

### Answers to Questions asked in Assignment

**Answer 2(b):** As we can see from the error graph the error value for both training set and test set is minimum for  $N = 4$ . Also from the curve fitting part we can see the best fit is achieved at  $N = 4$ . Therefore, we choose  $N = 4$  as a suitable value for the dataset that we have. Please note the following result is based on 1,50,000 iterations when the error values for all the order polynomials began to saturate.

#### **Answer 3(c):**

**Difference:** The basic difference is that in Lasso Regression the training and testing error decreased with increasing lambda and the vice-versa happened in Ridged regression.

**Preference:** On comparing the train and test error value, the conclusion drawn is that it is better to use Lasso regression for this case as even the minimum error for a particular  $N$  in Ridge regression is more than the maximum error in Lasso regression.