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Pr.4-DATABASE MANAGEMENT SYSTEM LAB

Total Periods	60	Maximum Marks	100 Marks
Lab. Periods	4 Periods /week	Term Works	50 Marks
Examination	3hours	End Semester Examination	50Marks

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4. Create a quarry to display the employee name & department no. fore employee no. 7566
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7. Display the name, salary & commission for all employee who earn commission. Sor in descending order.
8. Display name, salary, job for all employees whose job is analyst or clerk & their salary is not equal to Rs 1000, Rs 3000 & Rs 5000.
9. Write a query to display the date. Lable the column date.
10. Create a unique listing of all jobs that are in department 30.
11. Write a queury to display the name, department no., department name of all employees.
12. Write a query to display the employee name, dept name & location of all employee who earn commission.
13. Write a query to display name, job, dept_no, dept name born all employers who work is Dallas.
14. Write a query to display the no. of people with the same job Save and run it.
15. Create a query to display name & hire date of the employee having same department.
16. Display the employee name and salary who reports to KING.
17. Display the name, department name & salary of any employee whose salary & commission matches both the salary & commission of any employee located in Dallas.
18. Create a student table with student attributes student id, name & branch , semester & address show the after table by adding last name .
19. Delete the information of student having roll no.15 & city BBSR . Rename the student DB table to student information .
20. Create a seller table with attributer seller names, add, company, Product name price. To delete a table where condition can be anything your own choice & truncate table.

What is database ?

A database is a structured collection of data that is stored electronically and organized for easy access, retrieval, and modification. Databases can contain any type of data, such as words, numbers, images, videos, and files.

What is SQL ?

SQL is a language that enable you to create and co-operate on relational database which are set of related information stored in table.

SQL standard is defined by ANSI (American National Standard Institute). and is affected by international standard organization (ISO)

How does SQL work

SQL is a language oriented specially used to create related database to define an object called a table that could have columns created step by step procedure by putting values in it and retrieving it.

SQL commands

SQL commands can be used not only to search a database but also perform various functions like create tables select permission for user and much more.

User and many SQL command can be classified as: -

DDL (Data Definition Language).

DML (Data Manipulation Language)

DCL (Data Control Language)

TCL (Transaction Control Language)

Data Definition Language (DDL):_

It is used to define structure of the table and the attribute in the database table which also allow to create, alter & remove database attribute

Command-

CREATE:-This command & used to create a database table with attributes.

ALTER:-This command & used to alter the structure of the database.

table such as add new column, deep an existing column and change the data type of column is database table

DROP:-The command &, used to remove the structure of database table.

Rename:-This command is used to rename the database teble

Truncate-This command is used to remove all records.

Data Manipulation Language (DML)

It provide various command is used to access. manipulate data in exiting database such as:-

- insercting table into database table
- Retriving data in existing database
- Modifying data from existing database

Command:-

Select-This command is used to retrieve data from a database table.

Insent- This command is used to inseret the data into a table

Update:- This command is used to update the existing data in the database table

Data Control Language (DCL)

This command is used to assign security level which include multiple were setup.

They are used to gr ant defined role & access privilege to the usere.

Commands:-

GRANT:-It is used to give user access previledge.

Remove:- This command is used access previledge given with the control.

Transaction Control Language (TCL)

It is used to manage transaction in database. They are also called to manage the change mode by DML Statements.

If the transaction is successful, all transaction become a permanent part of database.

Conclusion:-

A database management system (DBMS) is a software system for creating and managing databases. A DBMS enables end users to create, protect, read, update and delete data in a database. It also manages security, data integrity and concurrency for databases.

Aim of the experiment -1

Introduction to SQL CStandard Query Language.

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DROP:-The command is used to remove the structure of database table.

Rename:-This command is used to rename the database table

Truncate-This command is used to remove all records.

Data Manipulation Language (DML)

It provides various commands used to access, manipulate data in existing database such as:-

- inserting data into database table
- Retrieving data in existing database
- Modifying data from existing database

Command:-

Select-This command is used to retrieve data from a database table.

Insert- This command is used to insert the data into a table

Update:- This command is used to update the existing data in the database table

Data Control Language (DCL)

This command is used to assign security level which includes multiple users setup.

They are used to grant defined role & access privilege to the users.

Commands:-

GRANT:-It is used to give user access privilege.

Remove:- This command is used to access privilege given with the control.

Transaction Control Language (TCL)

It is used to manage transaction in database. They are also called to manage the change made by DML Statements.

If the transaction is successful, all transaction become a permanent part of database.

Conclusion:-

We conclude that the above experiment has been done by me successfully.

Aim of the experiment -2

Write a query in make column heading employee name, job, employee name & hire date and run it.

PROGRAM :-

Create table Employee (

Emp_no. INT PRIMARY KEY,

Emp_name varchar (20),

Job varchar (20),

Hire_date varchar (20)

);

Insert into Employee values (01, 'Sahid', 'Salesman', '20.05.2007');

Insert into Employee values (02, 'Somesh', 'Singer', '21.06.2008');

Insert into Employee values (03, 'Om', 'Engineer', '22.07.2008');

Insert into Employee values (04, 'Suraj', 'Actor', '23.05.2011');

Select * from Employee

OUTPUT:-

Emp_no	Emp_name	Job	Hire_date
01	Sahid	Salesman	20.05.2007
02	Somesh	Singer	21.06.2008
03	Om	Engineer	22.07.2008
04	Suraj	Actor	23.05.2011

AIM OF THE EXPERIMENT -3

Write a program that determines whether the number is prime .

PROGRAM :-

```
n= int(input ("Enter a no. "))
if n>1:
    for i in range ( 2,int(n/2)+1):
        if(n % i)==0:
            print(n ,"is not a prime number")
            break
        else:
            print(n,"is not a prime number.")
else:
    print(n,"is not a prime number .")
```

OUTPUT: -

Enter no. 11

11 is a prime no.

Conclusion :-

From the above experiment we concluded that the experiment has done successfully.

AIM OF THE EXPERIMENT -4

Create a query to display the employee name & department no. for employee no. 7566

PROGRAM :-

Create table Employee (

Emp_no int,

Emp_name varchar (20),

Job Varchar (30),

Salary int);

Insert into Employee Values(7040, 'Somesh', 'Peon' , '99');

Insert into Employee Values(7050, 'Om', 'Manager' , '109');

Insert into Employee Values(7566, 'Sahid', 'Sweeper' , '102');

Select * From Employee

OUTPUT: -

Emp_no	Emp_name	Job	Salary
7040	Somesh	Peon	99
7050	Om	Manager	109
7566	Sahid	Sweeper	102

Select * From Employee where Emp_no= '7566'

OUTPUT: -

Emp_no	Emp_name	Job	Salary
7566	Sahid	Sweeper	102

Aim of the experiment-5

Display the employee name, job & last date of the employed hire late between Feb 20, 1921 & may1,1981, order the query in ascending order of start date.

PROGRAM :-

Create table Employee C

Emp_no int,

Emp_name varchar(30),

Job varchar (20),

Hire_date varchar (40));

Insert into Employee values (01,' Ankit', 'Peon',' 28.02.1999'));

Insert into Employee values (02, 'Satya', 'HR', '14.09.2008');

Insert into Employee values (03, 'Subra' , 'Clerk', '28.03.1981')

Select *From Employee

OUTPUT: -

Employee

Emp_no	Emp_name	Job	Hire_date
01	Ankit	Peon	25.02.1999
02	Satya	HR	14.09.2008
03	subha	Clerk	28.02.1981

Select * from Employee where Hire_date between '20.02.1981' AND '01.05.1981' order by Hire_date asc

OUTPUT: -

Emp_no	Emp_name	Job	Hire_date
02	Satya	HR	14.09.2008

AIM OF THE EXPERIMENT -6

Display the employee who are not a manager.

PROGRAM :-

Create table employee (

Emp_ no int;

Emp_ name varchar (20),

Job varchar (30),

Salary int);

Insert into employee values (01, 'Somesh', 'Manager', 10000);

Insert into employee values (02, 'Suraj', 'clerk', 80000);

Insert into employee values (03, 'Sahid', 'Manager', 9000);

Select * from Employee

OUTPUT: -

Employee

Emp_no	Emp_name	Job	Salary
01	Somesh	Manager	10000
02	Suraj	Clerk	80000
03	Sahid	manager	9000

Select *from Employee where job! = Manager'

OUTPUT: -

Employee

Emp_no	Emp_name	Job	Salary
02	Suraj Clerk		80000

AIM OF THE EXPERIMENT -7

Display the name, salary & commission for all employee who earn commission. Sor in descending order.

PROGRAM :-

Create table Employee (

Emp_no int,

Emp_name varchar (30),

Salary int,

Commission int);

Insert into Employee values (01, 'Somesh', 10000, 9000);

Insert into Employee values (02, 'Suraj', 100000, 0);

Insert into Employee values (03, 'Sahid', 11000, 8000);

Select*from Employee

OUTPUT: -

Employee			
Emp_no	Emp_name	salary	Commission
01	Somesh	10000	9000
02	Suraj	100000	0
03	Sahid	11000	8000

Select*from Employee where commission! = 0 order by salary desc

OUTPUT: -

Employee			
Emp_no	Emp_name	salary	Commission
01	Somesh	10000	9000
03	Sahid	11000	8000

AIM OF THE EXPERIMENT :-8

Display name, salary, job for all employees whose job is analyst or clerk & their salary is not equal to Rs 1000, Rs 3000 & Rs 5000.

PROGRAM :-

Create table Employee (

Emp_id int,

Emp-name varchar(20) ,

Job varchar(20) ,

Salary int);

Insert into Employee values (01, 'Somesh' , 'Manager' , 70000) ;

Insert into Employee values (02, 'Sahid' , 'Clerk' , 1000) ;

Insert into Employee values (03, 'Suraj' , 'Clerk' , 10000) ;

Insert into Employee values (04, 'Smruti' , 'Manager' , 2000) ;

Insert into Employee values (05, 'Omm' , 'BEO' , 300000) ;

Insert into Employee values (06, 'Swadhin' , ' Analyst' , 10000);

Select *from Employee

OUTPUT: -

<u>Employee</u>			
Emp_id	Emp_name	Job	Salary
01	Somesh	Manager	70000
02	Sahid	Clerk	1000
03	Suraj	Clerk	1000
04	Smruti	Manager	2000
05	Omm	BEO	300000

06 Swadhin Analyst 10000

Select *from Employee where (Job = Clerk or Ananlyst) and
(Salary! =1000 or salary! =3000 or salary! =5000)

OUTPUT: -

<u>Employee</u>			
Emp_id	Emp_name	Job	Salary
01	Somesh	Manager	70000
04	Smruti	Manager	2000
05	Omm	BEO	300000
06 Swadhin	Analyst	10000	

AIM OF THE EXPERIMENT :-9

Write a query to display the date. Label the column date.

PROGRAM :-

Create table Employee (

Emp_no int ,

Emp_name varchar (20),

Job varchar (30),

Date varchar (30) ;

Insert into Employee values (01 , 'Somesh' , 'sales man' , '21.08.2020');

Insert into Employee values (02 , 'Sahid' , 'Singer' , '18.02.2012');

Select *from Employee

OUTPUT: -

<u>Employee</u>			
Emp_no	Emp_name	Job	Date
01	Somesh	Sales man	21.08.2020
02	Sahid	Singer	18.02.2012

AIM OF THE EXPERIMENT :-10

Create a unique listing of all jobs that are in department 30.

PROGRAM :-

```
Create table employee (  
Emp_idint ,  
Job varchar (30),  
Dept_noint );  
Insert into Employee values ( 45567, 'Manager' , 20);  
Insert into Employee values (2455 , 'Accounting' , 30);  
Insert into Employee values (2453 , 'Clerk' , 45);  
Insert into Employee values (44597 , 'Peon' , 50);  
Select * from Employee
```

OUTPUT:-

Employee		
Emp_id	job	dept_no
45567	Manager	20
2455	Accounting	30
2453	Clerk	45
44597	Peon	50

Select *from Employee where Dept_no = 30

OUTPUT:-

Employee		
Emp_id	job	dept_no
2453	Accounting	30

Aim of the experiment :-11

Write a query to display the name, department no., department name of all employees.

PROGRAM:-

Create table dept (

 Name varechar (20),

 Dep tno int,

 Dept name varechar (30));

Insert into dept values ('Somesh', 35, 'CSE');

Insert into dept values ('om', 29, 'IT');

Insert into dept values ('Sahid', 22, 'CSE');

Select * From Employee

OUTPUT:-

		Dept
Name	Dept no	Dept name
Somesh	35	CSE
Om	29	IT
Sahid	22	CSE

Aim of the experiment:-12

Write a query to display the employee name, dept name & location of all employee who earn commission.

PROGRAM:-

Create table Employee (

Emp_name varchar (20),

Dept_name varechare (10),

Address_ varchar (20),

Commission int);

Insert into Employee values ('Somesh',' CSE','Pithapur',' 0');

Insert into Employee values('Om',' IT',' Cuttack','70');

Insert into Employee values('Shahid',' CSE',' Jajpur',' 0');

OUTPUT:-

Employee			
Emp name	Dept name	Address	Commission
Somesh	CSE	Pithapur	0
Om	IT	CUTTUCK	70
Shahid	CSE	Jajpur	0

Select *From Employee where commissio != 0

Output:-

Emp name	Dept name	Address	Commission
Om	IT	CUTTUCK	70

Aim of the experiment:-13

Write a query to display name, job, dept_no, dept name born all employers who work is Dallas.

PROGRAM:-

Create table Employee (

name_varchar (15),

job_varchar(16),

dept no int,

dept name varchar(14),

location varchar (13);

Insert into Employee values ('Om', 'Manager', 35, 'IT', Cuttack);

Insert into Employee values('Piyush', 'Clerk', 29, 'ETC', Patia);

Insert into Employee values('Lucky', 'HR', 40, 'AE&I', Sambalpur);

Select* Freom Employee

OUTPUT:-

Employee

Name	Job	dept no	dept name	Location
Om	Manager	35	IT	Cuttack
Piyush	Clerk	29	ETC	Patia
Lucky	HR	40	AE&I	Sambalpur

Aim of the experiment:-14

Write a query to display the no. of people with the same job Save and run it.

PROGRAM:-

Create table Employee (

Emp_id int ,

Emp_name varchar (20),

Job_varchar (20));

Insert into Employee values (01, 'Abhijit', 'Manager');

Insert into Employee values (02, 'Somesh', 'Clerk');

Insert into Employee values (03, 'Sahid', 'Manger');

Insert into Employee values (04, 'Suraj', ' Clerk ');

Insert into Employee values (05, 'Om', 'Manager');

Select * From Employee

OUTPUT:-

Employee

Emp_id	Emp_name	Job
01	Abhiji	tManager
02	Somesh	Clerk
03	Sahid	Manger
04	Suraj	Clerk
05	Om	Manager

Select Job, Count() From

Group by Job,

OUTPUT:-

Employee	
Job	Count
Manager	3
Clerk	2

Aim of the experiment :-15

Create a query to display name & hire date of the employee having same department.

PROGRAM:-

Create table Employee (

 Name varchar (20),

 Hire date varchar (19),

 Dept varchar (9));

Insert into Employee values ('Sahid', '10-01-05', 'CSE');

Insert into Employee values ('Semesh', '11-02-06', 'IT');

Insert into Employee values ('Om', '12-03-07', 'CSE');

Select * From Employees

OUTPUT:-

Name	Hire date	Dept
Sahid	10-01-05	CSE
Semesh	11-02-06	IT
Om	12-03-07	CSE

Select * From Employees where Dept in

 (select Dept

 From Emp

 Group by Dept

 Having Count(*)>1);

OUTPUT:-

Name	Hire date	Dept
Sahid	10-01-05	CSE
Om	12-03-07	CSE

AIM OF THE EXPERIMENT: -16

Display the employee name and salary who reports to KING.

PROGRAM:-

```
Create a table employee (  
    Name varchar (10),  
    Salary int,  
    Manager varchar (10) );
```

```
Insert into Employee values( 'Somesh' , 20000 , 'KING' );
```

```
Insert into Employee values( 'Sahid' , 21000 , 'Clerk' );
```

```
Insert into Employee values( 'Om' , 22000 , 'peon' );
```

```
Select *from Employee
```

OUTPUT:-

Employee		
Name	Salary	Manager
Somesh	20000	KING
Sahid	21000	Clerk
Om	22000	peon

```
Select *from Employee where Manager = 'KING'
```

OUTPUT:-

Employee		
Name	Salary	Manager
Somesh	20000	KING

AIM OF THE EXPERIMENT:-17

Display the name, department name & salary of any employee whose salary & commission matches both the salary & commission of any employee located in Dallas.

PROGRAM:-

Create table Employee (

 Name varchar (10),

 Dept_name varchar (04),

 Salary int ,

 Comm int ,

 Location varchar (15));

Insert into Employee values ('Sahid' , 'CSE' , 2400, 20, 'Dallas');

Insert into Employee values ('Somesh' , 'CSE' , 2500 , 10 , 'Dallas');

Insert into Employee values ('Om' , 'IT' , 2600 , 30 , 'Delhi');

Select *from Employee

OUTPUT:-

Employee				
Name	Dept_name	Salary	Comm	Location
Sahid	CSE	2400	20	Dallas
Somes	hCSE	2500	10	Dallas
Om	IT	2600	30	Delhi

Create table Employee 2 as select* from Employee

Select Emp.name , Emp.dept_name , Emp.salary from Employee , Emp 2

Where (Emp.salary , Emp 2,salary) & (Emp.comm , Emp 2 , comm)

AND Emp 2. Location , "Dallas" AND Emp.location != "Dallas' ,

Employee				
Name	Salary	Dept_name	Comm	Location
Om	2300	IT	30	Delhi

AIM OF THE EXPERIMENT :- 18

Create a student table with student attributes student id, name & branch , semester & address
show the after table by adding last name .

PROGRAM:-

Create a table student (

ID int ,

Name varchar (20),

Branch varchar (10),

Sem int ,

Address varchar (40);

After table student add column last name varchar (10);

Insert into Student values ("701" , 'Sahid' , 'CSE' , 4 , 'BBSR' , 'Asrafi')

Insert into Student values ("702" , 'Somesh' , 'CSE' , 3 , CTC , 'Behera')

Insert into Student values ("703" , 'Om' , 'IT' , 4 , 'CTC' , 'Mohanty');

Select *from Student

OUTPUT :-

Employee					
ID	Name	Branch	Sem	Address	Last name
701	Sahid	CSE	4	BBSR	Asrafi
702	Somesh	CSE	3	CTC	Behera
703	Om	IT	4	CTC	Mohanty

AIM OF THE EXPERIMENT :- 19

Delete the information of student having roll no.15 & city BBSR . Rename the student DB table to student information .

PROGARM :-

Create a table Student (

Roll no int,

Name varchar (30) ,

City varchar (10) ;

Insert into Student values (70 , 'Somesh' , 'CTC')

Insert into Student values (15 , 'Om' , 'BBSR')

Insert into Student values (20 , 'Sahid' . 'CTC')

Select *from Student

OUTPUT :-

Student		
Roll no	Name	City
70	Somesh	CTC
15	Om	BBSR
20	Sahid	CTC

Delete from Student where Roll_no =15 & City = BBSR , Rename Student to Student Information.

OUTPUT :-

Student Information

Roll no	Name	City
70	Somesh	CTC
20	Sahid	CTC

AIM OF THE EXPERIMENT :- 20

Create a seller table with attributes seller names, address, company, Product name price. To delete a table where condition can be anything your own choice & truncate table.

Program:-

Create table seller (

 Name varchar(10),

 Address varchar (30),

 Company varchar (10),

 Product varchar (10),

 Price int);

Insert into Seller values ('Ritu' , 'CTC', 'Dell', 'keyboard', 5000);

Insert into Seller values ('Sumit', 'BBSR', 'Asus', 'Monitor', 8000);

Insert into Seller values ('Mohan', 'CTC', 'HP', 'CPU', 10000);

Select *From Seller

OUTPUT:-

Seller

Name	Address	Company	Product	Price
Ritu	CTC	Dell	Keyboard	5000
Sumit	BBSR	Asus	Monitor	8000
Mohan	CTC	HP	CPU	10000

Delete From Seller where Name = "Mohan" ;

Select *From Seller

OUTPUT:-

Seller

Name	Address	Company	Product	Price
Ritu	CTC	Dell	Keyboard	5000

Sumit	BBSR	Asus	Monitor	8000
-------	------	------	---------	------

Truncate table seller

OUTPUT:-

Name	Address	Company	Product	Price
------	---------	---------	---------	-------