# Name – Sayak Sen

# Enrollment No – 2023CSB047

# Assignment Sheet 2

## Assignment 4

1. Retrieve the name of the students whose name starts with 'S' and contains 'r' as the second last character.

```sql
select name from students where name like 'S%r_';
```

| name |
| --- |
| ▶ Sipra |

2. Retrieve the name of the youngest student(s) from the 'CST' department along with the total marks obtained by him (them).

```sql
select name,sum(marks) as total_marks from students
join crs_regd on students.rollno = crs_regd.crs_rollno
where deptcode = 'CSE' and bdate = (select max(bdate) from students
where deptcode = 'CSE')
group by rollno;
```

| name | total_marks |
| --- | --- |
| ▶ Aarav | 245.00 |

## 3. Find the age of all the students.

```
select rollno,name,TIMESTAMPDIFF(YEAR,bdate,CURDATE()) as age from students;
```

| rollno | name | age |
|--------|--------|-----|
| 92005010 | Aarav | 29 |
| 92005011 | Rohan | 30 |
| 92005012 | Kavya | 28 |
| 92005013 | Sanjay | 30 |
| 92005014 | Priya | 29 |
| 92005015 | Manoj | 29 |
| 92005016 | Ananya | 30 |
| 92005017 | Meera | 30 |
| 92005018 | Vikram | 29 |
| 92005019 | Neha | 29 |
| 92005020 | Arjun | 29 |
| 92005021 | Lakshmi | 30 |
| 92005022 | Ankit | 31 |
| 92005023 | Megha | 31 |
| 92005024 | Puja | 30 |
| 92005025 | Samvit | 31 |
| 92005026 | Aniket | 32 |
| 92005027 | Raghav | 32 |
| 92005028 | Karan | 31 |
| 92005029 | Aarav | 31 |
| 92005102 | Ram | 30 |
| 92005103 | Amit | 30 |
| 92005104 | Kanha | 29 |
| 92005105 | Sipra | 32 |

# Assignment 5

1.Retrieve the name of the student(s) who obtained second highest marks in 'DBMS'.

```
select rollno,name,marks from students
join crs_regd on students.rollno = crs_regd.crs_rollno
join crs_offrd on crs_offrd.crs_code = crs_regd.crs_cd
where crs_name = 'DBMS' and marks = (select max(marks) from crs_regd
join crs_offrd on crs_regd.crs_cd = crs_offrd.crs_code where
crs_name = 'DBMS' and marks<(select max(marks) from crs_regd join
crs_offrd on crs_regd.crs_cd = crs_offrd.crs_code where crs_name =
'DBMS'));
```

| rollno | name | marks |
|--------|------|-------|
| 92005022 | Ankit | 78.50 |

2.Find out the differences between highest and lowest marks obtained in each subject.

```
select crs_code,crs_name , max(marks)-min(marks) as diff_marks
from crs_regd
join crs_offrd on crs_regd.crs_cd = crs_offrd.crs_code
group by crs_code,crs_name;
```

| crs_code | crs_name | diff_marks |
|----------|----------|------------|
| AE501 | Flight Mechanics | 34.00 |
| AR101 | Architecture | 0.00 |
| BT301 | Genetics | 26.00 |
| CH103 | Chemistry | 65.00 |
| CH301 | Organic Chem | 24.00 |
| CS101 | DBMS | 38.00 |
| CS102 | OS | 32.00 |
| CS103 | MIS | 5.00 |
| CS104 | Software Engg. | 31.00 |
| CV201 | Structural Engg | 3.00 |
| EE101 | Circuits | 37.00 |
| IT401 | Networks | 23.00 |
| PH106 | Physics | 58.00 |

3.Assuming the existance of several interdepartmental courses, retrieve the name of the student(s) who is(are) studing under at least one faculty from each department.

```
SELECT name
FROM students
JOIN crs_regd ON students.rollno = crs_regd.crs_rollno
JOIN crs_offrd ON crs_regd.crs_cd = crs_offrd.crs_code
JOIN faculty ON crs_offrd.crs_fac_cd = faculty.fac_code
GROUP BY students.name
HAVING COUNT(DISTINCT faculty.fac_dept) = (SELECT COUNT(*) FROM
depts);
```

| name |
| --- |
| Ankit |

4.Assuming the existance of several interdepartmental courses, retrieve the name of the student(s) who is(are) studing under the faculties only from his(their) own department.

```
select rollno,name from students
where rollno not in (select distinct rollno from crs_offrd, faculty,
crs_regd, students
where crs_fac_cd=fac_code
AND crs_cd=crs_code
AND crs_rollno=rollno
AND fac_dept!=deptcode
GROUP BY rollno
UNION
(select rollno from students except (select distinct crs_rollno from
crs_regd)));
```

| rollno | name |
| --- | --- |
| 92005015 | Manoj |

# Assignment 6

1.Display the highest parent incomes, in descending order, for each department excluding 'ARCH' such that only those highest parent incomes will appear that are below 12,000.

```
select name,parent_inc from students
where deptcode != 'ARC' and parent_inc < 12000
order by parent_inc desc;
```

| name | parent_inc |
|---|---|
| Aniket | 11500.0 |
| Megha | 11000.0 |
| Samvit | 11000.0 |
| Puja | 9000.0 |

2. Retrieve the fifth highest parent income for hostel number 5.

```
select distinct s.parent_inc
from students as s
where s.hostel = 5 and
5 = (select count(distinct p.parent_inc) from students as p
where p.hostel = 5 and p.parent_inc >= s.parent_inc);
```

| parent_inc |
|---|
| 13000.0 |

3.Find the roll number of the students from each department who obtained highest total marks in their own department.

```
select name,deptcode,rollno
from(select deptcode,rollno,name,sum(marks) as totalmarks
from students,crs_regd
where students.rollno=crs_regd.crs_rollno group by rollno) as tb1
where (deptcode,totalmarks) in (select deptcode,max(totalmarks) from
(select deptcode,rollno,name,sum(marks) as totalmarks
from students,crs_regd
where students.rollno=crs_regd.crs_rollno group by rollno)as tb2
group by deptcode);
```

| name | deptcode | rollno |
| --- | --- | --- |
| Priya | ELE | 92005014 |
| Meera | ECE | 92005017 |
| Vikram | MEC | 92005018 |
| Arjun | CIV | 92005020 |
| Lakshmi | BIO | 92005021 |
| Ankit | CSE | 92005022 |

| name | deptcode | rollno |
| --- | --- | --- |
| Priya | ELE | 92005014 |
| Meera | ECE | 92005017 |
| Vikram | MEC | 92005018 |
| Arjun | CIV | 92005020 |
| Lakshmi | BIO | 92005021 |
| Ankit | CSE | 92005022 |