Question:

You have three tables in a database:

1. **`Employees`** with columns: **`EmployeeID`** , **`FirstName`**, **`LastName`**, **`DepartmentID`**
2. **`Departments`** with columns: **`DepartmentID`** , **`DepartmentName`**
3. **`Orders`** with columns: **`OrderID`** , **`EmployeeID`** , **`OrderDate`** , **`TotalAmount`**

Please choose appropriate DataTypes.

Write a SQL query to retrieve the total sales amount for each department. Display the department name and the total sales amount. Assume that the sales representative information is stored in the **`Employees`** table, the department information is in the **`Departments`** table, and the sales orders are in the **`Orders`** table.

Expected Output:

DepartmentName	TotalSalesAmount
HR	XXXX.XX
IT	XXXX.XX

1. Creation of Tables:

Employees Table:

```
CREATE TABLE Employees (
    EmployeeID INT PRIMARY KEY,
    FirstName VARCHAR(50),
    LastName VARCHAR(50),
    DepartmentID INT
);
```

```
INSERT INTO Employees (EmployeeID, FirstName, LastName, DepartmentID) VALUES (1,'Karthik','Kumar',101);
INSERT INTO Employees (EmployeeID, FirstName, LastName, DepartmentID) VALUES (2,'Ravi','Kumar',102);
INSERT INTO Employees (EmployeeID, FirstName, LastName, DepartmentID) VALUES (3,'Rajendra','Prasad',103);
INSERT INTO Employees (EmployeeID, FirstName, LastName, DepartmentID) VALUES (4,'Anil','Chinta',101);
```

Departments Table:

```
CREATE TABLE Departments (
    DepartmentID INT PRIMARY KEY,
    DepartmentName VARCHAR(50)
);
```

```
INSERT INTO Departments (DepartmentID, DepartmentName) VALUES (101,'HR');
INSERT INTO Departments (DepartmentID, DepartmentName) VALUES (102,'IT');
INSERT INTO Departments (DepartmentID, DepartmentName) VALUES (103,'Sales');
```

Orders Table:

```
CREATE TABLE Orders (
    OrderID INT PRIMARY KEY,
    EmployeeID INT,
    OrderDate DATE,
    TotalAmount DECIMAL(10, 2)
);


INSERT INTO Orders (OrderID, EmployeeID, OrderDate, TotalAmount) VALUES
(1001,1,TO_DATE('2024-01-10','YYYY-MM-DD'),250.00);

INSERT INTO Orders (OrderID, EmployeeID, OrderDate, TotalAmount) VALUES
(1002,2,TO_DATE('2024-01-11','YYYY-MM-DD'), 450.50);

INSERT INTO Orders (OrderID, EmployeeID, OrderDate, TotalAmount) VALUES
(1003,1,TO_DATE('2024-01-12','YYYY-MM-DD'),300.75);

INSERT INTO Orders (OrderID, EmployeeID, OrderDate, TotalAmount) VALUES
(1004,3,TO_DATE('2024-01-13','YYYY-MM-DD'),600.80);
```

2. **SQL Query for Total Sales Amount by Department:**

```
SELECT d.DepartmentName, SUM(o.TotalAmount) AS TotalSalesAmount
FROM Orders o
JOIN Employees e ON o.EmployeeID = e.EmployeeID
JOIN Departments d ON e.DepartmentID = d.DepartmentID
GROUP BY d.DepartmentName
ORDER BY TotalSalesAmount DESC;
```

3. Output Table:

DepartmentName	TotalSalesAmount
HR	550.75
Sales	600.80
IT	450.50

- **HR**: Total sales from Employee 1 (250.00 + 300.75 = 550.75)
- **IT**: Total sales from Employee 2 (450.50)
- **Sales**: Total sales from Employee 3 (600.80)