DATA BASE MANAGEMENT SYSTEM

Data Base Objects

Table or entity

View

Store Procedure

Functions & Triggers

What is table?

A real word entity is called table.

Ex: - Student, Staff.

RDBMS

Table = Entity

Column = Attribute

Row = Touple

Data Type

1. Bit (0 or 1)
2. Tinyint (0 to 255) 1 byte of memory
3. Smallint 2bytes of memory
4. Int 4 byte of memory
5. BigInt 8 bytes of memory

For Decimal Values

1. Float 17 precisions 4 to 13 bytes
2. Decimal
3. Numeric (5,3) out of 5 we have 3 decimal digits ( 12345.123)
4. Marks (5,2)
5. Money for salary come with the prefix currency symbol. $1233453435.342

For Character Values

11.Char ‘A’, ‘B’ 1 byte

12. char(20) it will accept up to 20 characters

For Alpha Numeric Character

13. varchar any single character

14. varchar(100) up to 100 characters

15. text it will be more 8000 character in 8KB of each files (clob)

16. varchar(max) it also up to 8000 characters

We can store data in our local language

17. nchar Each character will occupy 2 bytes

18. ntext

19.nvarchar(100)

Data Datatypes

20. Date mm/dd/yyyy

21. DateTime mm/dd/year hh:mm:ss:ms

22. Time hh:mm:ss:ms

23. smalldateTime

24. Timestamp

25. BInaryData(Image)

Commends classified int 4 types

DDL (Data definition Language)

Create, Alter, Drop

DML (Data Manipulation Language)

Insert, update, Delete

DCL (Data Control Language)

Grant, Denay, revoke

DQL (Data Query Language)

Select

How to Create DataBase?

Create DataBase JAVATRAING;

Use JavaTraining;

How to drop DataBase?

Drop DataBase JavaTraining;

create database JavaTraining

use JavaTraining;

drop database JavaTraining;

Create Table Employee(

Id Int,

Name Varchar(30),

Department Varchar(30),

DOD date,

DOJ date,

salary money);

insert into employee values(1,'HART','Computer Science','01/01/1996','04/04/2021',50000);

insert into employee values(2,'Pallavi','BA','01/01/1993','04/04/2023',6000),

(1,'Sathy','Engg','01/01/1990','04/04/2019',80000);

insert into employee values(4,'ART','Information Science',null,'04/04/2021',null);

insert into Employee(id,Name,salary) values(5,'Nazia',10000.12);

select \* from Employee;

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Constraints in SQL

1. Not null
2. Unique
3. Check (gender M, F)
4. Default
5. Primary key, composite key primary key (ID, USN);
6. Identity (1,1)

Student Table

|  |  |
| --- | --- |
| ID | USN |
| 1 | 1 |
| 2 | 2 |

1. Foreign key Table name is marks

|  |  |
| --- | --- |
| ID | Marks |
| 1 |  |
| 2 |  |
|  |  |

insert into Employee(id,Name,salary) values(5,'Nazia',10000.12);

select \* from Employee;

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Alter table employee add Gender char;

update employee set gender = 'B' where id=1;

update employee set Id= 3 where Name = 'Sathy';

update employee set gender = 'F' where id in(2,5);

update employee set dod = '12/12/2000', salary = 100000, gender = 'F' where id= 4;

select \* from Employee;

delete from Employee where id = 5;

Alter table employee drop column Gender;

drop table Employee;

select \* from employee;

select Name,salary from employee;

select \* from employee where salary>25000;

select \* from employee where salary > 25000 and gender = 'F';

select \* from employee where salary = 80000 ;

select \* from employee where salary != 80000 ;

select \* from employee where salary >= 6000 ;

select \* from employee where salary <= 6000 ;

select \* from employee where Id not in(2,5);

select \* from employee where Id not between 2 and 5;

select \* from employee where doj is null;

select \* from employee where doj is not null and gender is not null;

select \* from employee where doj = null; -- not possible

create table student (id int, name varchar(40) constraint nname not null, mobile bigint);

insert into student(id,name,mobile)values(1,'HART',1234567890);

insert into student(id,name,mobile)values(2,'HART',1234567890);

select \* from student;

drop table student;

create table student (id int, name varchar(40) constraint nname not null, mobile bigint constraint uqmobile unique);

insert into student(id,name,mobile)values(1,'HART',1234567890);

insert into student(id,name,mobile)values(2,'HART',1234567891);

insert into student(id,name,mobile)values(4,'HART',null);

create table student (id int, name varchar(40) constraint nname not null, mobile bigint constraint uqmobile unique,

gender char constraint chgen check(gender in('M','F')));

insert into student(id,name,mobile,gender)values(1,'HART',1234567890,'F');

alter table student drop constraint chgen;

insert into student(id,name,mobile,gender)values(1,'HART',12345674890,'D');

create table student (id int, name varchar(40) constraint nname not null, mobile bigint constraint uqmobile unique,

status int constraint defstatus default(1));

insert into student(id,name,mobile,status)values(1,'HART',1234567895,5);