# 20UCS3CC6P RDBMS LAB II BSc - D

# 1 1.TABLE CREATION: PRIMARY KEY

SQL> create table mark(rollno number(5) primary key,sname char(10),mark1 number(3),mark2 number(3),mark3 number(3));

Table created.

SQL> desc mark;

Name Null? Type

ROLLNO NOT NULL NUMBER(5) SNAME CHAR(10)

MARK1 NUMBER(3)

MARK2 NUMBER(3)

MARK3 NUMBER(3)

SQL> create table dept(registerno number(10) primary key,sname char(10),rollno number(5),percentage number(3));

Table created.

SQL> desc dept;

Name Null? Type

REGISTERNO NOT NULL NUMBER(10) SNAME CHAR(10)

ROLLNO NUMBER(5)

PERCENTAGE NUMBER(3)

# Table creation:candidate key

SQL> create table stud(rollno number(5) not null,class char(6) not null,sname char(10),mark1 number(3),mark2 number(3),mark3 number(3),constraint student\_uq unique(rollno,class));

Table created.

SQL> desc stud;

Name Null? Type

ROLLNO NOT NULL NUMBER(5) CLASS NOT NULL CHAR(6) SNAME CHAR(10)

MARK1 NUMBER(3)

MARK2 NUMBER(3)

MARK3 NUMBER(3)

# Table creation: foreign key

SQL> create table person(p\_id number(4) primary key,pname varchar(10),city varchar(10)); Table created.

SQL> desc person;

Name Null? Type

P\_ID NOT NULL NUMBER(4)

PNAME VARCHAR2(10)

CITY VARCHAR2(10)

SQL> create table orders(o\_id number(2) primary key,order\_name varchar(10),s\_id number(4),foreign key(s\_id)references person(p\_id)on delete cascade);

Table created.

SQL> desc orders;

|  |  |  |
| --- | --- | --- |
| Name | Null? | Type |
| O\_ID |  | NOT NULL NUMBER(2) |
| ORDER\_NAME  S\_ID |  | VARCHAR2(10)  NUMBER(4) |

SQL> insert into person values(&p\_id,'&p\_name','&city'); Enter value for p\_id: 1

Enter value for p\_name: mayura Enter value for city: mumbai

old 1: insert into person values(&p\_id,'&p\_name','&city') new 1: insert into person values(1,'mayura','mumbai')

1 row created.

SQL> insert into person values(&p\_id,'&p\_name','&city'); Enter value for p\_id: 2

Enter value for p\_name: jai Enter value for city: chennai

old 1: insert into person values(&p\_id,'&p\_name','&city') new 1: insert into person values(2,'jai','chennai')

1 row created.

SQL> insert into person values(&p\_id,'&p\_name','&city'); Enter value for p\_id: 3

Enter value for p\_name: aurora Enter value for city: delhi

old 1: insert into person values(&p\_id,'&p\_name','&city') new 1: insert into person values(3,'aurora','delhi')

1 row created.

SQL> select \*from person; P\_ID PNAME CITY

1. mayura mumbai
2. jai chennai
3. aurora delhi

SQL> insert into orders values(&o\_id,'&order\_name',&s\_id); Enter value for o\_id: 1

Enter value for order\_name: liril Enter value for s\_id: 2

old 1: insert into orders values(&o\_id,'&order\_name',&s\_id) new 1: insert into orders values(1,'liril',2)

1 row created.

SQL> insert into orders values(&o\_id,'&order\_name',&s\_id); Enter value for o\_id: 2

Enter value for order\_name: lux Enter value for s\_id: 2

old 1: insert into orders values(&o\_id,'&order\_name',&s\_id) new 1: insert into orders values(2,'lux',2)

1 row created.

SQL> insert into orders values(&o\_id,'&order\_name',&s\_id); Enter value for o\_id: 3

Enter value for order\_name: hamam Enter value for s\_id: 3

old 1: insert into orders values(&o\_id,'&order\_name',&s\_id) new 1: insert into orders values(3,'hamam',3)

1 row created.

SQL> insert into orders values(&o\_id,'&order\_name',&s\_id); Enter value for o\_id: 4

Enter value for order\_name: dettol Enter value for s\_id: 1

old 1: insert into orders values(&o\_id,'&order\_name',&s\_id) new 1: insert into orders values(4,'dettol',1)

1 row created.

## SQL> select \* from orders;

O\_ID ORDER\_NAME S\_ID

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 |  | liril |  | 2 |
| 2 |  | lux |  | 2 |
| 3 |  | hamam |  | 3 |
| 4 |  | dettol |  | 1 |

## SQL> delete from person where p\_id=3; 1 row deleted.

SQL> select \* from orders; O\_ID ORDER\_NAME S\_ID

1. liril 2
2. lux 2

4 dettol 1

## SQL> select \*from person;

P\_ID PNAME CITY

1. mayura mumbai
2. jai chennai

# 1.2.TABLE ALTERATION:

**Rename table name:**

SQL> alter table mark rename to mark1; Table altered.

SQL> desc mark;

Name Null? Type

ROLLNO NOT NULL NUMBER(5) SNAME CHAR(10)

MARK1 NUMBER(3)

MARK2 NUMBER(3)

MARK3 NUMBER(3)

# Rename column name:

## SQL> alter table mark1 rename column sname to stuname; Table altered.

SQL> desc mark;

Name Null? Type

ROLLNO NOT NULL NUMBER(5) STUNAME CHAR(10)

MARK1 NUMBER(3)

MARK2 NUMBER(3)

MARK3 NUMBER(3)

# Add column:

## SQL> alter table mark1 add(total number(3)); Table altered.

SQL> desc mark1;

Name Null? Type

ROLLNO NOT NULL NUMBER(5) STUNAME CHAR(10)

MARK1 NUMBER(3)

MARK2 NUMBER(3)

MARK3 NUMBER(3)

TOTAL NUMBER(3)

# Drop column:

## SQL> alter table mark1 drop column total; Table altered.

SQL> desc mark1;

Name Null? Type

ROLLNO NOT NULL NUMBER(5)

STUNAME VARCHAR2(15)

MARK1 NUMBER(3)

MARK2 NUMBER(3)

MARK3 NUMBER(3)

# Modify column size and data type:

## SQL> alter table mark1 modify stuname varchar(15); Table altered.

SQL> desc mark1;

Name Null? Type

ROLLNO NOT NULL NUMBER(5)

STUNAME VARCHAR2(15)

MARK1 NUMBER(3)

MARK2 NUMBER(3)

MARK3 NUMBER(3)

TOTAL NUMBER(3)

# 1.3.DROP TABLE:

## SQL> create table lili(regno number(5) primary key,stuname char(15),mark1 number(3),mark2 number(3));

Table created.

SQL> desc lili;

Name Null? Type

REGNO NOT NULL NUMBER(5) STUNAME CHAR(15)

MARK1 NUMBER(3)

MARK2 NUMBER(3)

## SQL> drop table lili;

Table dropped.

# 2.1.INSERTION:

SQL> insert into dept values(&regno,'&sname',&rollno,&percetage); Enter value for regno: 1402

Enter value for sname: nancy Enter value for rollno: 102 Enter value for percetage: 81

old 1: insert into dept values(&regno,'&sname',&rollno,&percetage) new 1: insert into dept values(1402,'nancy',102,81)

1 row created.

SQL> insert into dept values(&regno,'&sname',&rollno,&percetage); Enter value for regno: 1404

Enter value for sname: affrin Enter value for rollno: 104 Enter value for percetage: 78

old 1: insert into dept values(&regno,'&sname',&rollno,&percetage) new 1: insert into dept values(1404,'affrin',104,78)

1 row created.

SQL> insert into dept values(&regno,'&sname',&rollno,&percetage); Enter value for regno: 1405

Enter value for sname: willy Enter value for rollno: 105 Enter value for percetage: 80

old 1: insert into dept values(&regno,'&sname',&rollno,&percetage) new 1: insert into dept values(1405,'willy',105,80)

1 row created.

SQL> insert into dept values(&regno,'&sname',&rollno,&percetage); Enter value for regno: 1406

Enter value for sname: john Enter value for rollno: 106 Enter value for percetage: 75

old 1: insert into dept values(&regno,'&sname',&rollno,&percetage) new 1: insert into dept values(1406,'john',106,75)

1 row created.

SQL> insert into dept values(&regno,'&sname',&rollno,&percetage); Enter value for regno: 1407

Enter value for sname: fathima Enter value for rollno: 107 Enter value for percetage: 85

old 1: insert into dept values(&regno,'&sname',&rollno,&percetage) new 1: insert into dept values(1407,'fathima',107,85)

1 row created.

## SQL> select \* from dept;

REGNO SNAME ROLLNO PERCENTAGE

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1402 |  | nancy |  | 102 | 81 |
| 1404 |  | affrin |  | 104 | 78 |
| 1405 |  | willy |  | 105 | 80 |
| 1406 |  | john |  | 106 | 75 |
| 1407 |  | fathima |  | 107 | 85 |

**2.2.UPDATE:**

SQL> select \* from dept;

REGNO SNAME ROLLNO PERCENTAGE

|  |  |  |
| --- | --- | --- |
| 1402 nancy | 102 | 81 |
| 1404 affrin | 104 | 78 |
| 1405 willy | 105 | 80 |
| 1406 john | 106 | 75 |
| 1407 fathima | 107 | 85 |

SQL> update dept set percentage=85 where rollno=106; 1 row updated.

SQL> select \* from dept;

REGNO SNAME ROLLNO PERCENTAGE

|  |  |  |
| --- | --- | --- |
| 1402 nancy | 102 | 81 |
| 1404 affrin | 104 | 78 |
| 1405 willy | 105 | 80 |
| 1406 john | 106 | 85 |
| 1407 fathima | 107 | 85 |

# 2.3. String Operation (Like, Not Like):

SQL> create table customers(id int not null,name varchar(10) not null,age int not null,address char(10),salary decimal(6),primary key(id));

Table created.

SQL> insert into customers values(&id,'&name',&age,'&address',&salary); Enter value for id: 1

Enter value for name: ramesh Enter value for age: 32

Enter value for address: ahmedabad Enter value for salary: 2000

old 1: insert into customers values(&id,'&name',&age,'&address',&salary) new 1: insert into customers values(1,'ramesh',32,'ahmedabad',2000)

1 row created.

SQL> /

Enter value for id: 2

Enter value for name: khilan Enter value for age: 25

Enter value for address: delhi Enter value for salary: 1502

old 1: insert into customers values(&id,'&name',&age,'&address',&salary) new 1: insert into customers values(2,'khilan',25,'delhi',1502)

1 row created.

SQL> /

Enter value for id: 3

Enter value for name: kaushik Enter value for age: 23

Enter value for address: kota Enter value for salary: 2000

old 1: insert into customers values(&id,'&name',&age,'&address',&salary) new 1: insert into customers values(3,'kaushik',23,'kota',2000)

1 row created.

SQL> /

Enter value for id: 4

Enter value for name: chaitali Enter value for age: 25

Enter value for address: mumbai Enter value for salary: 6200

old 1: insert into customers values(&id,'&name',&age,'&address',&salary) new 1: insert into customers values(4,'chaitali',25,'mumbai',6200)

1 row created.

SQL> /

Enter value for id: 5

Enter value for name: hardik Enter value for age: 27

Enter value for address: bhopal Enter value for salary: 8203

old 1: insert into customers values(&id,'&name',&age,'&address',&salary) new 1: insert into customers values(5,'hardik',27,'bhopal',8203)

1 row created.

SQL> /

Enter value for id: 6

Enter value for name: komal Enter value for age: 22 Enter value for address: mp Enter value for salary: 4203

old 1: insert into customers values(&id,'&name',&age,'&address',&salary) new 1: insert into customers values(6,'komal',22,'mp',4203)

1 row created.

SQL> /

Enter value for id: 7

Enter value for name: muffy Enter value for age: 24

Enter value for address: indore Enter value for salary: 10002

old 1: insert into customers values(&id,'&name',&age,'&address',&salary) new 1: insert into customers values(7,'muffy',24,'indore',10002)

1 row created.

SQL> select \*from customers;

ID NAME AGE ADDRESS SALARY

|  |  |  |
| --- | --- | --- |
| 1 ramesh | 32 ahmedabad | 2000 |
| 2 khilan | 25 delhi | 1502 |
| 3 kaushik | 23 kota | 2000 |
| 4 chaitali | 25 mumbai | 6200 |
| 5 hardik | 27 bhopal | 8203 |
| 6 komal | 22 mp | 4203 |
| 7 muffy | 24 indore | 10002 |

7 rows selected.

SQL> select \*from customers where salary like '20%';

|  |  |  |
| --- | --- | --- |
| ID NAME | AGE ADDRESS | SALARY |
| 1 ramesh | 32 ahmedabad | 2000 |
| 3 kaushik | 23 kota | 2000 |

SQL> select \*from customers where salary like '%20%'; ID NAME AGE ADDRESS SALARY

|  |  |  |
| --- | --- | --- |
| 1 ramesh | 32 ahmedabad | 2000 |
| 3 kaushik | 23 kota | 2000 |
| 4 chaitali | 25 mumbai | 6200 |
| 5 hardik | 27 bhopal | 8203 |
| 6 komal | 22 mp | 4203 |

SQL> select \*from customers where salary like 2 '\_00%';

ID NAME AGE ADDRESS SALARY

|  |  |  |
| --- | --- | --- |
| 1 ramesh | 32 ahmedabad | 2000 |
| 3 kaushik | 23 kota | 2000 |
| 7 muffy | 24 indore | 10002 |

SQL> select \*from customers where salary like 2 '2\_%\_%';

ID NAME AGE ADDRESS SALARY

1 ramesh 32 ahmedabad 2000

3 kaushik 23 kota 2000

SQL> select \*from customers where salary not like'%2';

ID NAME AGE ADDRESS SALARY

|  |  |  |
| --- | --- | --- |
| 1 ramesh | 32 ahmedabad | 2000 |
| 3 kaushik | 23 kota | 2000 |
| 4 chaitali | 25 mumbai | 6200 |
| 5 hardik | 27 bhopal | 8203 |
| 6 komal | 22 mp | 4203 |
|  |  |  |

SQL> select \*from customers where salary not like '\_2%3';

ID NAME AGE ADDRESS SALARY

|  |  |  |
| --- | --- | --- |
| 1 ramesh | 32 ahmedabad | 2000 |
| 2 khilan | 25 delhi | 1502 |
| 3 kaushik | 23 kota | 2000 |
| 4 chaitali | 25 mumbai | 6200 |
| 7 muffy | 24 indore | 10002 |

# 2.4.SET OPERATION:

## SQL> create table frst(id number(3),name char(25),age number(2)); Table created.

SQL> insert into frst values(&id,'&name',&age); Enter value for id: 1

Enter value for name: rani Enter value for age: 25

old 1: insert into frst values(&id,'&name',&age) new 1: insert into frst values(1,'rani',25)

1 row created.

SQL> /

Enter value for id: 2 Enter value for name: raji Enter value for age: 35

old 1: insert into frst values(&id,'&name',&age) new 1: insert into frst values(2,'raji',35)

1 row created.

SQL> /

Enter value for id: 3 Enter value for name: viji Enter value for age: 25

old 1: insert into frst values(&id,'&name',&age) new 1: insert into frst values(3,'viji',25)

1 row created.

SQL> /

Enter value for id: 4

Enter value for name: nancy Enter value for age: 35

old 1: insert into frst values(&id,'&name',&age) new 1: insert into frst values(4,'nancy',35)

1 row created.

## SQL> create table scond(id number(3),name char(25),age number(2)); Table created.

SQL> insert into scond values(&id,'&name',&age); Enter value for id: 2

Enter value for name: raji Enter value for age: 35

old 1: insert into scond values(&id,'&name',&age) new 1: insert into scond values(2,'raji',35)

1 row created.

SQL> /

Enter value for id: 3 Enter value for name: viji Enter value for age: 25

old 1: insert into scond values(&id,'&name',&age) new 1: insert into scond values(3,'viji',25)

1 row created.

SQL> /

Enter value for id: 5

Enter value for name: ramu Enter value for age: 35

old 1: insert into scond values(&id,'&name',&age) new 1: insert into scond values(5,'ramu',35)

1 row created.

SQL> /

Enter value for id: 4

Enter value for name: nancy Enter value for age: 30

old 1: insert into scond values(&id,'&name',&age) new 1: insert into scond values(4,'nancy',30)

1 row created.

## SQL> select\*from frst;

ID NAME AGE

|  |  |
| --- | --- |
| 1 rani | 25 |
| 2 raji | 35 |
| 3 viji | 25 |
| 4 nancy | 35 |

## SQL> select\*from scond;

ID NAME AGE

|  |  |
| --- | --- |
| 2 raji | 35 |
| 3 viji | 25 |
| 5 ramu | 35 |
| 4 nancy | 30 |

## SQL> select\*from frst union select \*from scond;

ID NAME AGE

|  |  |
| --- | --- |
| 1 rani | 25 |
| 2 raji | 35 |
| 3 viji | 25 |
| 4 nancy | 30 |
| 4 nancy | 35 |
| 5 ramu | 35 |

6 rows selected.

## SQL> select \*from frst union all select \*from scond;

ID NAME AGE

|  |  |
| --- | --- |
| 1 rani | 25 |
| 2 raji | 35 |
| 3 viji | 25 |
| 4 nancy | 35 |
| 2 raji | 35 |
| 3 viji | 25 |
| 5 ramu | 35 |
| 4 nancy | 30 |

8 rows selected.

## SQL> select \* from frst intersect select \*from scond;

ID NAME AGE

1. raji 35
2. viji 25

## SQL> select \*from frst minus select \*from scond;

ID NAME AGE

1 rani 25

4 nancy 35

# 2.5.TUPLE VARIABLES:

SQL> create table fir(id number(3),name char(25),age number(2)); Table created.

SQL> insert into fir values(&id,'&name',&age); Enter value for id: 1

Enter value for name: nancy Enter value for age: 25

old 1: insert into fir values(&id,'&name',&age) new 1: insert into fir values(1,'nancy',25)

1 row created.

SQL> insert into fir values(&id,'&name',&age); Enter value for id: 2

Enter value for name: viji Enter value for age: 35

old 1: insert into fir values(&id,'&name',&age) new 1: insert into fir values(2,'viji',35)

1 row created.

SQL> select \*from fir;

ID NAME AGE

1. nancy 25
2. viji 35

SQL> create table sec(id number(3),name char(25),age number(2)); Table created.

SQL> insert into sec values(&id,'&name',&age); Enter value for id: 2

Enter value for name: nancy Enter value for age: 35

old 1: insert into sec values(&id,'&name',&age) new 1: insert into sec values(2,'nancy',35)

1 row created.

SQL> insert into sec values(&id,'&name',&age); Enter value for id: 4

Enter value for name: viji Enter value for age: 30

old 1: insert into sec values(&id,'&name',&age) new 1: insert into sec values(4,'viji',30)

1 row created.

SQL> select \*from sec;

ID NAME AGE

2 nancy 35

4 viji 30

SQL> select f.id,s.age from fir f,sec s where f.id=s.id; ID AGE

2 35

# 2.6. AGGREATE FUNCTIONS WITH GROUPING AND HAVING CLAUSE:

SQL> create table emplyee(empid number(4),ename char(25),deptid number(4),salary number(6));

Table created.

SQL> insert into emplyee values(&empid,'&ename',&deptid,&salary); Enter value for empid: 1001

Enter value for ename: john Enter value for deptid: 2 Enter value for salary: 4000

old 1: insert into emplyee values(&empid,'&ename',&deptid,&salary) new 1: insert into emplyee values(1001,'john',2,4000)

1 row created.

SQL> /

Enter value for empid: 1002 Enter value for ename: anu Enter value for deptid: 1 Enter value for salary: 3500

old 1: insert into emplyee values(&empid,'&ename',&deptid,&salary) new 1: insert into emplyee values(1002,'anu',1,3500)

1 row created.

SQL> /

Enter value for empid: 1003 Enter value for ename: banu Enter value for deptid: 1 Enter value for salary: 2500

old 1: insert into emplyee values(&empid,'&ename',&deptid,&salary) new 1: insert into emplyee values(1003,'banu',1,2500)

1 row created.

SQL> /

Enter value for empid: 1004 Enter value for ename: david Enter value for deptid: 2 Enter value for salary: 5000

old 1: insert into emplyee values(&empid,'&ename',&deptid,&salary) new 1: insert into emplyee values(1004,'david',2,5000)

1 row created.

SQL> /

Enter value for empid: 1005 Enter value for ename: willy Enter value for deptid: 2 Enter value for salary: 3000

old 1: insert into emplyee values(&empid,'&ename',&deptid,&salary) new 1: insert into emplyee values(1005,'willy',2,3000)

1 row created.

SQL> /

Enter value for empid: 1006 Enter value for ename: vijay Enter value for deptid: 3 Enter value for salary: 4500

old 1: insert into emplyee values(&empid,'&ename',&deptid,&salary) new 1: insert into emplyee values(1006,'vijay',3,4500)

1 row created.

SQL> /

Enter value for empid: 1007 Enter value for ename: nancy Enter value for deptid: 3 Enter value for salary: 3500

old 1: insert into emplyee values(&empid,'&ename',&deptid,&salary) new 1: insert into emplyee values(1007,'nancy',3,3500)

1 row created.

SQL> select \*from emplyee;

EMPID ENAME DEPTID SALARY

|  |  |  |
| --- | --- | --- |
| 1001 john | 2 | 4000 |
| 1002 anu | 1 | 3500 |
| 1003 banu | 1 | 2500 |
| 1004 david | 2 | 5000 |
| 1005 willy | 2 | 3000 |
| 1006 vijay | 3 | 4500 |
| 1007 nancy | 3 | 3500 |

7 rows selected.

## SQL> select deptid,avg(salary) from emplyee group by deptid having avg(salary)>3000;

DEPTID AVG(SALARY)

2 4000

3 4000

## SQL> select min(salary)from emplyee;

MIN(SALARY)

2500

## SQL> select max(salary)from emplyee;

MAX(SALARY)

5000

## SQL> select count(\*) empid from emplyee where deptid=2;

EMPID

3

## SQL> select sum(salary)from emplyee;

SUM(SALARY)

26000

# 2.7.ORDERING TUPLES:

SQL> create table empl(employeeid number(4),ename char(25),deptid number(4),salary number(6));

Table created.

SQL> insert into empl values(&employeeid,'&ename',&deptid,&salary); Enter value for employeeid: 1001

Enter value for ename: john Enter value for deptid: 2 Enter value for salary: 4000

old 1: insert into empl values(&employeeid,'&ename',&deptid,&salary) new 1: insert into empl values(1001,'john',2,4000)

1 row created.

SQL> insert into empl values(&employeeid,'&ename',&deptid,&salary); Enter value for employeeid: 1002

Enter value for ename: anu Enter value for deptid: 1 Enter value for salary: 3500

old 1: insert into empl values(&employeeid,'&ename',&deptid,&salary) new 1: insert into empl values(1002,'anu',1,3500)

1 row created.

SQL> insert into empl values(&employeeid,'&ename',&deptid,&salary); Enter value for employeeid: 1003

Enter value for ename: banu Enter value for deptid: 1 Enter value for salary: 2500

old 1: insert into empl values(&employeeid,'&ename',&deptid,&salary) new 1: insert into empl values(1003,'banu',1,2500)

1 row created.

SQL> /

Enter value for employeeid: 1004 Enter value for ename: david Enter value for deptid: 2

Enter value for salary: 5000

old 1: insert into empl values(&employeeid,'&ename',&deptid,&salary) new 1: insert into empl values(1004,'david',2,5000)

1 row created.

SQL> /

Enter value for employeeid: 1005 Enter value for ename: willy Enter value for deptid: 2

Enter value for salary: 3000

old 1: insert into empl values(&employeeid,'&ename',&deptid,&salary) new 1: insert into empl values(1005,'willy',2,3000)

1 row created.

SQL> /

Enter value for employeeid: 1006 Enter value for ename: vijay Enter value for deptid: 3

Enter value for salary: 4500

old 1: insert into empl values(&employeeid,'&ename',&deptid,&salary) new 1: insert into empl values(1006,'vijay',3,4500)

1 row created.

SQL> /

Enter value for employeeid: 1007 Enter value for ename: nancy Enter value for deptid: 3

Enter value for salary: 3500

old 1: insert into empl values(&employeeid,'&ename',&deptid,&salary) new 1: insert into empl values(1007,'nancy',3,3500)

1 row created.

SQL> select \* from empl order by ename ASC; EMPLOYEEID ENAME DEPTID SALARY

|  |  |  |
| --- | --- | --- |
| 1002 anu | 1 | 3500 |
| 1003 banu | 1 | 2500 |
| 1004 david | 2 | 5000 |
| 1001 john | 2 | 4000 |
| 1007 nancy | 3 | 3500 |
| 1006 vijay | 3 | 4500 |
| 1005 willy | 2 | 3000 |

7 rows selected.

SQL> select \* from empl order by ename DESC; EMPLOYEEID ENAME DEPTID SALARY

|  |  |  |
| --- | --- | --- |
| 1005 willy | 2 | 3000 |
| 1006 vijay | 3 | 4500 |
| 1007 nancy | 3 | 3500 |
| 1001 john | 2 | 4000 |
| 1004 david | 2 | 5000 |
| 1003 banu | 1 | 2500 |
| 1002 anu | 1 | 3500 |
| 7 rows selected. |  |  |

# 2 .8.NESTED SUBQUERIES:

## SQL> select \*from emplyee where deptid in(1,2);

|  |  |  |
| --- | --- | --- |
| EMPID ENAME | DEPTID | SALARY |
| 1001 john | 2 | 4000 |
| 1002 anu | 1 | 3500 |
| 1003 banu | 1 | 2500 |
| 1004 david | 2 | 5000 |
| 1005 willy | 2 | 3000 |

SQL> select \*from emplyee where deptid not in(1,2);

|  |  |  |
| --- | --- | --- |
| EMPID ENAME | DEPTID | SALARY |
| 1006 vijay | 3 | 4500 |
| 1007 nancy | 3 | 3500 |

## SQL> select \* from emplyee where salary>all(2000,3000);

|  |  |  |
| --- | --- | --- |
| EMPID ENAME | DEPTID | SALARY |
| 1001 john | 2 | 4000 |
| 1002 anu | 1 | 3500 |
| 1004 david | 2 | 5000 |
| 1006 vijay | 3 | 4500 |
| 1007 nancy | 3 | 3500 |

SQL> select \* from emplyee where salary>some(2000,3000);

EMPID ENAME DEPTID SALARY

|  |  |  |
| --- | --- | --- |
| 1001 john | 2 | 4000 |
| 1002 anu | 1 | 3500 |
| 1003 banu | 1 | 2500 |
| 1004 david | 2 | 5000 |
| 1005 willy | 2 | 3000 |
| 1006 vijay | 3 | 4500 |
| 1007 nancy | 3 | 3500 |

7 rows selected.

# 2 .9. DELETION:

SQL> select \*from dept;

REGNO SNAME ROLLNO PERCENTAGE

|  |  |  |
| --- | --- | --- |
| 1402 nancy | 102 | 81 |
| 1404 affrin | 104 | 78 |
| 1405 willy | 105 | 80 |
| 1406 john | 106 | 85 |
| 1407 fathima | 107 | 85 |

SQL> delete from dept where rollno=107; 1 row deleted.

SQL> select \*from dept;

REGNO SNAME ROLLNO PERCENTAGE

|  |  |  |
| --- | --- | --- |
| 1402 nancy | 102 | 81 |
| 1404 affrin | 104 | 78 |
| 1405 willy | 105 | 80 |
| 1406 john | 106 | 85 |

SQL> delete from dept; 4 rows deleted.

SQL> select \*from dept; no rows selected

# 2 .10.JOIN OPERATION:

SQL> create table agentt(agent\_id number(5),agent\_name char(10),agent\_city char(10)); Table created.

SQL> desc agentt;

|  |  |  |
| --- | --- | --- |
| Name | Null? | Type |
| AGENT\_ID |  | NUMBER(5) |
| AGENT\_NAME  AGENT\_CITY |  | CHAR(10)  CHAR(10) |

SQL> insert into agentt values(3,'ajith','allahabd'); 1 row created.

SQL> insert into agentt values(7,'james','london'); 1 row created.

SQL> insert into agentt values(11,'prabas','patna'); 1 row created.

SQL> select \* from agentt;

AGENTT\_ID AGENTT\_NAM AGENTT\_CIT

3 ajith allahabd

7 james london

11 prabas patna

SQL> create table custo(custo\_id number(5),first\_name char(10),last\_name char(10)); Table created.

SQL> insert into custo values(1,'aryan','tomar'); 1 row created.

SQL> insert into custo values(2,'ajith','maurya'); 1 row created.

SQL> insert into custo values(3,'richa','goyal'); 1 row created.

SQL> insert into custo values(4,'dhirubhai','jotwani'); 1 row created.

## SQL> select \* from custo;

CUSTO\_ID FIRST\_NAME LAST\_NAME

|  |  |  |
| --- | --- | --- |
| 1 | aryan | tomar |
| 2 | ajith | maurya |
| 3 | richa | goyal |
| 4 | dhirubhai | jotwani |

SQL> select agentt.agentt\_city,custo.last\_name,custo.first\_name from agentt,custo where agentt.agentt\_id=custo.custo\_id; AGENTT\_CIT LAST\_NAME FIRST\_NAME

allahabd goyal richa

## SQL> select agentt.agentt\_city,custo.last\_name,custo.first\_name from agentt left join custo on agentt.agentt\_id=custo.custo\_id;

AGENTT\_CIT LAST\_NAME FIRST\_NAME

allahabd goyal richa patna

london

## SQL> select agentt.agentt\_city,custo.last\_name,custo.first\_name from agentt right join custo on agentt.agentt\_id=custo.custo\_id;

AGENTT\_CIT LAST\_NAME FIRST\_NAME

allahabd goyal richa jotwani dhirubhai

tomar aryan

maurya ajith

# 2.11.VIEWS:

## SQL> select \* from custo;

CUSTO\_ID FIRST\_NAME LAST\_NAME

|  |  |  |
| --- | --- | --- |
| 1 | aryan | tomar |
| 2 | ajith | maurya |
| 3 | richa | goyal |
| 4 | dhirubhai | jotwani |

## SQL> create view custo\_view as select first\_name,last\_name from custo;

View created.

## SQL> select \* from custo\_view;

FIRST\_NAME LAST\_NAME

aryan tomar

ajith maurya

richa goyal dhirubhai jotwani

## SQL> update custo\_view set first\_name='arun' where last\_name='tomar';

1 row updated.

## SQL> select \* from custo\_view;

FIRST\_NAME LAST\_NAME

arun tomar

ajith maurya

richa goyal dhirubhai jotwani

**PL/SQL PROCEDURE:**

# 3.1. PROGRAM - REVERSE THE STRING

## SQL> set serveroutput on SQL> declare

1. s1 varchar(20);

## s2 varchar(20);

1. c number(20);

## begin

1. s1:='&string';

## c:=length(s1);

1. while c>0

## loop

10s2:=s2||substr(s1,c,1);

11 c:=c-1;

## end loop;

1. dbms\_output.put\_line('the given string is:'||s1);

## dbms\_output.put\_line('reverse string is:'||s2);

1. end;
2. /

Output :

Enter value for string: surya old 6: s1:='&string';

## new 6: s1:='surya'; the given string is:surya reverse string is:ayrus

PL/SQL procedure successfully completed.

# 3.2.FIND FACTORIAL NUMBER USING RECURSIVE FUNCTION:

## SQL> create or replace function fact(n number) return integer is

1. begin

## if n=1 then return 1;

1. else

## return n\*fact(n-1);

1. end if;

## end;

8 /

## Function created.

SQL> set serveroutput on; SQL> declare

## a number;

1. b number:=&num;

## begin

1. a:=fact(b);

## dbms\_output.put\_line(a);

1. dbms\_output.put\_line(b);

## end;

9 /

## Enter value for num: 5

old 3: b number:=&num; new 3: b number:=5; 120

## 5

PL/SQL procedure successfully completed.

# 3.4.PREPARE STUDENT MARKSHEET:

## SQL> create table stud2(rollno number,name char(20),mark1 number,mark2 number,mark3 number,total number,avrg number);

Table created.

SQL> insert into stud2 values(&rollno,'&name',&mark1,&mark2,&mark3,null,null); Enter value for rollno: 078

Enter value for name: reo Enter value for mark1: 78 Enter value for mark2: 80 Enter value for mark3: 89

old 1: insert into stud2 values(&rollno,'&name',&mark1,&mark2,&mark3,null,null) new 1: insert into stud2 values(078,'reo',78,80,89,null,null)

1 row created.

SQL> /

Enter value for rollno: 079 Enter value for name: ram Enter value for mark1: 78 Enter value for mark2: 79 Enter value for mark3: 86

old 1: insert into stud2 values(&rollno,'&name',&mark1,&mark2,&mark3,null,null) new 1: insert into stud2 values(079,'ram',78,79,86,null,null)

1 row created.

SQL> /

Enter value for rollno: 080 Enter value for name: john Enter value for mark1: 78 Enter value for mark2: 89 Enter value for mark3: 98

old 1: insert into stud2 values(&rollno,'&name',&mark1,&mark2,&mark3,null,null) new 1: insert into stud2 values(080,'john',78,89,98,null,null)

1 row created.

SQL> /

Enter value for rollno: 081 Enter value for name: revi Enter value for mark1: 78 Enter value for mark2: 88 Enter value for mark3: 91

old 1: insert into stud2 values(&rollno,'&name',&mark1,&mark2,&mark3,null,null) new 1: insert into stud2 values(081,'revi',78,88,91,null,null)

1 row created.

SQL> /

Enter value for rollno: 082 Enter value for name: jesi Enter value for mark1: 99 Enter value for mark2: 67 Enter value for mark3: 87

old 1: insert into stud2 values(&rollno,'&name',&mark1,&mark2,&mark3,null,null) new 1: insert into stud2 values(082,'jesi',99,67,87,null,null) 1 row created.

## SQL> declare

1. cursor c1 is select \* from stud2;

## x stud2 % rowtype;

1. begin

## open c1;

1. loop

## fetch c1 into x;

1. exit when c1%notfound;

## x.total:=x.mark1+x.mark2+x.mark3; 10

1. x.avrg:=x.total/3;

## update stud2 set total=x.total,avrg=x.avrg where rollno=x.rollno;

1. end loop;

## close c1;

1. end;

## 16 /

PL/SQL procedure successfully completed.

## SQL> select \* from stud2;

ROLLNO NAME MARK1 MARK2 MARK3 TOTAL AVRG

-

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 78 | reo | 78 | 80 | 89 | 247 | 82.3333333 |
| 79 | ram | 78 | 79 | 86 | 243 | 81 |
| 80 | john | 78 | 89 | 98 | 265 | 88.3333333 |
| 81 | revi | 78 | 88 | 91 | 257 | 85.6666667 |
| 82 | jesi | 99 | 67 | 87 | 253 | 84.3333333 |

# 3.5. PROGRAM-PAY ROLL

## SQL> create table emp11(eno number(3),ename varchar(10),bpay number(15),hra number(15),pf number(15),gpay number(15),netpay number(15));

Table created.

## SQL> desc emp11;

Name Null? Type

ENO NUMBER(3)

ENAME VARCHAR2(10)

BPAY NUMBER(15)

HRA NUMBER(15)

PF NUMBER(15)

GPAY NUMBER(15)

NETPAY NUMBER(15)

SQL> insert into emp11 values(&eno,'&ename',&bpay,'','','',''); Enter value for eno: 101

Enter value for ename: ravi Enter value for bpay: 13000

old 1: insert into emp11 values(&eno,'&ename',&bpay,'','','','')

new 1: insert into emp11 values(101,'ravi',13000,'','','','') 1 row created.

## SQL> select\*from emp11;

ENO ENAME BPAY HRA PF GPAY NETPAY

|  |  |  |  |
| --- | --- | --- | --- |
| - | - |  |  |
| 101 ravi | 13000 |  |  |
| 102 kavi | 34000 |  |  |
| 103 priya | 23000 |  |  |
| 104 devi | 16000 |  |  |
| 105 karthi | 20000 |  |  |

## SQL> set serveroutput on

SQL> declare

## cursor a is select\*from emp11;

1. x emp11 % rowtype;

## begin

1. open a;

## loop

1. fetch a into x;

## exit when a%notfound;

9 x.hra:=x.bpay\*0.05;

## 10 x.pf:=x.bpay\*0.1;

1. x.gpay:=x.bpay+x.hra;

## x.netpay:=x.gpay-x.pf;

1. update emp11 set hra=x.hra,pf=x.pf,gpay=x.gpay,netpay=x.netpay where eno=x.eno;

## end loop;

1. close a;

## end;

17 /

## PL/SQL procedure successfully completed. SQL> select\*from emp11;

ENO ENAME BPAY HRA PF GPAY NETPAY

- - - - -

101 ravi 13000 650 1300 13650 12350

## 102 kavi 34000 1700 3400 35700 32300

## 103 priya 23000 1150 2300 24150 21850

## 104 devi 16000 800 1600 16800 15200

## 105 karthi 20000 1000 2000 21000 19000