Project 2
Regression

Problem Description:
Given a dataset representing minutes studying/week and ounces of beer/week of Clemson Students, develop a regression hypothesis function that will predict a student's grade point average based on minutes studying/week and ounces of beer/week.

Initial Values:

- The initial values that have been chosen for weights is [0,0,0,0,0,0]
- The initial values that have been chosen for alpha is 0.1
- The initial value of J is 1.73

Final Values:

- The final value for alpha is 0.0005
- The final value of weights chosen is [0,0,0,0,0,0] and weights predicted by the program is [3.05168442e-06 3.05168442e-06 3.05168109e-06 3.05168015e-06 3.05117308e-06 3.04894451e-06]
- The final value of J when program runs for the first time is ~1.73 but after compiling the program we get the initial value of J (cost function) on train set as 0.036
- Our Regression goes through 100000 iterations.

Plot:
Plotting the graph for number of iterations on the vertical axis and Cost function J on the horizontal axis.

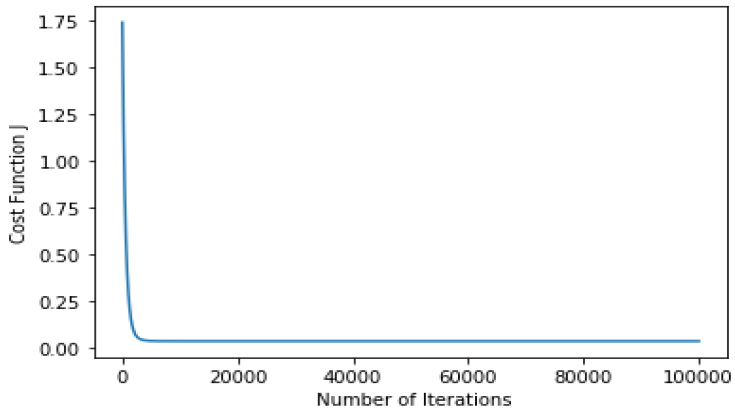

Figure 1. The Gradient Descent Graph

Value of J:
The final J (cost function) value on test set is 0.042.