**Name: Date: 09/01/2020**

**Dataset:**

This is a dataset of cement components. You are tasked with generating two models (a Neural network one and a Non-Neural Network) to predict the concrete compressive strength.

**Input variables**

* Cement (component 1) -- quantitative -- kg in a m3 mixture
* Blast Furnace Slag (component 2) -- quantitative -- kg in a m3 mixture
* Fly Ash (component 3) -- quantitative -- kg in a m3 mixture
* Water (component 4) -- quantitative -- kg in a m3 mixture
* Superplasticizer (component 5) -- quantitative -- kg in a m3 mixture
* Coarse Aggregate (component 6) -- quantitative -- kg in a m3 mixture
* Fine Aggregate (component 7) -- quantitative -- kg in a m3 mixture
* Age -- quantitative -- Day (1~365)

**Output variable**

* Concrete compressive strength -- quantitative -- MPa -- Output Variable

**Questions:**

1. **Number of samples in the dataset?**
2. **What type of problem are we solving, regression or classification?**
3. **Show a histogram of the output variable and one input variable?**
4. **What is the input variable that shows better correlation with the output variable?**
5. **What percentage of samples are you using for training?**
6. **What non-neural network model will you be using?**
7. **Show two graphs (one for training data and one for test data) comparing the predicted values from your non-neural network model with the dataset values.**
8. **What is the error (whichever measure you have chosen to train your model) for the training data and for the test data?**
9. **What activation function will you be using for the last layer of your neural network? Why did you choose that activation function?**
10. **Show two graphs (one for training data and one for test data) comparing the predicted values from your neural network model with the dataset values.**
11. **What is the error (whichever measure you have chosen to train your model) for the training data and for the test data?**