CSSE 386 – Data Mining with Programming
Rose-Hulman Institute of Technology

Worksheet 14

Name (Print):_____ Section:_____

1. Recommendation system _____ user preferences for items or content (e.g., products, movies, music).

   It extracts insights from _____ of user–item interactions.

2. Name 2 popular examples of recommendations:

3. Recommendation or other ML models?

Model	**Task**
	How much is the house?
	What movie should you watch?
	Will a game sell a lot of tickets?
	Will you enjoy a restaurant?

4. Name 2 benefits using Recommender Systems
   1)
   2)

5. Content-based or Collaborative filtering?

Type	**Task**
	Based on input/action from other people
	Based on the user's history (ex. purchase)

6. Common Techniques used for Memory-Based CF:

7. Select all that apply related to Cosine Similarity

   (a) Measures the angle between two vectors

(b) It can be any value between 0 and 1

(c) It can be any value between -1 and 1

(d) The higher the cosine score, the more alike the two vectors are considered

(e) The lower the cosine score, the more alike the two vectors are considered

(f) If the cosine is -1, two vectors are completely opposite

(g) If the cosine is 1, two vectors are completely similar

8. What is the cosine similarity formula:

9. _____ learn a set of parameters (or a learned representation) from the historical user–item data through a training process.

   They _____ from the data to discover _____ that can predict user preferences for unseen items.

10. Common Techniques used for Model-Based CF:

11. True/False: No training is involved in Memory-Based CF

12. Name 1 Pro and 1 Con for Content-Based Recommendation system

    1) Pro:

    2) Con:

13. True/False: Hybrid systems are a combination of collaborative techniques and content-based techniques