Congratulations! You passed!

Grade received 80% | **Latest Submission Grade** 80% | **To pass** 70% or higher

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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 / 1 point

- ○ sparseToDense()
- ○ fillna()
- ◉ pivot()
- ○ resetindex()

Correct
Correct. The pivot() method can be used to convert a dense matrix to a sparse matrix.

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?

0 / 1 point

- ○ train_test_split()
- ◉ train()
- ○ fit()
- ○ tensorflow()

Incorrect
Incorrect. Review the Collaborative Filtering Based Recommender System Using K-Nearest Neighbor lab.

3. Which of the following is a Python scikit library used for recommender systems?

1 / 1 point

- ○ Recommender
- ◉ Surprise
- ○ Pandas
- ○ Numpy

Correct
Correct. Surprise is a scikit library that can be used to create recommender systems.

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 / 1 point

- ○ U (37 x 10000) and I (500 x 37)
- ○ U (37 x 500) and I (10000 x 37)
- ○ U (37 x 500) and I (37 x 10000)
- ◉ U (10000 x 37) and I (37 x 500)

Correct
Correct. Non-negative matrix factorization decomposes a user-item sparse matrix with dimensions (i x j) and k features into two smaller dense matrices with dimensions (i x k) and (k x j).

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 / 1 point

- ○ A rating vector
- ○ An embedding layer
- ○ An embedding vector
- ◉ A rating estimation

Correct
Correct. If a neural network is provided with a user one-hot vector and an item one-hot vector, the output should be a rating probability.

6. In the Neural Networks lab, what is meant by embedding?

1 / 1 point

- ○ Finding the dot product of the embedding vector and the one-hot coding vector
- ○ Transforming an embedding layer into a one-hot coding vector
- ◉ Embedding the one-hot encoding vector into a latent feature space
- ○ Transforming a one-hot coding vector into an embedding vector

Correct
Correct. In the Neural Networks lab embedding means 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 / 1 point

- ◉ An interaction feature vector
- ○ An embedding vector
- ○ A rating vector
- ○ A one-hot coding vector

Correct
Correct. The data input into the regression model is an interaction feature vector representing the interaction between user i and item j.

8. Which of the following method(s) can be used to aggregate two feature vectors?

1 / 1 point

- ○ Element-wise addition
- ○ Element-wise multiplication
- ○ Element-wise max/min
- ◉ All of the above

Correct
Correct. All of these methods can be used to aggregate two feature vectors.

9. In the Classification lab, which values are used as input to LabelEncoder()?

0 / 1 point

- ○ Embedding feature vector
- ○ Rating mode
- ◉ Interaction feature vector
- ○ One-hot coding vector

Incorrect
Incorrect. Review the Classification-based Rating Score Prediction Using Embedding Features lab.

10. What does the fit_transform() method in the LabelEnocder class return?

1 / 1 point

- ○ An item vector
- ◉ Encoded labels
- ○ An embedding feature vector
- ○ Rating modes

Correct
Correct. The fit_transform() method returns encoded labels.