

CSE427s - 8 [P] RS3

50% (2/4)

- ✓ 1. Select all that applies to a **Collaborative Filtering** recommendation approach. From the point of view of the user that gets the recommendation, collaborative filtering recommendations are

- ☒ A based on this user's preferences
☐ B the same for every user (not personalized)
☐ C based on all other user's preferences
☒ D based on similar user's preferences
☐ E niche/speciality items

- ✓ 2. Just by looking at the data in the example (you don't have to do any computation), which user do you expect to have the highest similarity with ME?

- ☐ A
☐ B
☒ C
☐ D

	HP1	HP2	HP3	TW	SW1	SW2	SW3	TH
A	4			5	1		1	
B	5	5	4			1	1	
C			1	2	4	5		5
D		3					3	3
ME	2		1		5		4	4

- ✗ 3. Just by looking at the data in the example (you don't have to do any computation), which user do you expect to have the **lowest** similarity with ME?

- ☐ A
☒ B
☐ C
☐ D

	HP1	HP2	HP3	TW	SW1	SW2	SW3	TH
A	4			5	1		1	
B	5	5	4			1	1	
C			1	2	4	5		5
D		3					3	3
ME	2		1		5		4	4

- ⊘ 4. Give the data representation used in the Jaccard similarity measure for user B and ME.

	HP1	HP2	HP3	TW	SW1	SW2	SW3	TH
A	4			5	1		1	
B	5	5	4			1	1	
C			1	2	4	5		5
D		3					3	3
ME	2		1		5		4	4

- ⊘ 5. Compute the Jaccard similarity between $J(B, ME)$.

	HP1	HP2	HP3	TW	SW1	SW2	SW3	TH
A	4			5	1		1	
B	5	5	4			1	1	
C			1	2	4	5		5
D		3					3	3
ME	2		1		5		4	4

6. How about cosine? Give the **data representation** in order to compute $\text{Cos}(A, \text{ME})$.

$rA = [4, 1, 1]$
 $rM = [2, 5, 4]$

	HP1	HP2	HP3	TW	SW1	SW2	SW3	TH
A	4			5	1		1	
B	5	5	4			1	1	
C			1	2	4	5		5
D		3					3	3
ME	2		1		5		4	4

7. Compute $\text{Cos}(A, \text{ME})$.

0.597

	HP1	HP2	HP3	TW	SW1	SW2	SW3	TH
A	4			5	1		1	
B	5	5	4			1	1	
C			1	2	4	5		5
D		3					3	3
ME	2		1		5		4	4

8. Compute $P(B, \text{ME})$ and $P(C, \text{ME})$.

0.9

	HP1	HP2	HP3	TW	SW1	SW2	SW3	TH
A	4			5	1		1	
B	5	5	4			1	1	
C			1	2	4	5		5
D		3					3	3
ME	2		1		5		4	4

9. Which similarity measure models our expectations best?

- ☐ A Jaccard
☐ B Cosine
☐ C Pearson
☐ D None really.