**1. We first fit a 15th order polynomial model using the 'sqft\_living' column of the 'sales' data frame, with a tiny L2 penalty applied.**

**What is the absolute value of the learned coefficient of feature power\_1? (Remove any sign.) Round your answer to 2 decimal places, and use American-style decimals. Example: 100.32**

103.0909497538479

**2. Next, we split the sales data frame into four subsets (set\_1, set\_2, set\_3, set\_4) and fit a 15th order polynomial model using each of the subsets.**

**For the models learned in each of these training sets, what are the smallest value you learned for the coefficient of feature power\_1? Choose the range that contains this value.**

Between -1000 and -100

**3. This question refer to the same models as the previous question.**

**For the models learned in each of these training sets, what are the largest value you learned for the coefficient of feature power\_1? Choose the range that contains this value.**

Between 1000 and 10000

**4. Using the same 4 subsets (set\_1, set\_2, set\_3, set\_4), we train 15th order polynomial models again, but this time we apply a large L2 penalty.**

**For the models learned with the high level of regularization in each of these training sets, what are the smallest value you learned for the coefficient of feature power\_1?Round your answer to 2 decimal places, and use American-style decimals. Example: 2.11**

1.91

**5. This question refer to the same models as the previous question.**

**For the models learned with the high level of regularization in each of these training sets, what are the largest value you learned for the coefficient of feature power\_1? Round your answer to 2 decimal places, and use American-style decimals. Example: 2.11**

2.59

**6. This question refers to the section "selecting an L2 penalty via cross-validation".**

**What is the best value for the L2 penalty according to 10-fold validation?**

1000

**7. Using the best L2 penalty found above, train a model using all training data. Which of the following ranges contains the RSS on the TEST data of the model you learn with this L2 penalty?**

Between 8e13 and 4e14