**Entity-Relationship Model**

The Entity-Relationship Model (ER Model) is used to describe the structure of the Database. It takes into account the following:

* Entities and Entity Sets
* The Attributes of those Entities
* Relationships among those Entities

**ER Diagram**

The core of the ER Model is the Entity-Relationship Diagram (ER Diagram), a graphical representation of the ER model. It is like a blueprint of a database.

The 5 main Entities associated with the Janata Multiple Campus are:

1. Department
2. Program
3. Student
4. Faculty
5. Course

**Attributes**

|  |  |
| --- | --- |
| **Entity** | **Attributes** |
| Department | Department\_Id  Department\_name |
| Program | Program\_Id  Program\_name  fees |
| Student | Roll\_no  First\_name  Last\_name  Gender  Contact\_number  DOB  City |
| Faculty | Faculty\_Id  First\_name  Last\_name  Gender  Contact\_number |
| Course | course\_Id  course\_name  duration |

**Department and Program**

There is a ‘One to Many’ Relationship between Department and Program. So, we use **Department\_Id as a Foreign Key** in the Program table.

**Lecturer**

There is a ‘Many to Many’ Relationship between the Department and Lecturer. So, we will create a new table for **Works For** Relationship. Also, we will create a separate table for Contact\_number as it has multiple values.

**Student**

There is a ‘One to Many’ Relationship between Program and Student. So, we use **Program\_Id** **as a Foreign Key** in the Student table. Also, we will create a separate table for Contact\_number as it has multiple values.

**Subject**

There is a ‘Many to Many’ Relationship between **Program and Subject**. There is also a ‘Many to Many’ Relationship between **Lecturer and Subject**. So, we will create two separate tables for **Specifies** and **Teaches** Relationship.