1. Load the dataset [wine.csv](https://maryville.instructure.com/courses/71038/files/16328263/download?wrap=1)[Download wine.csv](https://maryville.instructure.com/courses/71038/files/16328263/download?download_frd=1)into memory.

Text

Description automatically generated

1. Preprocess the inputs
   1. Standardize the inputs using the scale() function.



* 1. Convert the standardized inputs to a data frame using the as.data.frame() function.



* 1. Split the data into a training set containing 3/4 of the original data (test set containing the remaining 1/4 of the original data).

Graphical user interface

Description automatically generated with low confidence

1. Build a neural networks model
2. The response is **quality** and the inputs are: **volatile.acidity**, **density**,**pH**, and **alcohol**. Please use 1 hidden layer with 1 neuron.



1. Plot the neural networks.



Chart, radar chart

Description automatically generated

1. Forecast the wine **quality** in the test dataset.



1. Get the observed wine **quality** of the test dataset.



1. Compute test error (MSE).

A picture containing text

Description automatically generated