* + - **BASIC QUESTIONS & QUERIES :**

1. Retrieve all student details
2. Retrieve all students' names and emails
3. Insert a new student
4. Retrieve details of a specific student using PRN
5. Insert marks for a student in se1
6. Retrieve marks for all students from se1
7. Update a student's contact number
8. Delete a student record
9. Count the total number of students
10. Retrieve all teacher details
    * + **INTERMEDIATE QUESTIONS AND QUERIES :**
11. Retrieve the list of students along with their se1 marks
12. Get the average marks in each subject from se1
13. Get the highest marks in Python in se1
14. Find students who scored above 90 in Java in se1
15. Calculate the total marks for each student in se1
16. Retrieve a list of students along with their se2 marks
17. Update the marks of a student in see
18. Find students who failed in any subject (marks < 40) in se1
19. Retrieve CGPA of all students for a specific semester
20. Count the number of students in each class
21. Creating a View for Student Results
    * + **DIFFICULT QUESTIONS AND QUERIES :**
22. Retrieve the overall performance of each student across all exams
23. Find the top 5 students based on their CGPA.
24. Find students with missing marks in any subject in se1
25. Get the name of the student with the highest CGPA
26. Calculate the average CGPA for all semesters
27. Get the details of students who scored the highest marks in Python in see
28. Generate a report of students with total marks and CGPA
29. Find students who scored above the class average in se1
30. Count the number of students with a CGPA above 8.0
31. Generate a list of students sorted by their total marks in se1
    * + - **COVERED POINTS :**

**BASIC QUESTIONS & QUERIES**

1. Retrieve all student details
   * SQL Concept: SELECT statement
   * Query example: SELECT \* FROM student;
2. Retrieve all students' names and emails
   * SQL Concept: SELECT with specific columns
   * Query example: SELECT name, email FROM student;
3. Insert a new student
   * SQL Concept: INSERT INTO
   * Query example: INSERT INTO student (PRN, name, email, contact) VALUES (...);
4. Retrieve details of a specific student using PRN
   * SQL Concept: SELECT with WHERE
   * Query example: SELECT \* FROM student WHERE PRN = '123';
5. Insert marks for a student in se1
   * SQL Concept: INSERT INTO
   * Query example: INSERT INTO se1 (PRN, CA, CN, Java, Python) VALUES (...);
6. Retrieve marks for all students from se1
   * SQL Concept: SELECT
   * Query example: SELECT \* FROM se1;
7. Update a student's contact number
   * SQL Concept: UPDATE
   * Query example: UPDATE student SET contact = 'new\_number' WHERE PRN = '123';
8. Delete a student record
   * SQL Concept: DELETE
   * Query example: DELETE FROM student WHERE PRN = '123';
9. Count the total number of students
   * SQL Concept: COUNT()
   * Query example: SELECT COUNT(\*) AS total\_students FROM student;
10. Retrieve all teacher details
    * SQL Concept: SELECT
    * Query example: SELECT \* FROM teacher;

**INTERMEDIATE QUESTIONS AND QUERIES**

1. Retrieve the list of students along with their se1 marks
   * SQL Concept: JOIN
   * Query example: SELECT student.name, se1.\* FROM student INNER JOIN se1 ON student.PRN = se1.PRN;
2. Get the average marks in each subject from se1
   * SQL Concept: AVG() with GROUP BY
   * Query example: SELECT AVG(CA), AVG(CN), AVG(Java), AVG(Python) FROM se1;
3. Get the highest marks in Python in se1
   * SQL Concept: MAX()
   * Query example: SELECT MAX(Python) AS highest\_python\_marks FROM se1;
4. Find students who scored above 90 in Java in se1
   * SQL Concept: WHERE with comparison operators
   * Query example: SELECT \* FROM se1 WHERE Java > 90;
5. Calculate the total marks for each student in se1
   * SQL Concept: SUM() with GROUP BY
   * Query example: SELECT PRN, SUM(CA + CN + Java + Python) AS total\_marks FROM se1 GROUP BY PRN;
6. Retrieve a list of students along with their se2 marks
   * SQL Concept: JOIN
   * Query example: SELECT student.name, se2.\* FROM student INNER JOIN se2 ON student.PRN = se2.PRN;
7. Update the marks of a student in see
   * SQL Concept: UPDATE
   * Query example: UPDATE see SET Java = 95 WHERE PRN = '123';
8. Find students who failed in any subject (marks < 40) in se1
   * SQL Concept: WHERE with logical operators
   * Query example: SELECT \* FROM se1 WHERE CA < 40 OR CN < 40 OR Java < 40 OR Python < 40;
9. Retrieve CGPA of all students for a specific semester
   * SQL Concept: SELECT
   * Query example: SELECT PRN, CGPA FROM cgpa WHERE semester = 1;
10. Count the number of students in each class
    * SQL Concept: GROUP BY with COUNT()
    * Query example: SELECT class, COUNT(\*) AS student\_count FROM student GROUP BY class;
11. Creating a View for Student Results
    * SQL Concept: CREATE VIEW
    * Query example:
    * CREATE VIEW student\_results AS
    * SELECT student.PRN, student.name, se1.\*, se2.\*, see.\*, cgpa.\*
    * FROM student
    * INNER JOIN se1 ON student.PRN = se1.PRN
    * INNER JOIN se2 ON student.PRN = se2.PRN
    * INNER JOIN see ON student.PRN = see.PRN
    * INNER JOIN cgpa ON student.PRN = cgpa.PRN;

**DIFFICULT QUESTIONS AND QUERIES**

1. Retrieve the overall performance of each student across all exams
   * SQL Concept: JOIN, aggregate functions
   * Query example: Combine all marks using SUM across exams.
2. Find the top 5 students based on their CGPA
   * SQL Concept: ORDER BY with LIMIT
   * Query example: SELECT \* FROM cgpa ORDER BY CGPA DESC LIMIT 5;
3. Find students with missing marks in any subject in se1
   * SQL Concept: IS NULL
   * Query example: SELECT \* FROM se1 WHERE CA IS NULL OR CN IS NULL OR Java IS NULL OR Python IS NULL;
4. Get the name of the student with the highest CGPA
   * SQL Concept: MAX() with JOIN
   * Query example:
   * SELECT student.name, cgpa.CGPA
   * FROM student
   * INNER JOIN cgpa ON student.PRN = cgpa.PRN
   * WHERE cgpa.CGPA = (SELECT MAX(CGPA) FROM cgpa);
5. Calculate the average CGPA for all semesters
   * SQL Concept: AVG()
   * Query example: SELECT AVG(CGPA) AS average\_cgpa FROM cgpa;
6. Get the details of students who scored the highest marks in Python in see
   * SQL Concept: MAX() with JOIN
   * Query example:
   * SELECT student.name, see.Python
   * FROM student
   * INNER JOIN see ON student.PRN = see.PRN
   * WHERE see.Python = (SELECT MAX(Python) FROM see);
7. Generate a report of students with total marks and CGPA
   * SQL Concept: JOIN, SUM(), and grouping
   * Query combines total marks and CGPA.
8. Find students who scored above the class average in se1
   * SQL Concept: HAVING with subqueries
   * Query example:
   * SELECT PRN, SUM(CA + CN + Java + Python) AS total\_marks
   * FROM se1
   * GROUP BY PRN
   * HAVING total\_marks > (SELECT AVG(CA + CN + Java + Python) FROM se1);
9. Count the number of students with a CGPA above 8.0
   * SQL Concept: COUNT() with WHERE
   * Query example: SELECT COUNT(\*) FROM cgpa WHERE CGPA > 8.0;
10. Generate a list of students sorted by their total marks in se1
    * SQL Concept: ORDER BY
    * Query example:
    * SELECT PRN, SUM(CA + CN + Java + Python) AS total\_marks
    * FROM se1
    * GROUP BY PRN
    * ORDER BY total\_marks DESC;