**Keys**

* A key in SQL is an attribute or a set of attributes (columns) which helps us to identify or find a row in a table.
* DBMS Keys allow the user to establish a relationship between different tables and their identification.
* Different types of keys are as follows:
  1. Super Key
  2. Candidate Key
  3. Alternate Key
  4. Primary Key
  5. Foreign Key
* Super Key: A super key is a group of single or multiple keys which identifies rows in a table.

|  |  |  |
| --- | --- | --- |
| Roll\_Number | Reg\_Number | Name |
| 101 | **A0912** | Harish |
| 102 | **A0918** | Jone |
| 103 | **A0917** | Sakthidas |

In the above example: Roll\_Number and Reg\_Number are Super Keys.

* Candidate Key: A candidate key is a set of attributes that uniquely identify a row in a table. Candidate keys is a subset of Super keys with no repeated columns or attributes. Every table must have one Candidate key. A Candidate key has the following properties:
  1. It must contain unique values.
  2. Must not contain null values.

|  |  |  |  |
| --- | --- | --- | --- |
| Roll\_Number | Reg\_Number | Name | Phone |
| 101 | **A0912** | Harish | **9827121224** |
| 102 | **A0918** | Jone | **9128212142** |
| 103 | **A0917** | Sakthidas | **9182742211** |

In the above example: Roll\_Number, Reg\_Number and Phone are Candidate Keys.

* Alternate Key: From the set of Candidate keys one key is taken as the Primary key and the set of remaining keys is referred as Alternate Keys. All the keys which are not Primary Key are called Alternate Keys.
* Primary Key: Is a column of a group of columns in a table that uniquely identifies a row in that table. Primary key is taken from the set of Candidate Keys. It has to be unique and not null.
* Foreign Key: Is a column that is used to create a relationship between two tables. The purpose of a Foreign key is to maintain data integrity and allow easy connectivity between two or more tables. It acts as a cross-reference between two or more tables as it references the Primary key of another table.