Assignment 7

The Major Miners

5 November 2017

```
{r setup, include=FALSE, warning=FALSE,message=FALSE,echo=FALSE}
library(arules) library(arulesViz) library(data.table) ## Question
1
```

Question 2

Importing the dataset and modifying it to make it suitable for computation

```
{r} hwr<-read.csv('handwriting_recognition.csv',header=TRUE)
hwr<-hwr[rep(row.names(hwr),hwr$Freq),] hwr<-hwr[,c(2:4)] ## Asso-
ciation rules with default settings {r} default<-apriori(hwr,control=list(verbose=FALSE))
default_dt<-as.data.frame(data.table(lhs=labels(lhs(default)),rhs=labels(rhs(default)),quali
default_dt<-default_dt[,c(1:5)] print(default_dt) ## Association
rules for the remaining parts {r} rules<-apriori(hwr,parameter =
list(support=0.001, confidence=0.001),control=list(verbose=FALSE))
## Subquestion 1 ##{Artist,Female}=> Recognized {r,echo=FALSE}
part1<-subset(rules, lhs %ain% c("Profession=Artist","Gender=Female")
& rhs %ain% c("Recognition=Recognized")) part1_dt<-as.data.frame(data.table(lhs=labels(lhs(p
part1_dt<-part1_dt[,c(1:5)] print(part1_dt) ## Subquestion 2
## {Engineer}=>Male {r,echo=FALSE} part2<-subset(rules,lhs
%ain% c("Profession=Engineer") & rhs %ain% c("Gender=Male"))
part2<-part2[1] part2_dt<-as.data.frame(data.table(lhs=labels(lhs(part2)),rhs=labels(rhs(par
part2_dt<-part2_dt[,c(1:5)] print(part2_dt) ## Subquestion 3 ##
{Actor,Recognized} => Female {r,echo=FALSE} part3<-subset(rules,lhs
%ain% c("Profession=Actor","Recognition=Recognized") & rhs %ain%
c("Gender=Female")) part3_dt<-as.data.frame(data.table(lhs=labels(lhs(part3)),rhs=labels(rhs
part3_dt<-part3_dt[,c(1:5)] print(part3_dt) ## Subquestion 4 ##
{Doctor,Male} => Unrecognized {r,echo=FALSE} part4<-subset(rules,lhs
%ain% c("Profession=Doctor","Gender=Male") & rhs %ain% c("Recognition=Unrecognized"))
part4_dt<-as.data.frame(data.table(lhs=labels(lhs(part4)),rhs=labels(rhs(part4)),quality(par
part4_dt<-part4_dt[,c(1:5)] print(part4_dt)
```