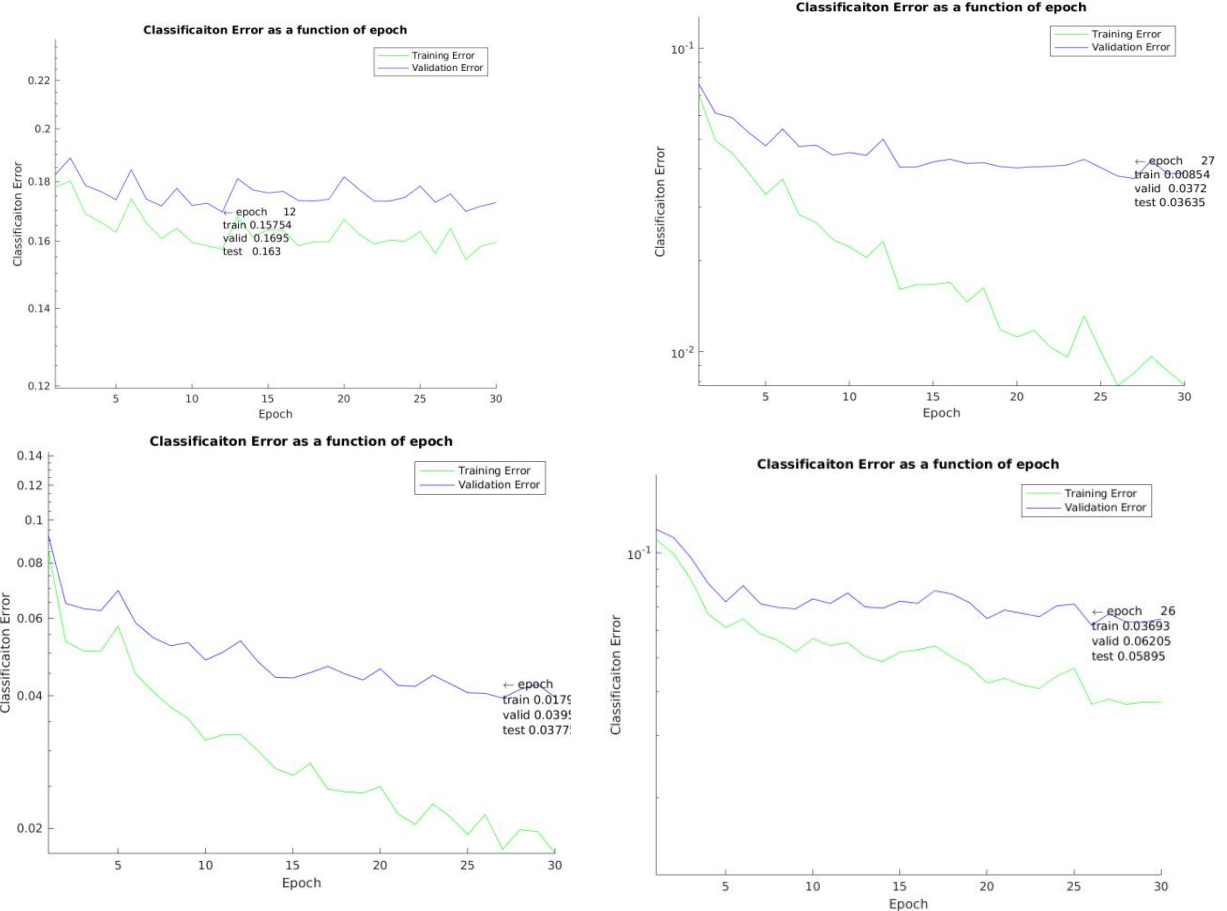


## Artificial Neural Networks Homework 3 Exercise 1



	Network 1	Network 2	Network 3	Network 4
Best Test	0.163	0.05895	0.03635	0.03775
Best Training	0.1575	0.0369	0.0085	0.0179
Best Valid	0.1695	0.062	0.0372	0.03955
Epoch	12	26	27	27

Network 1 performs badly, since the problem is not linearly separable.

Networks 3 and 4 have a large discrepancy in classification errors between training on one hand and test and validation on the other hand, which is also clearly visible from the plots. This discrepancy is due to over-fitting.

Network 2 also suffers from over-fitting but to a lesser extent due to the smaller number of neurons.

Network 3 in my opinion is better than Network 4 even though that Network 4 performs slightly better on the test data-set, since it doesn't take as much time as Network 4, and the small difference is easily negligible.