Exercise 2.   Belinda Thando Mhlanga.

1. SELECT DISTINCT department
   FROM students;

Department
IT
HR
Finance

2. SELECT department,
        AVG (Age) AS average-age
   FROM students
   GROUP BY department;

department	Average - age
IT	20.5
HR	22.0
Finance	23.0

3. Show departments with more than 1 Student
   SELECT department
        COUNT* AS student-count
   FROM students
   Group by department
   HAVING COUNT * > 1

department	Student-count
IT	2
HR	2

4.

```sql
SELECT student_id
       name,
       age,
       department
FROM students
WHERE age Between 21 AND 23;
```

Student id	name	age	department
2	Bob	22	HR
3	charlie	21	IT
4	Diana	23	Finance
5	Eve	22	HR

5.

```sql
SELECT student_id,
       name,
       age,
       department
FROM students
WHERE department IN ('IT', 'HR')
AN age >21;
```

student_id	name	age	department
2	Bob	22	HR
5	Eve	22	HR

6.

```sql
SELECT department
       SUM (credits) As total_credits
FROM courses
GROUP BY department
HAVING SUM (credits) > 5;
```

department	total-credits
IT	11

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7. SELECT course_id,
course-name,
department,
credits

FROM courses
WHERE credits <> 4;

Course-id	course-name	department	credits
101	SQL Basics	IT	3
104	Excel	Finance	2
105	Statistics	HR	3

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8. SELECT course_id,
course-name,
credits
FROM courses
ORDER BY credits DESC
LIMIT 3;

Course_id	course_name	credits
102	Python	4
103	Datascience	4
101	SQL Basics	3

9. SELECT Max (grade) As Max-grade
MIN (grade) AS min-grade,
AVG (grade) AS avg-grade

FROM enrollments;

Max-grade	Min-grade	avg-grade
90	78	84.6

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10. SELECT course-id
COUNT(#) AS enrollment-count

FROM enrollments
GROUP BY course-id;

Course-id	Enrollement-Count
101	1
102	1
103	1
104	1
104	1
105	1

11. SELECT department,
     SUM (salary) AS total_salary
     SUM (bonus) AS total_bonus
   FROM salaries
   GROUP department;

department	total_salary	total_bonus
IT	122000	10500
HR	109000	7500
finance	70000	6000

12. SELECT department,
     AVG (salary) AS avg_salary
   FROM salaries
   GROUP BY department
   HAVING AVG (salary) > 55000;

department	avg_salary
IT	61000
finance	70000

13. SELECT employee-id,
     name,
     salary,
     (salary + bonus) AS total_compensation
   FROM salaries
   WHERE (salary + bonus) > 6000;

employee_id	name	salary	bonus	total_compensation
1	Tom	60000	5000	65000
3	Spike	70000	6000	76000
4	Tyke	62000	5500	67500

14.
```
SELECT department,
       SUM (budget) AS total_budget,
       AVG (budget) AS avg_budget

FROM projects
GROUP BY department
HAVING AVG (budget) > 70000;
```

department	total_budget	avg_budget
IT	270000	135000
Finance	80000	80000

15.
```
SELECT project_id,
       project_name,
       department,
       budget

FROM projects
WHERE budget BETWEEN 50000 AND 120000
AND department <> 'Marketing';
```

Project_id	Project_name	department	budget
1	AI App	IT	120000
2	Payroll System	Finance	80000
3	HR Portal	HR	5000