Functional Requirements (SQL):

1. **Select the name and id of the librarian who draws the most salary in his designation.**

   SQL DML:

   SELECT l.librarian_name, l.librarian_id, l.librarian_designation

   FROM librarian AS l

   JOIN (SELECT librarian_designation, AVG(librarian_salary) AS avgsal

       FROM librarian

       GROUP BY librarian_designation) AS l1

       ON (l.librarian_designation = l1.librarian_designation)

   WHERE l.librarian_salary >= l1.avgsal;

	librarian_name character varying	librarian_id [PK] character varying	librarian_designation character varying
1	Nivedita Sharma	L01	asst. Librarian
2	Raj Verma	L02	Librarian

2. **Select faculty name, department name and salary of the faculty where gender of faculty is not male and department of the faculty is not Science.**

SQL DML:

SELECT faculty_name, department_name, faculty_salary

FROM faculty f

JOIN department d

ON f.department_id = d.department_id

EXCEPT

SELECT faculty_name, department_name, faculty_salary

FROM faculty f

JOIN department d

ON f.department_id = d.department_id

WHERE faculty_gender = 'Male'

EXCEPT

SELECT faculty_name, department_name, faculty_salary

FROM faculty f

JOIN department d

ON f.department_id = d.department_id

WHERE department_name = 'Science';

Data Output   Explain   Messages   Notifications

	faculty_name character varying	department_name character varying	faculty_salary numeric (8)
1	Shruti Patil	Botany	55000
2	Naha Pandya	Tech	40000

3. **Find the name, contact number, email id and department name of faculty who works for 'Tech' or 'Science' department and list the data in ascending order of faculty name.**

SQL DML:

SELECT faculty_name, faculty_contact_no, faculty_email, department_name

FROM faculty AS f

RIGHT JOIN department AS d

ON f.department_id = d.department_id

INTERSECT

SELECT faculty_name, faculty_contact_no, faculty_email, department_name

FROM faculty AS f

LEFT JOIN department AS d

ON f.department_id = d.department_id

WHERE department_name = 'Tech' OR department_name = 'Science'

ORDER BY faculty_name;

Data Output   Explain   Messages   Notifications

	faculty_name character varying	faculty_contact_no character varying	faculty_email character varying	department_name character varying
1	Amit Patel	9512366470	amit@gmail.com	Tech
2	Dhruv Sharma	9568301472	dhruv@gmail.com	Tech
3	Naha Pandya	9874563201	neha@gmail.com	Tech
4	Pooja Patel	9856320147	pooja@gmail.com	Science
5	Raj Patel	9865142037	raj@gmail.com	Tech
6	Vandana Patil	9173254860	vandana@gmail.com	Science

4. **Return library IDs of the librarians who have issued books to the student and are Asst. Librarian.**

SQL DML:

```
SELECT librarian_id
FROM (SELECT  *
        FROM issue_book_to_student AS l
        CROSS JOIN (SELECT *
                        FROM librarian
                        WHERE UPPER(librarian_designation)='ASST. LIBRARIAN')
                        AS i )
        AS r
EXCEPT
SELECT lid FROM issue_book_to_student;
```

librarian_id 🔒 character varying
1	L01

5. **List the name, contact number and email id of students whose joining year is 2020 and borrowed book from library from assistant librarian.**

SQL DML:

SELECT student_name, student_contact_no, student_email_id

FROM student

WHERE joining_year = 2020

AND student_id IN

(SELECT student_id

FROM student_book AS sb

FULL OUTER JOIN librarian AS l

ON sb.librarian_id = l.librarian_id

WHERE librarian_designation = 'Assistant Librarian');

Data Output   Explain   Messages   Notifications

	student_name character varying	student_contact_no character varying	student_email_id character varying
1	Shreyansh	9549263087	shreyansh@gmail.com
2	Mansi	9852014637	mansi@gmail.com