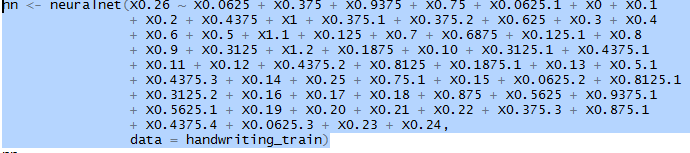
**Assignment report**

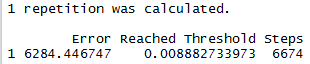
First of all we will prepare the data to train the model given, with the function *str()* we will be capable to identify all the target attribute and have a brief view of the dataset.  
The next step is to set a training and a test set to check the performance of the neural network, in this case we will use an 80% of the data set as training model and the remainder as test set.

So we set the next parameters to the function *neuralnet()* in order to train the data:

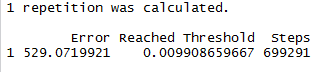


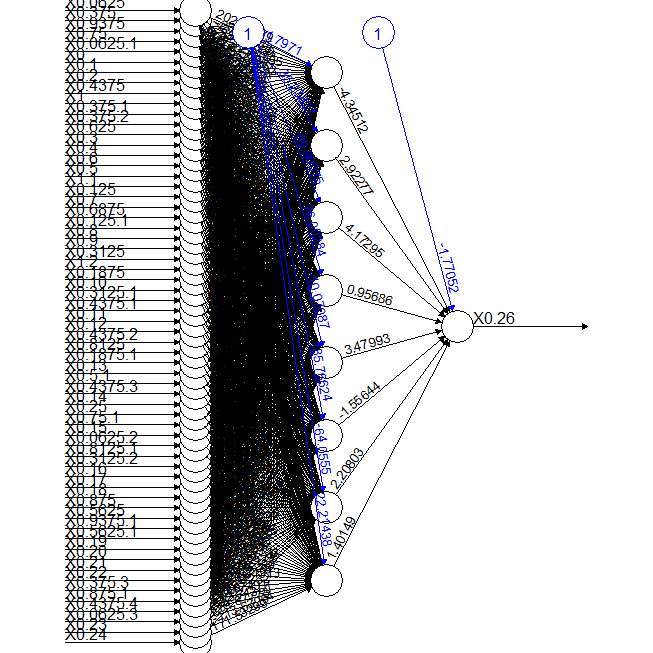
There are all the variables of the training data set, to do the first test we will leave the hidden nodes as default (1) to see the results and try to improve them if possible.

**Results of the NN:**



The results we get are as expected too poor given the fact that we have a large error rate.  
Now we will try to make a new NN with more hidden layers that would be set as where n will be the number of variables, so we will use 8 hidden layers this time. I have used this formula to measure the layers because I think it will be optimal to link the number of variables and the number of layers to obtain the performance, the results are:





As we can see, with the entry of the 61 variables and only 1 layer containing 8 hidden nodes gives us a result apparently much better than the neural network calculated before.