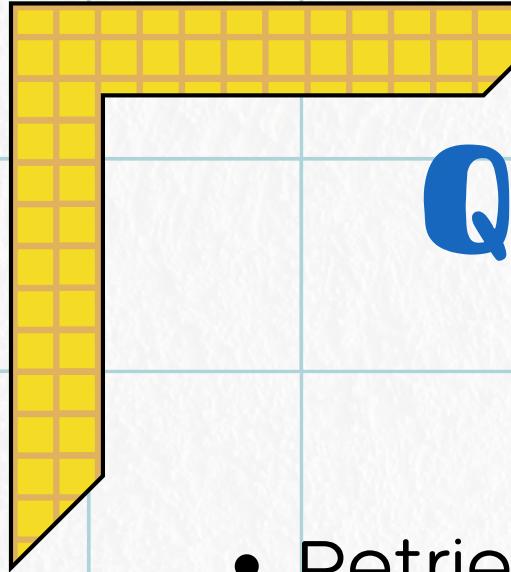


DATABASE PROJECT PRESENTATION

Presented by :
Haneen Alaa
Ahmed Nezar
Youssef Gehad
Philopateer



QUESTION 1: EMPLOYEE DETAILS WITH FUNCTION MANIPULATION



- Retrieve a list of employees where the first name is converted to uppercase, the last name is converted to lowercase, and the length of their position title is calculated. Additionally, include the department name by joining with the Departments table.
- Hint: Use UPPER, LOWER, LEN, and JOIN

QUERY

```
-- Question 1
SELECT
    UPPER(Employee.FirstName) AS FirstName,
    LOWER(Employee.LastName) AS LastName,
    LEN(Employee.Position) AS LengthOfPosition,
    Department.DepartmentName
FROM Employee
JOIN Department
ON Employee.DepartmentID = Department.DepartmentID;
```

OUTPUT

	FirstName	LastName	LengthOfPosition	DepartmentName
1	PHILOPATER	mansour	6	IT
2	YOUSSIF	gehad	6	IT
3	AHMED	nezar	6	IT
4	HANEEN	alaa	6	IT
5	HAZEM	omar	6	IT
6	ENJY	moussa	6	HR

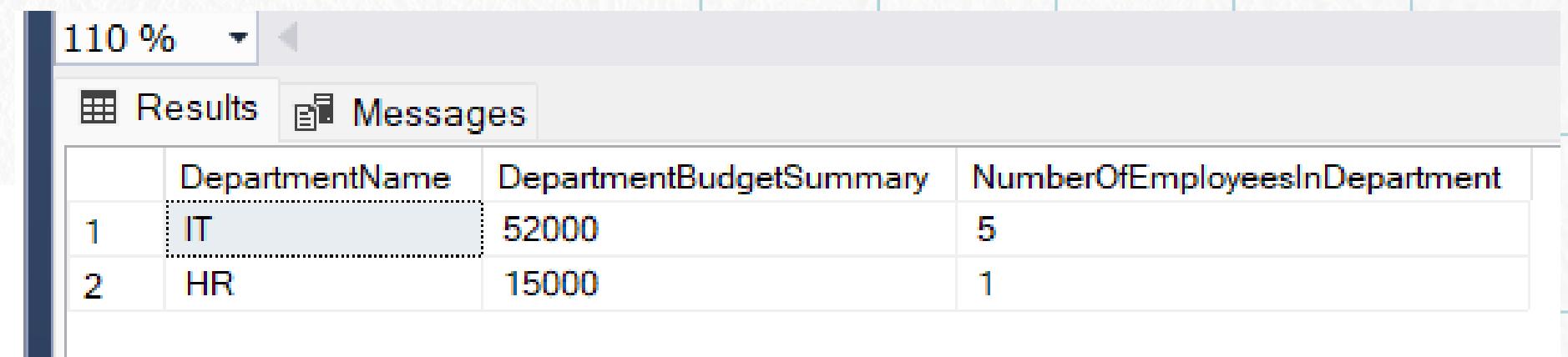
QUESTION 2: DEPARTMENT BUDGET SUMMARY

- List all departments with the total salary expenditure rounded to the nearest thousand, and the number of employees in each department. Order the results by total salary expenditure in descending order.
- Hint: Use ROUND, SUM, COUNT, and GROUP BY.

QUERY

```
-- Question 2
SELECT
    Department.DepartmentName,
    ROUND(SUM(Employee.Salary), 2) AS DepartmentBudgetSummary,
    COUNT(Employee.EmployeeID) AS NumberOfEmployeesInDepartment
FROM Employee
JOIN Department
ON Employee.DepartmentID = Department.DepartmentID
GROUP BY Department.DepartmentName
order by DepartmentBudgetSummary desc;
```

OUTPUT



A screenshot of a SQL query results window. The window title bar shows '110 %'. Below it are tabs for 'Results' and 'Messages', with 'Results' being active. The results grid has three columns: 'DepartmentName', 'DepartmentBudgetSummary', and 'NumberOfEmployeesInDepartment'. There are two rows of data:

	DepartmentName	DepartmentBudgetSummary	NumberOfEmployeesInDepartment
1	IT	52000	5
2	HR	15000	1

QUESTION 3: PROJECT ASSIGNMENTS

- Retrieve a list of projects along with the names of employees assigned to each project, and include the role of the employee. Ensure the project names are in uppercase and employee names are concatenated as "FirstName LastName".
- Hint: Use UPPER, CONCAT, and JOIN.

QUERY

```
-- Question 3
SELECT
    UPPER(p.ProjectName) AS ProjectName,
    CONCAT(e.FirstName, ' ', e.LastName) AS EmployeeName,
    a.Role
FROM Assignments AS a
JOIN Projects AS p
ON a.ProjectID = p.ProjectID
JOIN Employee AS e
ON a.EmployeeID = e.EmployeeID;
```

OUTPUT

	ProjectName	EmployeeName	Role
1	PROJECT ALPHA	Philopater Mansour	Developer
2	PROJECT ALPHA	Youssif Gehad	Tester
3	PROJECT BETA	Ahmed Nezar	Project Manager
4	PROJECT GAMMA	Haneen Alaa	Developer
5	PROJECT DELTA	Hazem Omar	Tester
6	PROJECT EPSILON	Enjy Moussa	Project Manager

QUESTION 4: CUSTOMER ORDER ANALYSIS

- List all customers who have placed orders, along with the total number of orders they have placed and the total amount spent. Ensure customer names are in lowercase.
- Hint: Use LOWER, COUNT, SUM, and JOIN.

QUERY

```
-- Question 4 Customer Order Analysis
SELECT
    LOWER(c.CustomerName) AS customer_name,
    COUNT(o.OrderID) AS total_orders,
    SUM(o.TotalAmount) AS total_amount_spent
FROM customers c
JOIN orders o ON c.CustomerID = o.CustomerID
GROUP BY LOWER(c.CustomerName);
```

OUTPUT

	customer_name	total_orders	total_amount_spent
1	ali mohamed	1	200.00
2	nada hassan	2	550.00
3	youssif gehad	2	250.00

QUESTION 5: PRODUCT DETAILS EXTRACTION

- Retrieve a list of products where the product name is truncated to the first 10 characters, and the product category is extracted from the first 2 characters of the product name. Include the total quantity ordered for each product.
- **Hint:** Use LEFT, SUM, and JOIN.

QUERY

```
-- Question 5
SELECT
    LEFT(ProductName, 10) AS TruncatedProductName,
    LEFT(ProductName, 2) AS ProductCategory,
    SUM(Quantity) AS TotalQuantityOrdered
FROM Products p
JOIN OrderDetails od ON p.ProductID = od.ProductID
GROUP BY LEFT(ProductName, 10), LEFT(ProductName, 2);
```

OUTPUT

	TruncatedProductName	ProductCategory	TotalQuantityOrdered
1	Product A	Pr	7
2	Product B	Pr	3
3	Product C	Pr	1
4	Product D	Pr	2
5	Product E	Pr	4

QUESTION 6: HIGH SALARY EMPLOYEES IN SPECIFIC DEPARTMENTS



- Find employees with salaries above the average salary of their respective departments. Include the employee's name, salary, and department name
- Hint: Use AVG, JOIN, and a subquery to calculate average salary per department.

QUERY

```
-- Question 6
select FirstName, LastName, salary, DepartmentName, dept_avg.AvgSalary
  from Employee as e
join Department as d
on e.DepartmentID=d.DepartmentID
join
(select DepartmentID, avg(Salary) as AvgSalary from Employee group by DepartmentID)
  as dept_avg on e.DepartmentID = dept_avg.DepartmentID;
```

OUTPUT

	FirstName	Name	salary	DepartmentName	AvgSalary
1	Philopater	Mansour	8000	IT	10400
2	Youssif	Gehad	8000	IT	10400
3	Ahmed	Nezar	8000	IT	10400
4	Haneen	Alaa	8000	IT	10400
5	Hazem	Omar	20000	IT	10400
6	Enjy	Moussa	15000	HR	15000



THANK YOU

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