short introduction   
## and overview of this package.  
## Help for individual functions is also obtained by adding the  
## suffix '.spam' to the function name, e.g. 'help( chol.spam)'.

##   
## Attaching package: 'spam'

## The following objects are masked from 'package:base':  
##   
## backsolve, forwardsolve

## Loading required package: maps

## See www.image.ucar.edu/~nychka/Fields for  
## a vignette and other supplements.

## Loading required package: boot

##   
## Attaching package: 'boot'

## The following object is masked from 'package:lattice':  
##   
## melanoma

## The following object is masked from 'package:car':  
##   
## logit

## Loading required package: CircStats

## Loading required package: dtw

## Loading required package: proxy

##   
## Attaching package: 'proxy'

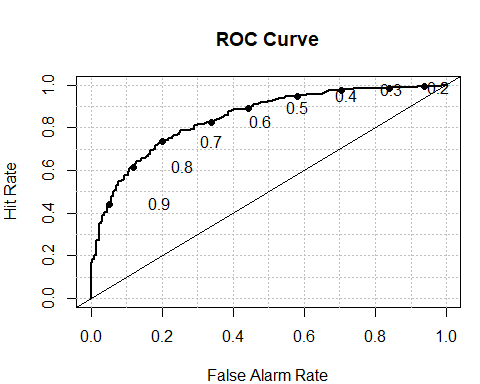
## The following object is masked from 'package:spam':  
##   
## as.matrix

## The following objects are masked from 'package:stats':  
##   
## as.dist, dist

## The following object is masked from 'package:base':  
##   
## as.matrix

## Loaded dtw v1.20-1. See ?dtw for help, citation("dtw") for use in publication.

object=ifelse((train$Class)=="Good",1,0)  
roc.plot(object, train$predicted\_risk)  
roc.plot(object, train$predicted\_risk)$roc.vol$Area



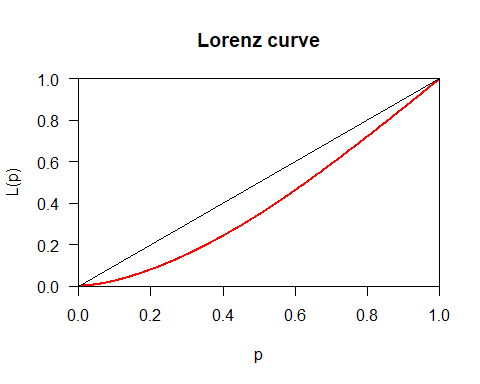
## [1] 0.8463168

Comment: ROC depicts sensitivity (y-axis) and 1 - specificity (x-axis). In order to evaluate the fitted model we draw the ROC curve.A ROC curve is another measure of Model Predictive Power. It compares False Positive Rate (1- Specificity) and True Positive Rate (Sensitivity). It shows level of True Positive Rate (TPR) and at what level of False Positive Rate (FPR).

library(ineq)  
ineq(train$predicted\_risk,type="Gini")

## [1] 0.2067198

plot(Lc(train$predicted\_risk),col="red",lwd=2)



ks.test(train$predicted\_risk,object,alternative='greater')

## Warning in ks.test(train$predicted\_risk, object, alternative = "greater"):  
## p-value will be approximate in the presence of ties

##   
## Two-sample Kolmogorov-Smirnov test  
##   
## data: train$predicted\_risk and object  
## D^+ = 0.7, p-value < 2.2e-16  
## alternative hypothesis: the CDF of x lies above that of y

To evaluate the model we find the gini index , Lorenz curve and conduct the Kolmogrov- Smirnov test. Gini Index is measure of inequality and Lorenz curve shows inequality visually. We got a gini index 0.207, which means the discripency is low. Also the KS statistic 0.7, that means the model is fairly good to fit the data.