Math642_HW9_FyonaSun

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P1

Repeat the neural network classification example below with the Weekly dataset provided in ISLR. Comment on the results.

```
library(ISLR)
library(nnet)

attach(Weekly)

train <- sample(1:1089,800)
test <- setdiff(1:1089,train)
ideal <- class.ind(Weekly$Direction)
weeklyANN = nnet(Weekly[train,-c(1,8,9)],ideal[train,],size=10,rang = 0.1,softmax=TRUE)
```

```
## # weights:  92
## initial  value 553.744432
## iter  10 value 540.172316
## iter  20 value 525.841581
## iter  30 value 502.639873
## iter  40 value 492.228236
## iter  50 value 486.899099
## iter  60 value 481.227711
## iter  70 value 469.800632
## iter  80 value 462.939868
## iter  90 value 455.838240
## iter 100 value 451.211680
## final  value 451.211680
## stopped after 100 iterations
```

```
#summary(weeklyANN)

table(predict(weeklyANN,Weekly[test,-c(1,8,9)],type='class'),Weekly[test,]$Direction)
```

```
##
##        Down Up
##   Down   51 69
##   Up     83 86
```