**1. From the section "Compute a single distance": we take our query house to be the first house of the test set.**

***What is the Euclidean distance between the query house and the 10th house of the training set? Enter your answer in American-style decimals (e.g. 0.044) rounded to 3 decimal places.***

0.060

**2. From the section "Compute multiple distances": we take our query house to be the first house of the test set.**

***Among the first 10 training houses, which house is the closest to the query house? Enter the 0-based index of the closest house.***

8

**3. From the section "Perform 1-nearest neighbor regression":**

***Take the query house to be third house of the test set (features\_test[2]). What is the (0-based) index of the house in the training set that is closest to this query house?***

382

**4. From the section "Perform 1-nearest neighbor regression":**

***Take the query house to be third house of the test set (features\_test[2]). What is the predicted value of the query house based on 1-nearest neighbor regression? Enter your answer in simple decimals without comma separators (e.g. 300000), rounded to nearest whole number.***

249000

**5. From the section "Perform k-nearest neighbor regression":**

***Take the query house to be third house of the test set (features\_test[2]). Which of the following is NOT part of the 4 training houses closest to the query house? (Note that all indices are 0-based.)***

training house with index 382

training house with index 1149

**training house with index 2818**

training house with index 3142

training house with index 4087

**6. From the section "Perform k-nearest neighbor regression":**

***Take the query house to be third house of the test set (features\_test[2]). Predict the value of the query house by the simple averaging method. Enter your answer in simple decimals without comma separators (e.g. 241242), rounded to nearest whole number.***

413987

**7. From the section "Perform k-nearest neighbor regression": Make prediction for the first 10 houses using k-nearest neighbors with k=10.**

***What is the index of the house in this query set that has the lowest predicted value? Enter an index between 0 and 9.***

6

**8. From the section "Perform k-nearest neighbor regression": We use a validation set to find the best k value, i.e. one that minimizes the RSS on validation set.**

***If we perform k-nearest neighbors with optimal k found above, what is the RSS on the TEST data? Choose the range that contains this value.***

**Between 8e13 and 2e14**

Between 2e14 and 5e14

Between 5e14 and 8e14

Between 8e14 and 1e15

Between 1e15 and 3e15