East West University

CSE302 – Quiz 01

Spring 2022

Consider the following database schema of a Social Media Platform.

User (user_id, name, gender, age, hometown, country)

Post (post_id, post_content, post_date, user_id)

Comment (comment_id, comment_content, user_id, post_id)

ReactionPost (post_id, user_id, react_type)

A sample database instance is given below for better understanding.

User

User_id	Name	Gender	Age	Hometown	Country
1	Alice	F	21	Dhaka	Bangladesh
2	Bob	M	33	New York	USA
3	Carole	F	25	London	UK
4	Dev	M	32	Delhi	India

Post

Post_id	Post_content	Post_date	User_id
10001	I am happy!	01-Mar-2022	1
10002	I am sad!	01-Mar-2022	2
10003	I have quiz!	02-Mar-2022	1
10004	I am worried!	02-Mar-2022	3

Comment

Comment_id	Comment_content	Comment_User_id	Post_id
20001	God bless you!	4	10001
20002	Good Luck!	4	10003
20003	Better days will come.	2	10002
20004	Everything will be ok.	1	10004

ReactionPost

Post_id	Reaction_User_id	React_type
10001	2	Love
10002	4	Sad
10003	3	Haha
10004	1	Care

East West University
CSE302 – Quiz 01
Spring 2022

1. Write Relational Algebra Expressions for the following queries.

a) Find the user id and name of those who are from Dhaka (hometown) and who are not more than 30 years old.
b) Find the name and country of users who posted on '02-Mar-2022'.
c) Find post content and user name of those posts which received 'Love' reaction.
d) Find the post id and post content which receive both comments and likes.
e) Find the name, gender and age of users who never commented on any post.

2. Find the output of the following expression.

$\Pi_{\text{user\_id, post\_id, comment\_id, comment\_user\_id, reaction\_user\_id}}$ (User ⋈ Post ⋈ Comment ⋈ ReactionPost)