

# Database Systems

Spring Semester 2023

## Assignment #3

**Due Date: 13<sup>th</sup> March 2023,**

### Instructions:

- **Submit on *GOOGLE CLASSROOM* in the form of a zip file with your ROLLNUMBER**
- *Do not copy the work of your peers. In case cheating is detected, then your case will be referred to DC.*

### Question: Event DB

Science-X company organized scientific seminars, workshops, and conferences in different cities worldwide. We have developed an Event database to keep track of the different events organized by Science-X. The database stores details about the events, sponsors, and participants. For each Event, we record the event ID, name, location (city name), type(seminar, workshop, conferences), start date\time, and end date\time. An event can be sponsored by different organizations. We also record basic information about each participant and the Organization they belong to, if any. The attribute OID in person is a foreign key and can be null.

Consider the following relations for the above Event database:

**Event (EID, Ename, location, type, start\_date, start\_time, end\_date, end\_time)**

**Organization (OID, Oname, address)**

**Participants (PID, Pname, bdate, gender, OID)**

**Sponsors (EID, OID, amount)**

**Attended (PID, EID)**

### 1. Write down NESTED SQL QUERIES for the following:

1. For each event Type, print the Event Name and the total number of participants who attended the Event each year but only for the Events with more than 10 participants.
2. For each participant, list the names of the events he has attended. If he has not attended any event, indicate this with a null value
3. Print the names of the participants who have attended precisely the same set of events attended by 'Hakaan Ali.'
4. Print the name of the participants who have attended all the seminars held in 2022.
5. Find pair of organizations that have sponsored exactly the same types of events.
6. List the names of the organizations that have never sponsored any conference.
7. Print the names and ages of participants with more than the average age.
8. Print the name and ID of the Event with the minimum number of participants among all the events held in 2022.

9. Find the names of the organizations that have sponsored one or more events.
10. Display the ids of the participants who attended the Event organized by "Techlogix" on January 25, 2003.
11. List the names of participants who attended exactly five events.
12. List the number of events attended by each participant in 2022.
13. Print the organization names that sponsored the maximum and minimum sponsorship amount for events held in 2022.
14. List the name of the Organization that has organized a seminar and a workshop in December 2022.
15. List the names of the participants who have attended a seminar but never attended a conference.

**Part b)**

- A. **Create a view** that includes the participant's name, the name and type of Event he attended, and the number of days the Event lasted.
- B. **Create a view** that includes the Organization's name, the number of events it sponsored, and the total amount of sponsorship, but only for the Organizations that have sponsored more than 3 Events.
- C. **Create a trigger** that prints a message when an Organization sponsor more than 100000 for an event.
- D. **Create a trigger** that prints a message when an event is canceled, and its data is deleted from the Event table