

1)

```
SELECT department_id, COUNT(*) AS student_count
FROM Students
GROUP BY department_id;
```

2)

```
SELECT department_id, COUNT(*) AS student_count
FROM Students
GROUP BY department_id
HAVING COUNT(*) > 2;
```

3)

```
SELECT s.first_name, c.course_name
FROM Students s
LEFT JOIN Enrollments e ON s.student_id = e.student_id
LEFT JOIN Courses c ON e.course_id = c.course_id;
```

4)

```
SELECT s.first_name, c.course_name
FROM Students s
INNER JOIN Enrollments e ON s.student_id = e.student_id
INNER JOIN Courses c ON e.course_id = c.course_id;
```

5)

```
SELECT s.first_name, c.course_name
FROM Students s
FULL OUTER JOIN Enrollments e ON s.student_id = e.student_id
FULL OUTER JOIN Courses c ON e.course_id = c.course_id;
```

6)

```
SELECT department_id, AVG(YEAR(CURRENT_DATE) - YEAR(date_of_birth)) AS
avg_age
FROM Students
GROUP BY department_id;
```

7)

```
SELECT student_id, COUNT(course_id) AS course_count
FROM Enrollments
GROUP BY student_id;
```

8)

```
SELECT department_id, COUNT(*) AS student_count
FROM Students
GROUP BY department_id
HAVING COUNT(*) > 5;
```

9)

```
SELECT s.*
FROM Students s
LEFT JOIN Enrollments e ON s.student_id = e.student_id
WHERE e.student_id IS NULL;
```

10)

```
SELECT c.course_name, COUNT(e.student_id) AS student_count
FROM Courses c
LEFT JOIN Enrollments e ON c.course_id = e.course_id
GROUP BY c.course_name;
```

11)

```
SELECT *
FROM Students
WHERE contact_number IS NULL;
```

12)

```
SELECT d.department_name, COUNT(s.student_id) AS student_count
FROM Departments d
LEFT JOIN Students s ON d.department_id = s.department_id
GROUP BY d.department_name;
```

13)

```
SELECT gender, AVG(admission_year) AS avg_admission_year
FROM Students
```

GROUP BY gender;

14)

SELECT c.course_name

FROM Courses c

LEFT JOIN Enrollments e ON c.course_id = e.course_id

WHERE e.course_id IS NULL;

15)

SELECT gender, department_id, COUNT(*) AS student_count

FROM Students

GROUP BY gender, department_id;