

# SQL Joins Assignment – Solved

## Table Creation (MySQL)

```
CREATE TABLE Customers ( CustomerID INT PRIMARY KEY, CustomerName VARCHAR(50),  
City VARCHAR(50) ); CREATE TABLE Orders ( OrderID INT PRIMARY KEY, CustomerID INT,  
OrderDate DATE, Amount INT ); CREATE TABLE Payments ( PaymentID VARCHAR(10)  
PRIMARY KEY, CustomerID INT, PaymentDate DATE, Amount INT ); CREATE TABLE Employees  
( EmployeeID INT PRIMARY KEY, EmployeeName VARCHAR(50), ManagerID INT );
```

## Questions & Answers

### Q1. Customers who placed at least one order

```
SELECT DISTINCT c.* FROM Customers c INNER JOIN Orders o ON c.CustomerID =  
o.CustomerID;
```

### Q2. All customers and their orders

```
SELECT c.*, o.* FROM Customers c LEFT JOIN Orders o ON c.CustomerID = o.CustomerID;
```

### Q3. All orders and their customers

```
SELECT c.*, o.* FROM Orders o LEFT JOIN Customers c ON c.CustomerID = o.CustomerID;
```

### Q4. All customers and orders (matched or not)

```
SELECT c.*, o.* FROM Customers c LEFT JOIN Orders o ON c.CustomerID = o.CustomerID  
UNION SELECT c.*, o.* FROM Customers c RIGHT JOIN Orders o ON c.CustomerID =  
o.CustomerID;
```

### Q5. Customers who have not placed orders

```
SELECT c.* FROM Customers c LEFT JOIN Orders o ON c.CustomerID = o.CustomerID WHERE  
o.OrderID IS NULL;
```

### Q6. Customers who made payments but no orders

```
SELECT DISTINCT c.* FROM Customers c INNER JOIN Payments p ON c.CustomerID =  
p.CustomerID LEFT JOIN Orders o ON c.CustomerID = o.CustomerID WHERE o.OrderID IS  
NULL;
```

### Q7. All possible combinations (Customers x Orders)

```
SELECT c.CustomerName, o.OrderID FROM Customers c CROSS JOIN Orders o;
```

### Q8. Customers with order and payment amounts

```
SELECT c.CustomerName, o.Amount AS OrderAmount, p.Amount AS PaymentAmount FROM  
Customers c LEFT JOIN Orders o ON c.CustomerID = o.CustomerID LEFT JOIN Payments p  
ON c.CustomerID = p.CustomerID;
```

### Q9. Customers with both orders and payments

```
SELECT DISTINCT c.* FROM Customers c INNER JOIN Orders o ON c.CustomerID =  
o.CustomerID INNER JOIN Payments p ON c.CustomerID = p.CustomerID;
```