### 1.

Question 1

For the *KNN* lab, did you fit the KNN-based collaborative filtering model using the training set and evaluate the results using the test set?

1 point

Yes

No

### 2.

Question 2

For the *NMF* lab, did you fit an NMF collaborative filtering model using the training set and evaluate the results using the test set?

1 point

Yes

No

### 3.

Question 3

For the *Neural Networks* lab, did you train the RecommenderNet() model?

1 point

Yes

No

### 4.

Question 4

For the *Neural Networks* lab, did you evaluate your trained model?

1 point

Yes

No

### 5.

Question 5

For the *Regression* lab, did you train the basic regression model with training data?

1 point

Yes

No

### 6.

Question 6

For the *Regression* lab, did you evaluate the basic regression model?

1 point

Yes

No

### 7.

Question 7

For the *Regression* lab, did you try different regression models such as Ridge, Lasso, ElasticNet and tune their hyperparameters to see which one has the best performance?

1 point

Yes

No

### 8.

Question 8

For the *Classification* lab, did you define classification models such as logistic regression, tree models, SVM, bagging, and boosting models?

1 point

Yes

No

### 9.

Question 9

For the *Classification* lab, did you train your models with training data?

1 point

Yes

No

### 10.

Question 10

For the *Classification* lab, did you evaluate your classification models?

1 point

Yes

No

# Graded: Supervised-Learning Based Recommendation Methods

1. Which of the following methods can be used to convert a dense matrix saved as a long/vertical format to a sparse matrix?
   1. pivot()
2. Which of the following methods from the KNNBasic class can be used to train a KNN-based collaborative filtering model with a training set?
   1. fit()
3. Which of the following is a Python scikit library used for recommender systems?
   1. Surprise
4. Say you are given a sparse user-item interaction matrix, A, with dimensions 10000 x 500 and you defined the latent feature vector dimension to be 37. If non-negative matrix factorization is applied to A to decompose it into a user matrix, U, and an item matrix, I, what are the dimensions of U and I?
   1. U (10000 x 37) and I (37 x 500)
5. If the pre-defined RecommenderNet is provided a user one-hot vector and an item one-hot vector as inputs, what is the expected output?
   1. A rating estimation
6. In the Neural Networks lab, what is meant by embedding?
   1. Embedding the one-hot encoding vector into a latent feature space
7. In the Regression lab, what is the data that is input into the regression model?
   1. An interaction feature vector
8. Which of the following method(s) can be used to aggregate two feature vectors?
   1. All of the above
9. In the Classification lab, which values are used as input to LabelEncoder()?
   1. Rating mode ???????????
10. What does the fit\_transform() method in the LabelEnocder class return?
    1. Encoded labels