

SQL Exercise (Modified from 2022 Q1)

1. Create the following tables:

Table: PAR

Field name	Field Type	Field Length	Description	Constraint
PID	Character	5	ID of participant	Primary key: PID
PNAME	Character	20	Name of participant	
DEPT	Character	20	Name of department the participant belongs to	

Table: LEV

Field name	Field Type	Field Length	Description	Constraint
LID	Character	3	ID of the level attained	Primary key: LID
LSTEP	Integer		Lowest no. of steps per day	
HSTEP	Integer		Lowest no. of steps per day	
POINT	Integer		Reward points	

Table: READING

Field name	Field Type	Field Length	Description	Constraint
PID	Character	5	ID of participant	Primary key: PID + RDATE Foreign key: PID references PID of PAR
RDATE	Date		Recording date	
STEP	Integer		No. of steps	

2. Insert data records to tables:

Table PAR:

PID	PNAME	DEPT
P0023	Susan Li	Accounting
P0024	Peter Chan	Sales
P0025	Mary To	Sales

Table LEV:

LID	LSTEP	HSTEP	POINT
A08	8000	8999	5
A07	7000	7999	4
A09	9000	9999	6

Table READING:

PID	RDATE	STEP
P0023	2022-03-20	9500
P0024	2022-03-19	10000
P0024	2022-03-18	9000
P0025	2022-03-19	2000
P0025	2022-03-18	3000

3. What is the expected result of the following SQLs?

<pre>SELECT DISTINCT PID FROM READING WHERE STEP = ANY (SELECT STEP FROM READING WHERE RDATE = '2022-03-20')</pre>	<pre>SELECT DISTINCT PID FROM READING WHERE STEP >= ALL (SELECT STEP FROM READING WHERE RDATE = '2022-03-20')</pre>

SQL Exercise (Modified from 2020 Q4)

1. Table S1 and S2 are used to collect members' spending in two shopping malls. Create table S1 and S2 in which they have the same table structure as shown below:

Field name	Field Type	Field Length	Description
MID	Character	6	Member ID
SDATE	Date		Date of spending
AMT	Integer		Total amount of spending on that day

2. Insert data records to the table:

Table S1

MID	SDATE	AMT
M12345	2019-10-21	850
H10040	2019-10-21	500
P121011	2019-10-21	400
P98765	2019-10-22	900

Table S2

MID	SDATE	AMT
P121011	2019-10-21	400
R08040	2019-10-21	500
H10040	2019-10-21	500

3. What is the expected result of the following SQLs?

<pre>SELECT * FROM S1 UNION ALL SELECT * FROM S2</pre>	<pre>SELECT * FROM S1 UNION SELECT * FROM S2</pre>

4. What is the expected result of the following SQLs?

<pre>SELECT S1.MID, S1.SDATE, S1.AMT, S2.MID, S2.SDATE, S2.AMT FROM S1 FULL OUTER JOIN S2 ON S1.MID = S2.mid ORDER BY S1.MID, S1.SDATE, S2.SDATE</pre>