**Functional Dependency**

The functional dependency is a relationship that exists between two attributes. It typically exists between the primary key and non-key attribute within a table.

**X   →   Y**

**(determinant) (dependent)**

The left side of FD is known as a determinant, the right side of the production is known as a dependent.

**t1 X = t2 X => 1=2 (functional Dependency)**

**t1 Y = t2 Y => a=a (not functional Dependency)**

**If the first Condition (t1 X = t2 X) is true then go to another condition two (t1 Y = t2 Y).**

**X -> Y**

**t1 X = t2 X**

**t1 Y = t2 Y**

**X**

**t1 = 1**

**t1= 2**

**3**

**4**

**5**

**Y**

**t1= a**

**t1= a**

**b**

**c**

**d**

**X -> Y**

**t1 X = t2 X**

**t1 Y = t2 Y**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **R no** | **Name** | **Marks** | **Department** | **Branch** |
| **1** | **A** | **78** | **CS** | **C1** |
| **2** | **B** | **60** | **EE** | **C1** |
| **3** | **A** | **78** | **CS** | **C2** |
| **4** | **B** | **60** | **EE** | **C3** |
| **5** | **C** | **80** | **IT** | **C3** |
| **6** | **D** | **80** | **EC** | **C2** |

**X y**

**R no Name (1=2) (FD)**

**(Note**:- if the condition one is false then its set to be a FD .And no need to check the second condition **)**

**Name R no (A=A first condition is true then go to another condition ((t1 Y = t2 Y) => (1=3)) (not FD)**

(Note :- you check the repetition values must in the column **Name (A,A)**)