

Table 1: Students

lua

StudentID	Name	Age	Gender	Grade
1	Alice	20	Female	85
2	Bob	22	Male	78
3	Charlie	21	Male	90
4	David	20	Male	92
5	Emma	22	Female	87

Table 2: Courses

javascript

CourseID	CourseName	Credits
101	Math	3
102	Physics	4
103	Chemistry	3
104	Biology	3
105	English	3

Table 3: Grades

lua

StudentID	CourseID	Grade
1	101	82
1	102	88
1	103	90
2	101	75
2	102	80
2	103	82
3	101	90
3	102	95
3	103	88
4	101	92
4	102	85
4	103	90
5	101	88
5	102	90
5	103	85

↓

Queries:

1. Calculate Average Grade:

-- Calculate the average grade of all students

```
SELECT AVG(Grade) AS AverageGrade FROM Students;
```

Output:

```
| AverageGrade |
```

```
|-----|
```

```
| 86.4      |
```

2. Calculate Maximum Grade:

-- Find the maximum grade achieved by any student

```
SELECT MAX(Grade) AS MaxGrade FROM Grades;
```

Output:

```
| MaxGrade |
```

```
|-----|
```

```
| 95      |
```

3. Calculate Total Credits:

-- Calculate the total credits of all courses

```
SELECT SUM(Credits) AS TotalCredits FROM Courses;
```

Output:

```
| TotalCredits |
```

```
|-----|
```

```
| 16          |
```

4. Calculate Number of Students in Each Gender:

-- Count the number of students in each gender

```
SELECT Gender, COUNT(*) AS TotalStudents
```

```
FROM Students
```

```
GROUP BY Gender;
```

Output:

Gender	TotalStudents
--------	---------------

--	--

Female	2
--------	---

Male	3
------	---

5. Calculate Average Grade by Gender:

-- Calculate the average grade of male and female students

```
SELECT Gender, AVG(Grade) AS AverageGrade
```

```
FROM Students
```

```
GROUP BY Gender;
```

Output:

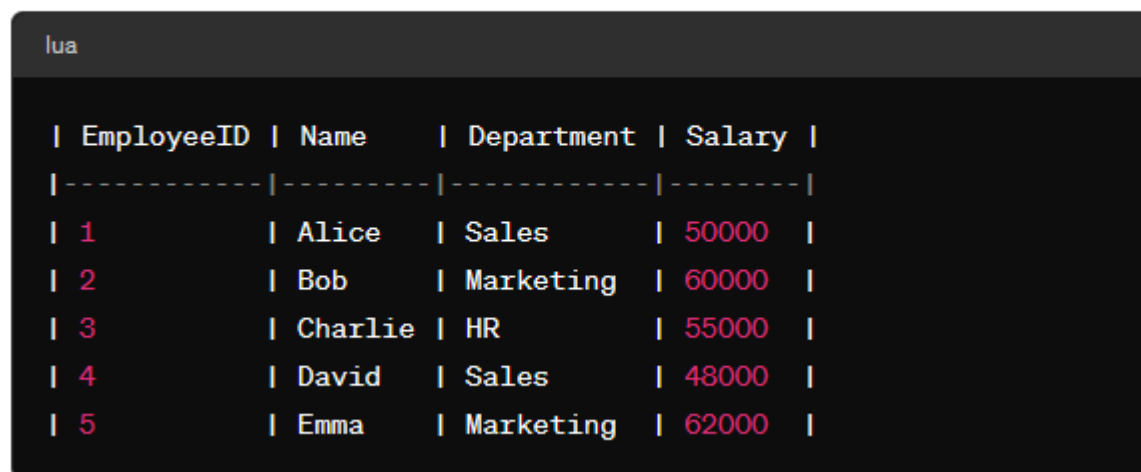
Gender	AverageGrade
--------	--------------

--	--

Female	87.5
--------	------

Male	86.6667
------	---------

Table 1: Employees



The screenshot shows a terminal window with a dark background. At the top left, the word 'lua' is written in a light blue font. Below it, a table is displayed with four columns: EmployeeID, Name, Department, and Salary. The table has five rows of data. The first row is the header, and the subsequent rows contain employee information. The EmployeeID and Salary columns are highlighted in red in the original image.

EmployeeID	Name	Department	Salary
1	Alice	Sales	50000
2	Bob	Marketing	60000
3	Charlie	HR	55000
4	David	Sales	48000
5	Emma	Marketing	62000

Table 2: Orders

mathematica			
OrderID	EmployeeID	Product	Quantity
101	1	Laptop	5
102	2	Desktop	3
103	3	Printer	2
104	1	Desktop	2
105	5	Laptop	4

Queries:

1. Calculate Total Salary Expense by Department:

-- Calculate the total salary expense for each department

```
SELECT Department, SUM(Salary) AS TotalSalaryExpense
```

```
FROM Employees
```

```
GROUP BY Department;
```

Output:

Department	TotalSalaryExpense
Sales	98000
Marketing	122000
HR	55000

2. Calculate Average Quantity of Products Sold per Employee:

-- Calculate the average quantity of products sold per employee

```
SELECT e.Name, AVG(o.Quantity) AS AvgQuantitySold
```

```
FROM Employees e
```

```
JOIN Orders o ON e.EmployeeID = o.EmployeeID
```

```
GROUP BY e.Name;
```

Output:

Name	AvgQuantitySold
Alice	3.5
Bob	3
Charlie	2
Emma	4

3. Find Employee with Maximum Salary:

-- Find the employee with the highest salary

```
SELECT Name, Salary
FROM Employees
WHERE Salary = (SELECT MAX(Salary) FROM Employees);
```

Output:

Name	Salary
Emma	62000

4. Find Department with Most Orders:

-- Find the department with the most orders

```
SELECT e.Department, COUNT(o.OrderID) AS TotalOrders
FROM Employees e
JOIN Orders o ON e.EmployeeID = o.EmployeeID
GROUP BY e.Department
ORDER BY TotalOrders DESC
LIMIT 1;
```

Output:

Department	TotalOrders
Marketing	5

5. **Calculate Total Salary Expense per Product:**

-- Calculate the total salary expense per product

```
SELECT o.Product, SUM(e.Salary) AS TotalSalaryExpense
```

```
FROM Employees e
```

```
JOIN Orders o ON e.EmployeeID = o.EmployeeID
```

```
GROUP BY o.Product;
```

Output:

```
| Product | TotalSalaryExpense |
```

```
|-----|-----|
```

```
| Laptop | 112000          |
```

```
| Desktop | 108000          |
```

```
| Printer | 55000           |
```

[SQL Query Questions with Answers to Practice for Interview \(techbeamers.com\)](https://techbeamers.com)