Lab5

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Task 2

```
library(R.ROSETTA)
View(autcon)
table(autcon$decision)
```

```
##
##  autism control
##      82      64
```

```
autconDefault = R.ROSETTA::rosetta(autcon)
```

```
## Warning in system(command = comm, ignore.stdout = TRUE, intern =
## TRUE): running command 'cmd /K C:\Users\smelo\OneDrive\Dokumenty\R\win-
## library\3.5\R.ROSETTA\exec\clrosetta.exe
## SerialExecutor "FILENAME.COMMANDS=C:
## \Users\smelo\AppData\Local\Temp\Rtmp6fpLYJ\Dec_11_2018_171454_RROS\results\data.csv\outPrep\data_toR
## FILENAME.LOG=C:
## \Users\smelo\AppData\Local\Temp\Rtmp6fpLYJ\Dec_11_2018_171454_RROS\results\data.csv\outPrep\log.txt"
## had status 99
```

```
## Warning in system(command = comm, ignore.stdout = TRUE, intern =
## TRUE): running command 'cmd /K C:\Users\smelo\OneDrive\Dokumenty\R\win-
## library\3.5\R.ROSETTA\exec\clrosetta.exe CVSerialExecutor "INVERT
## = F; NUMBER = 10; SEED = 1; LENGTH = 5; FILENAME.COMMANDS = C:
## \Users\smelo\AppData\Local\Temp\Rtmp6fpLYJ\Dec_11_2018_171454_RROS\results\data.csv\outRosetta\OUT_cr
## FILENAME.LOG = C:
## \Users\smelo\AppData\Local\Temp\Rtmp6fpLYJ\Dec_11_2018_171454_RROS\results\data.csv\outRosetta\logMa
## C:
## \Users\smelo\AppData\Local\Temp\Rtmp6fpLYJ\Dec_11_2018_171454_RROS\results\data.csv\outRosetta\data.
## had status 99
```

```
## Warning in R.ROSETTA::rosetta(autcon): NAs introduced by coercion
```

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## Warning in R.ROSETTA::rosetta(autcon): NAs introduced by coercion
```

```
autconDefault$main
```

```
##             FEATURES DECISION                   CUTS_COND DISC_CLASSES
## 1     PPOX,LOC400655  control     value<cut,cut<value<cut           1,2
## 2  NCKAP5L,234817_at  control         value<cut,value<cut           1,1
## 3       MAP7,ATXN8OS  control         value>cut,value<cut           3,1
## 4       ZSCAN18,NPR2  control     value<cut,cut<value<cut           1,2
## 5        PPOX,OR51B5  control     value<cut,cut<value<cut           1,2
## 6     NCKAP5L,B3GNT7  control         value<cut,value<cut           1,1
## 7     NCKAP5L,OR51B5  control     value<cut,cut<value<cut           1,2
## 8      ZSCAN18,PSMG4   autism         value>cut,value>cut           3,3
## 9       MAP7,NCKAP5L  control         value>cut,value<cut           3,1
## 10     PSMG4,TSPOAP1   autism         value>cut,value>cut           3,3
## 11      NCS1,C1QTNF7  control         value<cut,value>cut           1,3
## 12      ZSCAN18,NPR2   autism         value>cut,value>cut           3,3
## 13     PSMG4,TCP11L1   autism         value>cut,value<cut           3,1
## 14        RHPN1,PPOX  control         value<cut,value<cut           1,1
## 15  ZSCAN18,MIR646HG   autism     value>cut,cut<value<cut           3,2
## 16  ZSCAN18,C11orf95  control         value<cut,value<cut           1,1
## 17         PPOX,NPR2  control     value<cut,cut<value<cut           1,2
## 18        COX2,PSMG4   autism         value>cut,value>cut           3,3
## 19        MAP7,RHPN1   autism     cut<value<cut,value>cut           2,3
## 20        COX2,FLRT2   autism         value>cut,value>cut           3,3
## 21         MAP7,NPR2  control     value>cut,cut<value<cut           3,2
## 22    RHPN1,MIR646HG   autism     value>cut,cut<value<cut           3,2
## 23      ZFP36L2,GJA9   autism         value<cut,value>cut           1,3
## 24      COX2,C1QTNF7   autism     value>cut,cut<value<cut           3,2
## 25     COX2,MIR646HG  control     cut<value<cut,value<cut           2,1
## 26       RHPN1,PSMG4   autism         value>cut,value>cut           3,3
## 27       RHPN1,CAPS2   autism         value>cut,value<cut           3,1
## 28   ZSCAN18,TSPOAP1   autism         value>cut,value<cut           3,1
## 29         COX2,GJA9   autism         value>cut,value>cut           3,3
## 30     COX2,MIR646HG   autism     value>cut,cut<value<cut           3,2
## 31      NPR2,ZFP36L2   autism         value>cut,value<cut           3,1
## 32         COX2,NPR2   autism         value>cut,value>cut           3,3
## 33     COX2,C11orf95   autism         value>cut,value>cut           3,3
## 34      RHPN1,OR51B5   autism         value>cut,value<cut           3,1
## 35         PPOX,SCIN   autism cut<value<cut,cut<value<cut           2,2
## 36      NPR2,CWF19L2  control     cut<value<cut,value>cut           2,3
## 37   TSPOAP1,ZFP36L2   autism     value>cut,cut<value<cut           3,2
## 38      ZSCAN18,CSTB   autism     value>cut,cut<value<cut           3,2
## 39     SCIN,MIR646HG   autism cut<value<cut,cut<value<cut           2,2
## 40   PSMG4,234817_at  control     cut<value<cut,value<cut           2,1
## 41      NCKAP5L,SCIN   autism cut<value<cut,cut<value<cut           2,2
## 42      COX2,ZSCAN18  control     cut<value<cut,value<cut           2,1
## 43        MAP7,RHPN1   autism         value>cut,value>cut           3,3
##    SUPP_LHS SUPP_RHS ACC_RHS COV_LHS COV_RHS STAB_LHS STAB_RHS   CUT_1
## 1        17       17 1.00000 0.12977 0.28814        1        1 2.09254
## 2        17       17 1.00000 0.12977 0.28814        1        1 1.90303
## 3        17       17 1.00000 0.12977 0.28814        1        1 2.51954
## 4        18       18 1.00000 0.13740 0.30508        1        1 2.35166
## 5        16       16 1.00000 0.12214 0.27119        1        1 2.09254
## 6        16       16 1.00000 0.12214 0.27119        1        1 1.90303
```

```
## 7        15       15 1.00000 0.11450 0.25424        1        1 1.90303
## 8        21       21 1.00000 0.16030 0.29167        1        1 2.43221
## 9        21       20 0.95238 0.16030 0.33898        1        1 2.51954
## 10       20       20 1.00000 0.15267 0.27778        1        1 2.47295
## 11       13       13 1.00000 0.09924 0.22034        1        1 2.30002
## 12       18       18 1.00000 0.13740 0.25000        1        1 2.43221
## 13       18       18 1.00000 0.13740 0.25000        1        1 2.47295
## 14       19       18 0.94737 0.14504 0.30508        1        1 2.63093
## 15       17       17 1.00000 0.12977 0.23611        1        1 2.43221
## 16       18       17 0.94444 0.13740 0.28814        1        1 2.35166
## 17       18       17 0.94444 0.13740 0.28814        1        1 2.09254
## 18       16       16 1.00000 0.12214 0.22222        1        1 3.76401
## 19       16       16 1.00000 0.12214 0.22222        1        1 2.39814
## 20       16       16 1.00000 0.12214 0.22222        1        1 3.76401
## 21       17       16 0.94118 0.12977 0.27119        1        1 2.51954
## 22       15       15 1.00000 0.11450 0.20833        1        1 2.68294
## 23       14       14 1.00000 0.10687 0.19444        1        1 2.93054
## 24       14       14 1.00000 0.10687 0.19444        1        1 3.76401
## 25       16       15 0.93750 0.12214 0.25424        1        1 3.75140
## 26       22       21 0.95454 0.16794 0.29167        1        1 2.68294
## 27       13       13 1.00000 0.09924 0.18056        1        1 2.68294
## 28       13       13 1.00000 0.09924 0.18056        1        1 2.43221
## 29       13       13 1.00000 0.09924 0.18056        1        1 3.76401
## 30       13       13 1.00000 0.09924 0.18056        1        1 3.76401
## 31       12       12 1.00000 0.09160 0.16667        1        1 2.59349
## 32       12       12 1.00000 0.09160 0.16667        1        1 3.76401
## 33       12       12 1.00000 0.09160 0.16667        1        1 3.76401
## 34       11       11 1.00000 0.08397 0.15278        1        1 2.68294
## 35       18       17 0.94444 0.13740 0.23611        1        1 2.09254
## 36       13       12 0.92308 0.09924 0.20339        1        1 2.54137
## 37        9        9 1.00000 0.06870 0.12500        1        1 2.71009
## 38        9        9 1.00000 0.06870 0.12500        1        1 2.43221
## 39       16       15 0.93750 0.12214 0.20833        1        1 1.52938
## 40       16       14 0.87500 0.12214 0.23729        1        1 2.42318
## 41       14       13 0.92857 0.10687 0.18056        1        1 1.90303
## 42       14       12 0.85714 0.10687 0.20339        1        1 3.75140
## 43        7        6 0.85714 0.05344 0.08333        1        1 2.51954
##      CUT_2   CUT_3   CUT_4         PVAL   RISK_PVAL REL_RISK    CONF_INT
## 1  1.39769 1.46601     NaN 2.232908e-06 0.007036905 2.281250 1.246:4.176
## 2  1.63755     NaN     NaN 2.232908e-06 0.007036905 2.281250 1.246:4.176
## 3  2.22772     NaN     NaN 2.232908e-06 0.007036905 2.281250 1.246:4.176
## 4  2.54137 2.59349     NaN 2.232908e-06 0.005285147 2.281250 1.273:4.089
## 5  1.84311 1.89210     NaN 4.031639e-06 0.009325267 2.281250 1.218:4.273
## 6  2.47275     NaN     NaN 4.031639e-06 0.009325267 2.281250 1.218:4.273
## 7  1.84311 1.89210     NaN 8.083848e-06 0.012303707 2.281250 1.188:4.381
## 8  2.47295     NaN     NaN 8.083848e-06 0.036272417 1.780488 1.037:3.058
## 9  1.90303     NaN     NaN 1.197162e-05 0.009500115 2.063988 1.195:3.565
## 10 2.71009     NaN     NaN 1.311319e-05 0.042103031 1.780488  1.019:3.11
## 11 1.38512     NaN     NaN 4.047630e-05 0.021167341 2.281250 1.121:4.642
## 12 2.59349     NaN     NaN 4.066849e-05 0.056390184 1.780488 0.982:3.227
## 13 2.23825     NaN     NaN 4.066849e-05 0.056390184 1.780488 0.982:3.227
## 14 2.09254     NaN     NaN 4.679594e-05 0.016743422 2.041118 1.138:3.663
## 15 1.64822 1.71929     NaN 6.994980e-05 0.065085890 1.780488 0.962:3.295
## 16 2.72080     NaN     NaN 9.242945e-05 0.022074194 2.027778 1.106:3.717
```

```
## 17 2.54137 2.59349     NaN 9.242945e-05 0.022074194 2.027778 1.106:3.717
## 18 2.47295     NaN     NaN 1.033349e-04 0.075004541 1.780488  0.941:3.37
## 19 2.51954 2.68294     NaN 1.033349e-04 0.075004541 1.780488  0.941:3.37
## 20 1.67282     NaN     NaN 1.033349e-04 0.075004541 1.780488  0.941:3.37
## 21 2.54137 2.59349     NaN 1.761245e-04 0.028980470 2.012868 1.073:3.776
## 22 1.64822 1.71929     NaN 1.836754e-04 0.086313764 1.780488 0.918:3.454
## 23 2.12445     NaN     NaN 3.268342e-04 0.099207606 1.780488 0.893:3.549
## 24 1.31991 1.38512     NaN 3.268342e-04 0.099207606 1.780488 0.893:3.549
## 25 3.76401 1.64822     NaN 3.285147e-04 0.037901613 1.996094  1.038:3.84
## 26 2.47295     NaN     NaN 3.285147e-04 0.082096003 1.618625 0.942:2.783
## 27 1.25804     NaN     NaN 5.039878e-04 0.113912440 1.780488 0.867:3.656
## 28 2.62892     NaN     NaN 5.039878e-04 0.113912440 1.780488 0.867:3.656
## 29 2.12445     NaN     NaN 5.039878e-04 0.113912440 1.780488 0.867:3.656
## 30 1.64822 1.71929     NaN 5.039878e-04 0.113912440 1.780488 0.867:3.656
## 31 2.93054     NaN     NaN 8.770696e-04 0.130694835 1.780488 0.838:3.781
## 32 2.59349     NaN     NaN 8.770696e-04 0.130694835 1.780488 0.838:3.781
## 33 2.76554     NaN     NaN 8.770696e-04 0.130694835 1.780488 0.838:3.781
## 34 1.84311     NaN     NaN 1.618619e-03 0.149872286 1.780488 0.807:3.926
## 35 2.17357 1.52938 1.59585 2.454961e-03 0.144812618 1.582656 0.854:2.932
## 36 2.59349 1.31920     NaN 2.590812e-03 0.083175811 1.930288 0.914:4.075
## 37 2.93054 3.07965     NaN 5.133859e-03 0.197033696 1.780488 0.736:4.307
## 38 2.33965 2.39420     NaN 5.133859e-03 0.197033696 1.780488 0.736:4.307
## 39 1.59585 1.64822 1.71929 6.490600e-03 0.190934922 1.557927 0.802:3.027
## 40 2.47295 1.63755     NaN 8.764539e-03 0.127212197 1.710938  0.86:3.406
## 41 1.96808 1.52938 1.59585 1.720915e-02 0.251118871 1.526132 0.741:3.142
## 42 3.76401 2.35166     NaN 2.912030e-02 0.206776921 1.629464 0.765:3.472
## 43 2.68294     NaN     NaN 3.349926e-01 0.673078758 1.271777  0.417:3.88
```

```
#table(autconDefault$main$DECISION)
#autconDefault$quality
#CV = 10
#reducer = "Johnson
#discreteMethod = "EqualFrequency"
#discreteParam = 3
#Mean accurancy = 0.821818
#autconDefault$main[1:3,]
#length(autconDefault$main[which(autconDefault$main$PVAL <0.05),])
#saveLineByLine(autconDefault$main, "rules.txt")
```