

Exercise 2

Q1

SELECT DISTINCT department
FROM Students;

department
IT
HR
Finance

Q2

SELECT department,
AVG(age) AS avg-age
FROM Students;
GROUP BY department;

department	avg-age
HR	20.522
IT	20.5
Finance	23

Q3

SELECT department,
COUNT(student_id) AS student_count
FROM Students
GROUP BY department
HAVING count > 1;

department	student_count
IT	2
HR	2

Question 4

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

Question 5

SELECT student_id,
 name,
 age,
 department
 FROM students
 WHERE department IN 'IT', 'HR'
 AND age > 21;

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

Question 6

SELECT department,
 SUM(credits) AS total_credits
 FROM courses
 GROUP BY department
 HAVING total_credits > 5;

department	total_credits
IT	11

Question 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

Question 8

SELECT course_id,
 course_name,
 credits
 FROM courses
 ORDER BY credits DESC
 LIMIT 3;

course-id	course-name	credits
103	Data Science	4
102	Python	4
101	SQL Basics	3

Question 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	85

Question 10

```
SELECT course-id,
       COUNT(enrollment-id) AS enrollment-count
  FROM enrollments
 GROUP BY course-id;
```

Course_id	enrollment_count
101	1
102	1
103	1
104	1
105	1

Question 11

SELECT department,

 SUM(salary) AS total_salary)

 SUM(bonus) AS total_bonus

FROM salaries

GROUP BY department;

department	total_salary	total_bonus
IT	122,000	10,500
HR	109,000	7,500
Finance	70,000	6,000

Question 12

SELECT department

 AVG(salary) avg_salary

GROUP BY department

HAVING avg_salary > 55,000;

department	avg_salary
IT	61,000
Finance	70,000

Question 13

SELECT employee_id,

 name,

 Salary,

 bonus,

 SUM(Salary, bonus) AS total_compensation

FROM salaries

> 60,000;

Question 11

SELECT department,
 SUM(salary) AS total_salary,
 SUM(bonus) AS total_bonus

FROM salaries

Group By department;

department	total_salary	total_bonus
IT	122,000	10,500
HR	109,000	7,500
Finance	70,000	6,000

Question 12

SELECT department

Avg(salary) avg_salary

Group By department

HAVING avg_salary > 55,000;

department	avg_salary
IT	61,000
Finance	70,000

Question 13

SELECT employee_id,

name,

salary,

bonus,

SUM(salary, bonus) AS total_compensation,

FROM salaries

WHERE total_compensation > 60,000;

employee_id	name	salary	bonus	total-compensation
1	TOM	60 000	5000	65 000
3	Spike	70 000	6000	76 000
4	Tyke	62 000	5500	67,500

Question 14

SELECT department

Avg(budget) AS avg-budget,

Sum(budget) AS total-budget

FROM projects

Group By department

Having avg-budget > 70,000;

department	total_budget	average_avg-budget
IT	210,000	135,000
Finance	80,000	80,000

Question 15

SELECT project_id,

project_name,

department

budget

FROM projects

WHERE budget = 50,000 AND

WHERE budget BETWEEN 50,000 AND 120,000

AND department != 'Marketing';

Project_id	Project_name	Department	Budget
1	AI APP	IT	120,000
2	Payroll System	Finance	80,000
5	HR Portal	HR	50,000