

4. Create table **STUDENT_PROFILE** which includes ROLLNO, NAME, CLASS, ECCC(Extra-Co-curricular he belongs to such as SPORTs, NSS etc.) and another table **MARKS_REPORT** includes ROLLNO, INTERNAL_TEST, MARKS1, MARKS2, MARKS3 and ECCC_MARKS.

Constraints

- 1) INTERNAL_TEST can be either 1 or 2.
- 2) Each mark can be 0-100. Absence in the test can be entered as -1.
- 3) Consider at least 3 classes.

Apply suitable data type and constraints to each column. Insert 5 students marks report in the both the tests.

Write the following SQL queries:

- a) Find number of students failed class-wise.
- b) Display the complete details of the students secured distinction (Percentage \geq 70) in I BCA.
- c) Display class and highest total marks in second internals in each class.
- d) Display the student names with ROLLNO and class of those who passed in I internals and failed in II internals. (Use SET operator)

4.1 Creating the tables and describing their structure

```
CREATE TABLE STUDENT_PROFILE
(
    ROLLNO INTEGER PRIMARY KEY,
    NAME VARCHAR(15) NOT NULL,
    CLASS VARCHAR(10) NOT NULL,
    ECCC VARCHAR(10) NOT NULL
);
```

Output

Table created.

Description of STUDENT_PROFILE table.

DESCRIBE STUDENT_PROFILE;	or	DESC STUDENT_PROFILE;	
Name		Null?	Type
-----		-----	-----
ROLLNO		NOT NULL	NUMBER(38)
NAME		NOT NULL	VARCHAR2(15)
CLASS		NOT NULL	VARCHAR2(10)
ECCC		NOT NULL	VARCHAR2(10)

```
CREATE TABLE MARKS_REPORT
(
    ROLLNO INTEGER REFERENCES STUDENT_PROFILE,
    INTERNAL_TEST INTEGER NOT NULL,
    MARKS1 INTEGER NOT NULL,
    MARKS2 INTEGER NOT NULL,
    MARKS3 INTEGER NOT NULL,
    ECCC_MARKS INTEGER NOT NULL,
```

```

CHECK (MARKS1 BETWEEN -1 AND 100),
CHECK (MARKS2 BETWEEN -1 AND 100),
CHECK (MARKS3 BETWEEN -1 AND 100),
CHECK (ECCC_MARKS BETWEEN -1 AND 100),
CHECK (INTERNAL_TEST IN (1, 2))
);

```

Output

Table created.

Description of MARKS_REPORT table.

```

DESCRIBE MARKS_REPORT;          or      DESC MARKS_REPORT;

```

Name	Null?	Type
ROLLNO		NUMBER(38)
INTERNAL_TEST	NOT NULL	NUMBER(38)
MARKS1	NOT NULL	NUMBER(38)
MARKS2	NOT NULL	NUMBER(38)
MARKS3	NOT NULL	NUMBER(38)
ECCC_MARKS	NOT NULL	NUMBER(38)

4.2 Loading data into the tables

4.2.1 Loading data into STUDENT_PROFILE table

```

INSERT INTO STUDENT_PROFILE VALUES (101, 'TARUN', 'I BCA', 'SPORTS');
INSERT INTO STUDENT_PROFILE VALUES (102, 'ISHA', 'I BCA', 'NSS');
INSERT INTO STUDENT_PROFILE VALUES (103, 'ASHRAY', 'II BCA', 'SPORTS');
INSERT INTO STUDENT_PROFILE VALUES (104, 'NAYANA', 'II BCA', 'NCC');
INSERT INTO STUDENT_PROFILE VALUES (105, 'ADVAITH', 'III BCA', 'FINE ARTS');
INSERT INTO STUDENT_PROFILE VALUES (106, 'MANVI', 'III BCA', 'NSS');
INSERT INTO STUDENT_PROFILE VALUES (107, 'BHUVAN', 'III BCA', 'FINE ARTS');

```

Output

8 rows created.

Displaying the values inserted into the STUDENT_PROFILE table.

```

SELECT *
FROM STUDENT_PROFILE;

```

ROLLNO	NAME	CLASS	ECCC
101	TARUN	I BCA	SPORTS
102	ISHA	I BCA	NSS
103	ASHRAY	II BCA	SPORTS
104	NAYANA	II BCA	NCC
105	ADVAITH	III BCA	FINE ARTS
106	MANVI	III BCA	NSS
107	BHUVAN	III BCA	FINE ARTS
108	GAANA	III BCA	NCC

8 rows selected.

4.2.2 Loading data into MARKS_REPORT table

```

INSERT INTO MARKS_REPORT VALUES (101, 1, 88, 99, 87, 75);
INSERT INTO MARKS_REPORT VALUES (101, 2, 69, 80, 66, 78);
INSERT INTO MARKS_REPORT VALUES (102, 1, 53, 57, 56, 51);
INSERT INTO MARKS_REPORT VALUES (102, 2, -1, 49, 34, 55);
INSERT INTO MARKS_REPORT VALUES (103, 1, 67, 54, 76, 69);
INSERT INTO MARKS_REPORT VALUES (103, 2, -1, 46, 32, 56);
INSERT INTO MARKS_REPORT VALUES (104, 1, 91, 95, 94, 99);
INSERT INTO MARKS_REPORT VALUES (104, 2, 92, 97, 90, 96);
INSERT INTO MARKS_REPORT VALUES (105, 1, 88, 77, 67, 45);
INSERT INTO MARKS_REPORT VALUES (105, 2, 67, -1, 59, 76);
INSERT INTO MARKS_REPORT VALUES (106, 1, 91, 92, 93, 94);
INSERT INTO MARKS_REPORT VALUES (106, 2, 79, 89, 86, 90);
INSERT INTO MARKS_REPORT VALUES (107, 1, 31, 44, 36, 47);
INSERT INTO MARKS_REPORT VALUES (107, 2, 59, 39, 46, -1);
INSERT INTO MARKS_REPORT VALUES (108, 1, 49, 39, 66, 71);
INSERT INTO MARKS_REPORT VALUES (108, 2, 58, 47, 66, 60);

```

Output

16 rows created.

Displaying the values inserted into the MARKS_REPORT table.

```

SELECT *
FROM MARKS_REPORT;

```

ROLLNO	INTERNAL_TEST	MARKS1	MARKS2	MARKS3	ECCC_MARKS
101	1	88	99	87	75
101	2	69	80	66	78
102	1	53	57	56	51
102	2	-1	49	34	55
103	1	67	54	76	69
103	2	-1	46	32	56
104	1	91	95	94	99
104	2	92	97	90	96
105	1	88	77	67	45
105	2	67	-1	59	76
106	1	91	92	93	94
106	2	79	89	86	90
107	1	31	44	36	47
107	2	59	39	46	-1
108	1	49	39	66	71
108	2	58	47	66	60

16 rows selected.

4.3 Queries

4.3.1 Find number of students failed class-wise.

```

SELECT CLASS, COUNT(*)
FROM STUDENT_PROFILE S, MARKS_REPORT M
WHERE S.ROLLNO=M.ROLLNO AND ((MARKS1<35) OR (MARKS2<35) OR (MARKS3<35) OR
(ECCC_MARKS<35))
GROUP BY CLASS
ORDER BY CLASS;

```

Output

CLASS	COUNT(*)
I BCA	1
II BCA	1
III BCA	3

4.3.2 Display the complete details of the students secured distinction (Percentage \geq 70) in I BCA.

```
SELECT S.ROLLNO, NAME, CLASS, INTERNAL_TEST, ECCC, MARKS1, MARKS2, MARKS3,
ECCC_MARKS
FROM STUDENT_PROFILE S, MARKS_REPORT M
WHERE S.ROLLNO=M.ROLLNO
AND ((MARKS1+MARKS2+MARKS3)/3) $\geq$ 70
AND S.CLASS='I BCA';
```

Output

ROLLNO	NAME	CLASS	INTERNAL_TEST	ECCC	MARKS1	MARKS2	MARKS3	ECCC_MARKS
101	TARUN	I BCA	1	SPORTS	88	99	87	75
101	TARUN	I BCA	2	SPORTS	69	80	66	78

4.3.3 Display class and highest total marks in second internals in each class.

```
SELECT CLASS, MAX(MARKS1+MARKS2+MARKS3) AS HIGHEST_MARKS
FROM STUDENT_PROFILE S, MARKS_REPORT M
WHERE S.ROLLNO=M.ROLLNO AND M.INTERNAL_TEST=2
GROUP BY CLASS
ORDER BY CLASS;
```

Output

CLASS	HIGHEST_MARKS
I BCA	215
II BCA	279
III BCA	254

4.3.4 Display the student names with ROLLNO and class of those who passed in I internals and failed in II internals. (Use SET operator)

```
SELECT NAME, S.ROLLNO, CLASS
FROM STUDENT_PROFILE S, MARKS_REPORT M
WHERE S.ROLLNO=M.ROLLNO AND ((MARKS1 $\geq$ 35) AND (MARKS2 $\geq$ 35) AND
(MARKS3 $\geq$ 35) AND (ECCC_MARKS $\geq$ 35)) AND M.INTERNAL_TEST=1
INTERSECT
SELECT NAME, S.ROLLNO, CLASS
FROM STUDENT_PROFILE S, MARKS_REPORT M
WHERE S.ROLLNO=M.ROLLNO AND ((MARKS1 $<$ 35) OR (MARKS2 $<$ 35) OR (MARKS3 $<$ 35) OR
(ECCC_MARKS $<$ 35)) AND M.INTERNAL_TEST=2
ORDER BY ROLLNO;
```

Output

