**Sql:-**

**Data:-data** **is a raw fact which describes the attributes of an entity.**

**Data------🡪RAWFACT-----🡪attributes--------🡪ENTITY**

Human-🡪Attributes ----------🡪Raw fact

Name,age,clr guru,23,avg

Database:-data base is a place where data is stored in systematic and organized manner.

Basic operations performed on (crud)database are:-

1.create/insert

2.read/retrieve

3.update/modify

4.delete/drop

Dbms:-

Dbms is a software we use to manage and maintain database.

Two important factors are:-

1.security

2.authorization

\* we use query language to communicate

Types of Dbms:-

1.Network Dbms

2.object oriented Dbms

3.hierarchical Dbms

4.Rdbms

RDBMS:-

Rdbms is a dbms software where data is stored in the form of tables.

Two important factors are:-

1.security

2.authorization

\* we use sql language to communicate with rdbms.

Dbms---🡪relational model--🡪Rdbms

\*it was designed by E.F.CODD.

\*it is in the form of tables.

\* Data scientist-“E.F.CODD”

\* store the data in the form of tables.

Dbms software which follows relational model becomes RDBMS.

Tabble:-

Table is a logical representation of data which consists of rows and columns.

Column:-

\*Column is referred as attributes or fields.

\*a column is used to represent one property of all the elements.

Row:-

Row is referred as record or tupples.

\*a row is used to represent all the property of all the single entity.

Cell:-

Cell is the smallest unit in the table in which we store the data.

\*the intersection of rows and columns generates cells.

Entity:-

Anything which has its existence.

Rules of E.F.CODD:-

1.Data stored in the cell must be a single valued data.

2.In RDBMS we store everything in the form of tables including meta data(details about the data).

3.a/c to E.F.CODD we can also store data in multiple tables,if needed we can establish relation between two tables using key attributes.

4.we can validate the data entered into the table in two steps.

\*by assigning datatypes

\*assigning constraints

\*here datatypes are mandatory but constraints are optional.

Data types:-

Data types are used to determine what type of data or kind of data will be stored in a particular memory location.

Data types in sql:-

1.char

2.varchar/varchar2

3.number

4.date

5.large objects

\*CLOB(character large objects)

\*BLOB(binary large object)

1.Char:-

\*char datatype can accept char’s such as

‘A-Z’,’a-z’,’0-9’,special char’s such as(\*,#,$,@......)

Syntax:-

Char(size)

Size:-

It is used to determine the no.of char’s that we can store.

\*whenever we ,mention char datatype we have to mention size for it.

\*Max size we can store is 2000.

\*it is a “Fixed length memory allocation”.

2.Varchar/Varchar2:-

\*char datatype also accept char’s such as

‘A-Z’,’a-z’,’0-9’,special char’s such as(\*,#,$,@......)

Syntax:-

VarChar(size)

Size:-

It is used to determine the no.of char’s that we can store.

\*whenever we mention varchar data type we have to mention size for it.

\*max size we can store is 2000.

\*it is a type of “variable length memory allocation”.

\*There is no wastage of memory.

Varchar2:-

\*Varchar2 is the updated version varchar.

\*i.e.,size is updated from 2000 to 4000.

Syntax:-

Varchar2(size)

\*max size we can store is 4000.

Char Varchar

\*wastage of memory. \*no watage of memory.

\*fixed length memory allocation. \*variable length memory

Allocation.

Varchar Varchar2

\*size is 2000. \*size is 4000.

3.large object:-

CLOB:-

\*it is used to store char’s upto 4gb of size.

Syntax:-

CLOB

Blob:-

\*it is used to store bimary numbers of images,videos,files etc., upto 4gb of size.

Syntax:-

BLOB

4.Date:-

Syntax:-

Two oracle specified date formats are:-

\*’DD-MM-YY’----NORMAL

\*’DD-MM-YYYY’-----HISTORICAL DATES

5.Number:-

\*datatype is used to store numerical values.

\*it can accept two arguments:-

\*precision

\*scale

Synatx:-

Number(precision,[scale])

Precision:-

It is used to determine the digits we are going to store in numerical place.

Scale:-

It is used to determine the number of digits we are going to store in decimal place within the precision.

\*max precision we can store is 38.

\*max scale we can store is 127.

Case-1:-

Number(3):-

+- (999)

Case-2:-p>s

Number(5,3):-

+-(99.999)

Case-3(p=s):-

Number (5,5):-

+-(0.55555)

Case-4(p<s):-

Number (3,5):-

+-(0.00999)