

SQL Aggregated functions & SQL Operators

① SELECT DISTINCT
FROM students



department
IT
HR
Finance

② SELECT department,

Avg (age) AS avg-age
FROM students

→

GROUP BY department;

department	avg-age
IT	20.5
HR	22.0
Finance	23.0

③ SELECT department;

COUNT (*) AS student-count

FROM students

GROUP BY department

→

HAVING COUNT (*) > 1

department	student-count
IT	2
HR	2

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

(5) SELECT student-id,
 name,
 age,
 department
 FROM student
 WHERE (department IN ('IT', 'HR')) AND age > 21

student-id	name	age	department
2	Bob	22	HR
5	Eve	22	HR

(6) SELECT department,
 sum(credits) AS total-credits
 FROM courses
 GROUP BY department
 HAVING sum(credits) > 5

department	Total Credits
IT	11

(7) SELECT course-id, course-name,
 department, credits
 FROM courses
 WHERE credits < 4

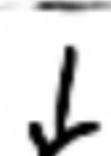
Course - id	Course-name	department	credits
101	SQL Basics	IT	3
104	Excel	Finance	2
105	Statistics	HR	3

(8) SELECT course-id, course-name,
credits
FROM courses
ORDER BY credits DESC
LIMIT 3;



course-id	course-name	credits
102	Python	4
103	Data Science	4
101	OSL 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

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



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

(1) 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	105 000
HR	109 000	7500
Finance	70 000	60000

(2) SELECT department,
 avg(salary) AS avg-salary
 FROM salaries
 WHERE avg(salary) > 55 000



department	avg - salary
IT	61 000
Finance	70 000

(3) SELECT employee_id,
 name,
 salary,
 bonus,
 (salary + bonus) AS total-compensation
 FROM salaries
 WHERE (salary + bonus) > 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

(14) SELECT department,
sum(budget) AS total-budget,
avg(budget) AS avg-budget

FROM projects

GROUP BY department

HAVING avg(budget) > 70 000;



department	Total-budget	Avg -budget
IT	270 000	135 000
Finance	80 000	80 000

(15) SELECT project-id,

project-name,

department,

budget

FROM projects

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