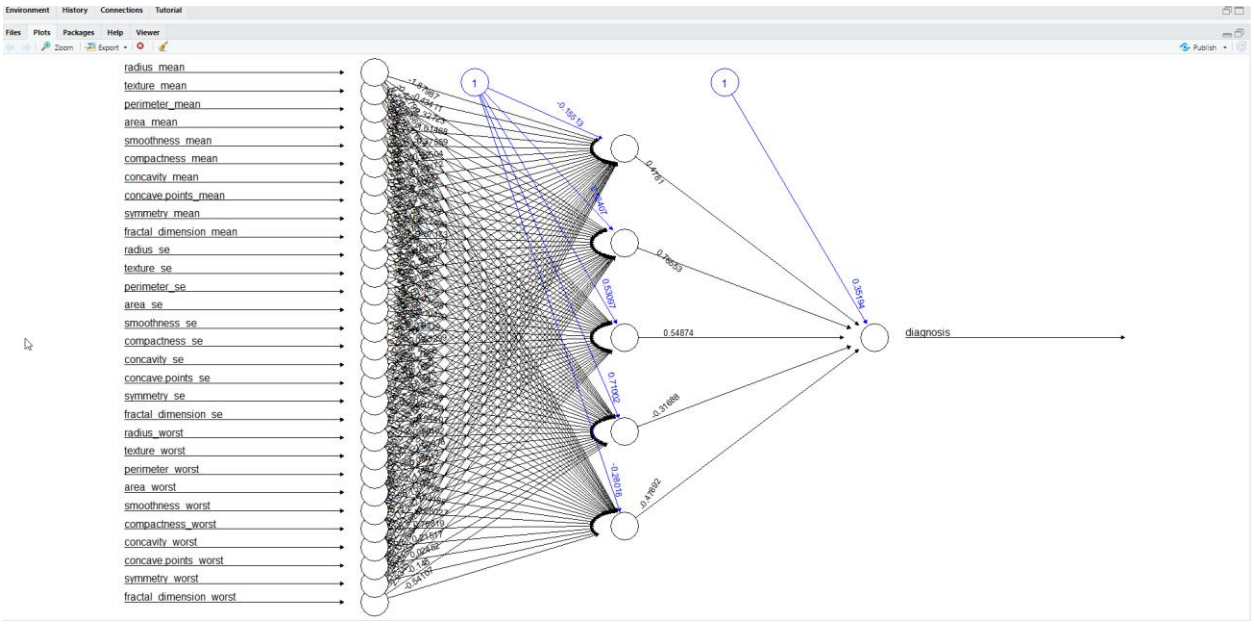
Assignment 8



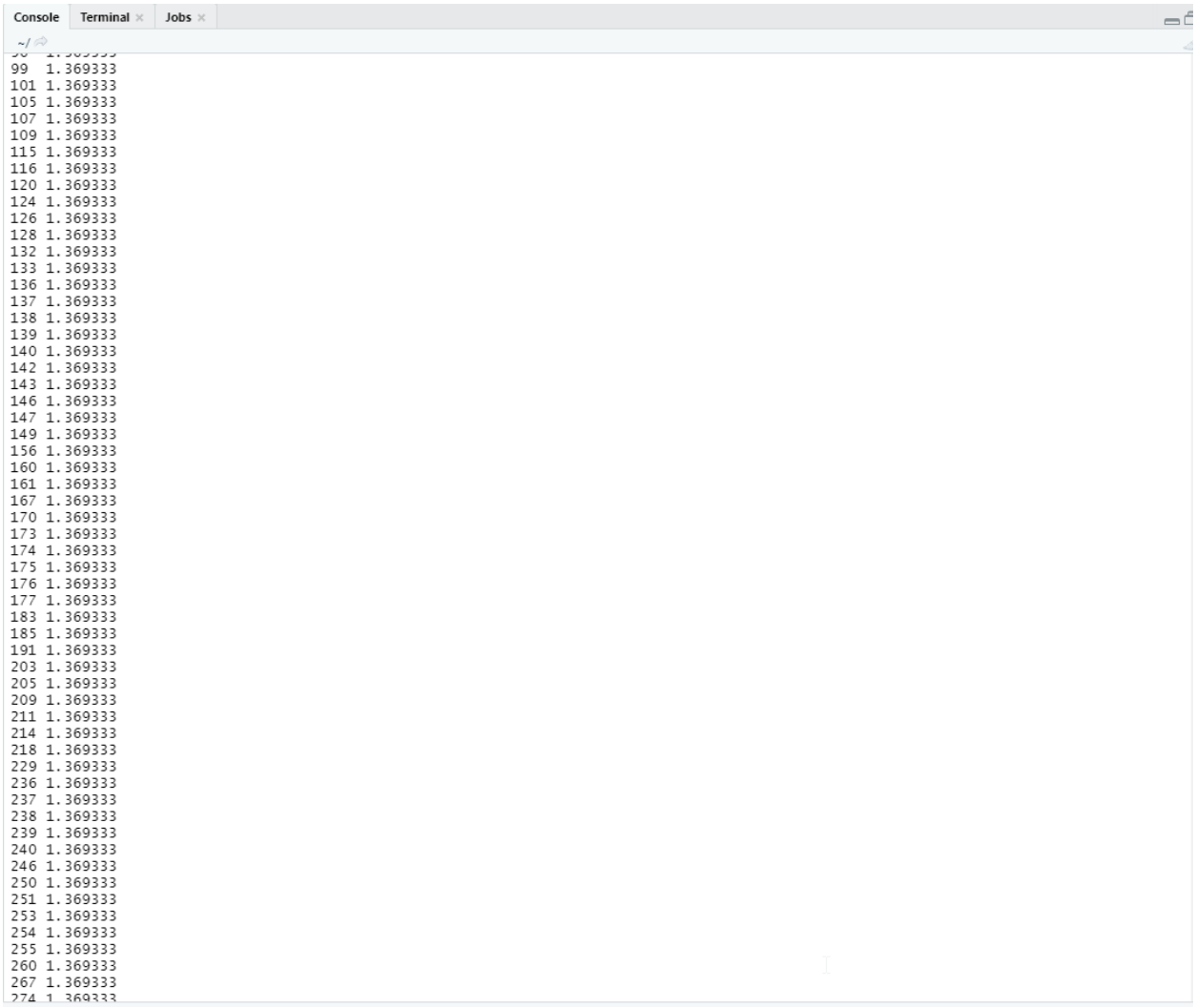
Tejashree Prabhu 10450404

Assignment 8

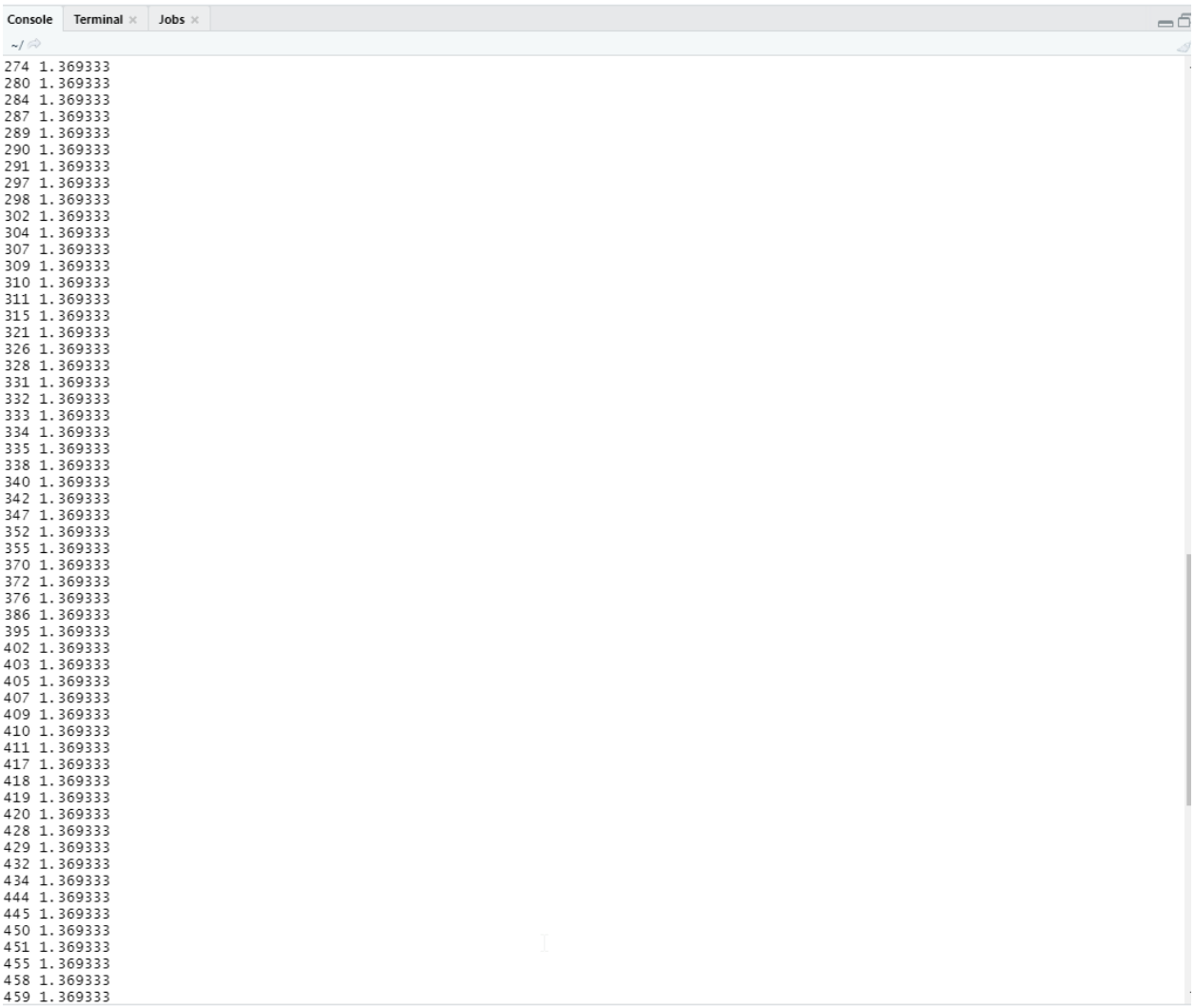
```
Console  Terminal  Jobs
~/
> rm(list=ls())
> library(neuralnet)
> dataSet<-read.csv("C:/Users/prabh/Desktop/Stevens/fall_2020/kdd/assignment8/wisc_bc_ContinuousVar.csv",na.strings = '?')
> view(dataSet)
> table(dataSet$diagnosis)

  B   M
357 212
> #To factor the data set
> dataSet<-data.frame(lapply(na.omit(dataSet),as.numeric))
> # To split the data set into test and testing
> idx<-sort(sample(nrow(dataSet),as.integer(.70*nrow(dataSet))))
> training<-dataSet[idx,]
> test<-dataSet[-idx,]
> ?neuralnet()
> model<- neuralnet(diagnosis~.,training[-1], hidden=5, threshold=0.01)
> #Plot the neural network
> plot(model)
> ## test should have only the input colum
> ann <-compute(model,test)
> ann$net.result
          [,1]
4   1.369333
6   1.369333
15  1.369333
19  1.369333
20  1.369333
21  1.369333
24  1.369333
26  1.369333
28  1.369333
36  1.369333
40  1.369333
46  1.369333
50  1.369333
56  1.369333
57  1.369333
58  1.369333
59  1.369333
63  1.369333
65  1.369333
67  1.369333
71  1.369333
72  1.369333
75  1.369333
82  1.369333
84  1.369333
85  1.369333
86  1.369333
88  1.369333
92  1.369333
94  1.369333
96  1.369333
99  1.369333
101 1.369333
105 1.369333
107 1.369333
```

Tejashree Prabhu 10450404

Assignment 8



Assignment 8



Assignment 8

```
Source
Console  Terminal  Jobs
~/
409 1.369333
410 1.369333
411 1.369333
417 1.369333
418 1.369333
419 1.369333
420 1.369333
428 1.369333
429 1.369333
432 1.369333
434 1.369333
444 1.369333
445 1.369333
450 1.369333
451 1.369333
455 1.369333
458 1.369333
459 1.369333
466 1.369333
470 1.369333
473 1.369333
474 1.369333
476 1.369333
481 1.369333
485 1.369333
488 1.369333
490 1.369333
502 1.369333
504 1.369333
506 1.369333
522 1.369333
523 1.369333
530 1.369333
532 1.369333
533 1.369333
534 1.369333
538 1.369333
540 1.369333
541 1.369333
545 1.369333
548 1.369333
556 1.369333
560 1.369333
561 1.369333
567 1.369333
> ann_cat<-ifelse(ann$net.result <1.5,1,2)
> length(ann_cat)
[1] 171
> length(test$diagnosis)
[1] 171
> table(ann_cat,test$diagnosis)

ann_cat   1   2
      1 106  65
> wrong<- (test$diagnosis!=ann_cat)
> errorRate<-sum(wrong)/length(wrong)
>
```