**Neural network 2 with 50% Training and 50% Testing Data**

**set.seed(4)**

**divorce\_index <- sample(nrow(divorce), 1/2 \* nrow(divorce))**

**divorce\_index**

**divorce\_train <- divorce[divorce\_index, ]**

**divorce\_test <- divorce[-divorce\_index, ]**

**head(divorce\_train)**

**head(divorce\_test)**

**divorcenet <- neuralnet(Class ~ Atr6+ Atr46+Atr48+Atr7+Atr43+Atr45+Atr42+Atr47+Atr52, divorce\_train, hidden=2, lifesign="minimal", linear.output=FALSE, threshold=0.01)**

**plot(divorcenet)**

**temp\_test <- subset(divorce\_test, select=c("Atr46","Atr48","Atr7","Atr43","Atr52","Atr6","Atr47","Atr45","Atr42"))**

**head(temp\_test)**

**divorcenet.results <- compute(divorcenet, temp\_test)**

**results <- data.frame(actual=divorce\_test$Class, prediction=divorcenet.results$net.result)**

**results**

**results$prediction <- round(results$prediction)**

**results**

* **Neural network 3 with 50% Training and 50% Testing Data**

**set.seed(7)**

**divorce\_index <- sample(nrow(divorce), 1/2 \* nrow(divorce))**

**divorce\_train <- divorce[divorce\_index, ]**

**divorce\_test <- divorce[-divorce\_index, ]**

**head(divorce\_train)**

**head(divorce\_test)**

**divorcenet <- neuralnet(Class ~ Atr46+Atr48+Atr7+Atr43+Atr52, divorce\_train, hidden=2, lifesign="minimal", linear.output=FALSE, threshold=0.01)**

**plot(divorcenet)**

**temp\_test <- subset(divorce\_test, select = c("Atr46","Atr48","Atr7","Atr43","Atr52"))**

**head(temp\_test)**

**divorcenet.results <- compute(divorcenet, temp\_test)**

**results <- data.frame(actual=divorce\_test$Class, prediction=divorcenet.results$net.result)**

**results**

**results$prediction <- round(results$prediction)**

**results**

**irisnet.results <- compute(irisnet, iris\_test)**

**results <- data.frame(actual=iris\_test$Class, prediction=irisnet.results$net.result)**

**results**

**results$prediction <- round(results$prediction)**

**results**