Machine Learning - Ex – Polynomial Regression

BostonHousing.csv contains data about houses prices in Boston

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CRIM: Per capita crime rate by town
ZN: Proportion of residential land zoned for lots over 25,000 sq. ft
INDUS: Proportion of non-retail business acres per town
CHAS: Charles River dummy variable (= 1 if tract bounds river; 0
otherwise)
NOX: Nitric oxide concentration (parts per 10 million)
RM: Average number of rooms per dwelling
AGE: Proportion of owner-occupied units built prior to 1940
DIS: Weighted distances to five Boston employment centers
RAD: Index of accessibility to radial highways
TAX: Full-value property tax rate per $10,000
PTRATIO: Pupil-teacher ratio by town
B: 1000(Bk − 0.63)², where Bk is the proportion of [people of African
American descent] by town
LSTAT: Percentage of lower status of the population
MEDV: Median value of owner-occupied homes in $1000s
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Columns 6-13 (indexes 5-12) are the features

Column 14 (index 13) is the target variable

- Use the top 2 "BEST" features to train the model
- Show a linearity of each one of the 2 features with the price (use scatter plot)
- Find the best polynomial degree for the degrees of : 2,3,5,8
  For every degree. Print the RMSE and the r2 score.

*Best degree means gets when the RMSE of the TRAIN data is equal to the RMSE of the TEST data