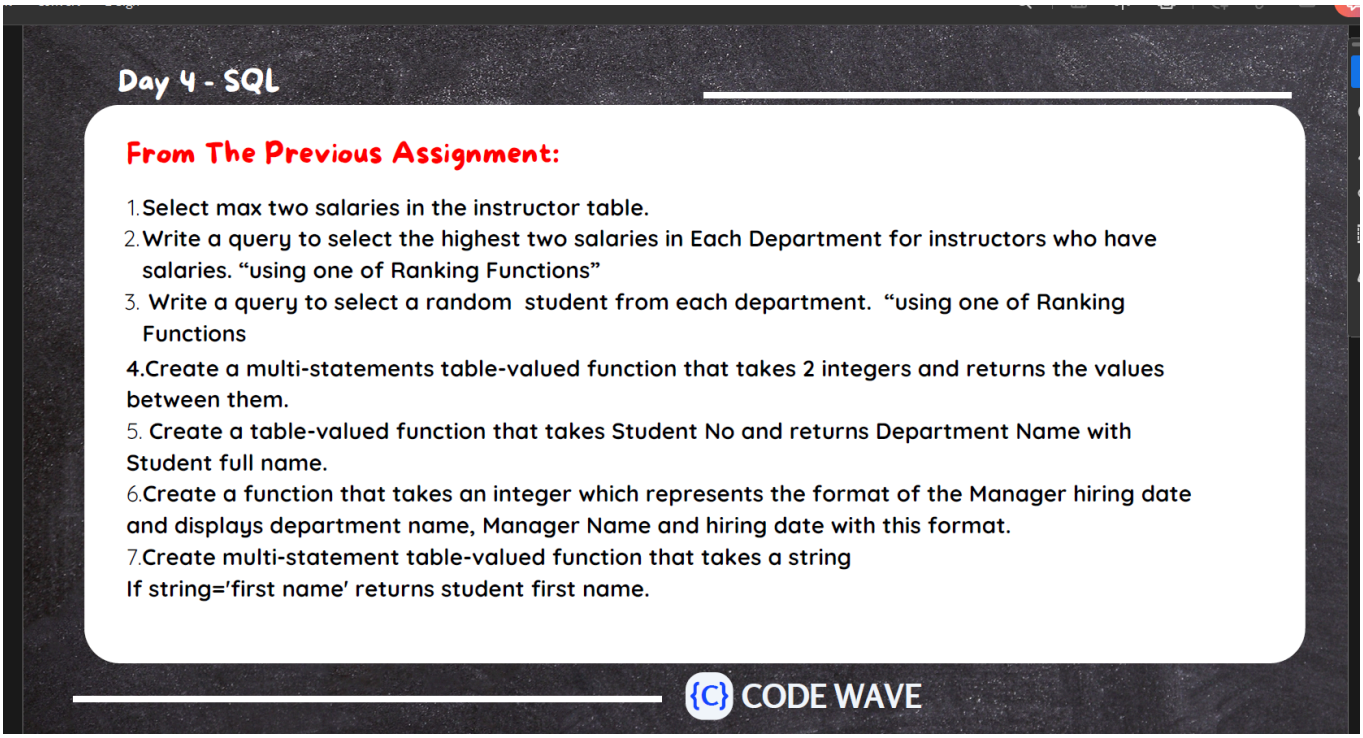
Code Wave Day4

Task



Solutions

1. Select max two salaries in the instructor table

To retrieve the top two salaries from the `Instructors` table:

```
SELECT Salary
FROM Instructors
ORDER BY Salary DESC
LIMIT 2;
```

2. Select the highest two salaries in each department using Ranking Functions

To find the highest two salaries in each department using a ranking function, you can use the `DENSE_RANK()` or `ROW_NUMBER()` function:

```
WITH RankedSalaries AS (
    SELECT
        Dep_Id,
        Salary,
        DENSE_RANK() OVER (PARTITION BY Dep_Id ORDER BY
Salary DESC) AS Rank
    FROM Instructors
)
SELECT Dep_Id, Salary
FROM RankedSalaries
WHERE Rank <= 2;
```

3. Select a random student from each department using a Ranking Function

To select a random student from each department, you can use the `NEWID()` function for randomness along with `ROW_NUMBER()`:

```
WITH RandomStudents AS (
    SELECT
        Dep_Id,
```

```
        FName,
        ROW_NUMBER() OVER (PARTITION BY Dep_Id ORDER BY
NEWID()) AS RowNum
    FROM Students
)
SELECT Dep_Id, FName
FROM RandomStudents
WHERE RowNum = 1;
```

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4. Create a multi-statement table-valued function that takes 2 integers and returns the values between them

Here’s an example of a table-valued function:

```
CREATE FUNCTION GetValuesBetween(@Start INT, @End INT)
RETURNS @Result TABLE (Value INT)
AS
BEGIN
    DECLARE @Current INT = @Start;
    WHILE @Current <= @End
    BEGIN
        INSERT INTO @Result (Value)
        VALUES (@Current);
        SET @Current = @Current + 1;
    END
    RETURN;
END;
```

Usage:

```
SELECT * FROM GetValuesBetween(5, 10);
```

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5. Create a table-valued function that takes Student No and returns Department Name with Student full name

Here’s an example of the function:

```
CREATE FUNCTION GetStudentDetails(@StudentNo INT)
RETURNS TABLE
AS
RETURN (
    SELECT
        S.FName + ' ' + S.LName AS FullName,
        D.Name AS DepartmentName
    FROM Students S
    JOIN Departments D ON S.Dep_Id = D.Id
    WHERE S.Id = @StudentNo
);
```

Usage:

```
SELECT * FROM GetStudentDetails(1);
```

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6. Create a function to display Manager hiring details in a specific format

Here's an example function:

```
CREATE FUNCTION GetManagerDetails(@Format INT)
RETURNS TABLE
AS
RETURN (
    SELECT
        CASE @Format
            WHEN 1 THEN FORMAT(HiringDate, 'MM/dd/yyyy')
            WHEN 2 THEN FORMAT(HiringDate, 'dd-MM-yyyy')
            ELSE FORMAT(HiringDate, 'yyyy-MM-dd')
        END AS HiringDateFormat,
        ManagerName,
        DepartmentName
    FROM Managers
);
```

Usage:

```
SELECT * FROM GetManagerDetails(1);
```

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7. Create a multi-statement table-valued function to return student names based on a string

Here's the function:

```
CREATE FUNCTION GetStudentName(@InputString NVARCHAR(50))
RETURNS @Result TABLE (Name NVARCHAR(100))
AS
BEGIN
    IF @InputString = 'first name'
    BEGIN
        INSERT INTO @Result (Name)
        SELECT FName FROM Students;
    END
    ELSE
    BEGIN
        INSERT INTO @Result (Name)
        SELECT FName + ' ' + LName FROM Students;
    END
    RETURN;
END;
```

Usage:

```
SELECT * FROM GetStudentName('first name');
```