**Union and Intersection**

Set Theory

Set A = {1, 3, 6, 9, 10, 11}

Set B = {2, 3, 6, 8, 10, 12}

V**enn diagram**

Common values

3

6

10

10

Union 🡪 A U B = {1, 2, 3, 6, 8, 9, 10, 11, 12}

Intersection 🡪 A B = {3, 6, 10}

Set A

1

9

11

Set B

2

8

12

Table 2

= right table

Table 1

=Left table

**Left Join**

**Right Join**

**Department Table**

|  |  |
| --- | --- |
| **DepartmentId** | **DepartmentName** |
| 1 | Sales |
| 2 | Marketing |
| 3 | Technology |
| 4 | Finance |
| 5 | Operations |

**EmployeeNew Table**

|  |  |  |  |
| --- | --- | --- | --- |
| **EmployeeId** | **EmployeeName** | **DepartmentId** | **ManagerId** |
| 1 | Employee 1 | 1 | NULL |
| 2 | Employee 2 | 1 | NULL |
| 3 | Employee 3 | 2 | NULL |
| 4 | Employee 4 | 2 | 1 |
| 5 | Employee 5 | 2 | 1 |
| 6 | Employee 6 | 3 | 2 |
| 7 | Employee 7 | 3 | 2 |
| 8 | Employee 8 | 4 | 3 |
| 9 | Employee 9 | NULL | 3 |
| 10 | Employee 10 | NULL | 3 |

2 \* 4 = 8

3 \* 2 = 6

5 \* 10 = 50

Employee 1

Employee 2

Employee 3

Employee 4

Employee 5

Employee 6

Employee 7

Employee 8

DepartmentID 1

DepartmentID 2

DepartmentID 3

DepartmentID 4

DepartmentID 5

(Operations)

Employee 9

Employee 10

Table 1 – EmployeeNew Table

Table 2 – Department Table