HW7.R

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Homework 7

```
rm(list=ls())
library("neuralnet")
set.seed(513)
```

Data pre-processing

```
cancerData=read.csv("/Users/davidfu/Downloads/wisc_bc_ContinuousVar.csv", header=TRUE)


index<-sort(sample(nrow(cancerData),round(.30*nrow(cancerData))))
training<-cancerData[-index,]
test<-cancerData[index,]

net_Cancer<- neuralnet( diagnosis~.,training, hidden=5, threshold=0.01)

#Plot the neural network
plot(net_Cancer)

## test should have only the input colum
ann <-compute(net_Cancer , test[,-2])
ann$net.result
```

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##          [,1]      [,2]
## 3   0.6231257 0.3769044
## 5   0.6231257 0.3769044
## 13  0.6231257 0.3769044
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```

```
ann_cat<-ifelse(ann$net.result <.5,1,2)
length(ann_cat)
```

```
## [1] 342
```

```
wrong<- (test$diagnosis!=ann_cat)
error_rate<-sum(wrong)/length(wrong)
error_rate
```

```
## [1] 1
```

Memory Clean up

```
rm(list=ls())
```