

Assignment 2

QUESTION

Assignment

----- emp, dept,

system login

1. location -> lid -> pk, city, gen values using sequence, insert data

2. alter dept-> lid -> relate dept location, add corresponding entries

user login

--> join-> 3 table

firstname from employee which dept-> deptname, city of employee

--> print empl-> id firstname, having highest salary

having second highest salary

SOLUTION

1. System Login:

```
Enter user-name: SYSTEM
Enter password:
Last Successful login time: Sat Feb 04 2023 11:40:33 +05:30

Connected to:
Oracle Database 21c Express Edition Release 21.0.0.0.0 - Production
Version 21.3.0.0.0
```

2. Creating Table 'dept':

```
SQL> CREATE TABLE dept(  
  2 deptId NUMBER(4) CONSTRAINT pkDept PRIMARY KEY,  
  3 deptName VARCHAR2(20));
```

Table created.

```
SQL> DESC dept;
```

Name	Null?	Type
DEPTID	NOT NULL	NUMBER(4)
DEPTNAME		VARCHAR2(20)

3. Inserting Values Into 'dept' Table and displaying them accordingly:

```
SQL> INSERT INTO dept VALUES(111, 'ANALYST');
```

1 row created.

```
SQL> INSERT INTO dept VALUES(201, 'RESEARCH');
```

1 row created.

```
SQL> INSERT INTO dept VALUES(301, 'FINANCE');
```

1 row created.

```
SQL> SELECT * FROM dept;
```

DEPTID	DEPTNAME
111	ANALYST
201	RESEARCH
301	FINANCE

4. Creating Table 'Employee':

```
SQL> CREATE TABLE Employee(  
2 empid NUMBER(4) CONSTRAINT pkEmp PRIMARY KEY,  
3 firstName VARCHAR2(20),  
4 lastName VARCHAR2(20),  
5 emailId VARCHAR2(20),  
6 mobileNo CHAR(10),  
7 DateOfJoining DATE DEFAULT SYSDATE,  
8 DeptId INT,  
9 gender CHAR(1));
```

Table created.

```
SQL> DESC Employee;
```

Name	Null?	Type
EMPID	NOT NULL	NUMBER(4)
FIRSTNAME		VARCHAR2(20)
LASTNAME		VARCHAR2(20)
EMAILID		VARCHAR2(20)
MOBILENO		CHAR(10)
DATEOFJOINING		DATE
DEPTID		NUMBER(38)
GENDER		CHAR(1)

5. Altering Table 'Employee'(Making sure that gender is either 'M' or 'F'):

```
SQL> ALTER TABLE Employee ADD CONSTRAINT employee_gender_chk CHECK(GENDER IN ('M','F'));
```

Table altered.

```
SQL> ALTER TABLE Employee ADD CONSTRAINT employee_dept_ref FOREIGN KEY(deptId)  
2 REFERENCES dept(DeptId) ON DELETE SET NULL;
```

Table altered.

6. Creating Table 'Loc':

```
SQL> CREATE TABLE Loc(  
2  locid NUMBER(4) CONSTRAINT pkloc PRIMARY KEY,  
3  city VARCHAR2(100)  
4  );
```

Table created.

```
SQL> DESC Loc;
```

Name	Null?	Type
LOCID	NOT NULL	NUMBER(4)
CITY		VARCHAR2(100)

7. Altering Table 'Dept' by adding Column 'locid' which references to 'locid' of Table 'Loc':

```
SQL> ALTER TABLE Dept  
2  ADD (locid NUMBER(4) CONSTRAINT fkloc REFERENCES Loc(locid));
```

Table altered.

8. Creating a Sequence:

```
SQL> CREATE SEQUENCE s  
2  INCREMENT BY 1  
3  START WITH 500  
4  NOCYCLE  
5  CACHE 5;
```

Sequence created.

9. Inserting Values Into Table 'Loc' and generating 'locid' using above Sequence:

```
SQL> INSERT INTO Loc VALUES(s.nextval, 'KOLKATA');  
1 row created.  
  
SQL> INSERT INTO Loc VALUES(s.nextval, 'DARJEELING');  
1 row created.  
  
SQL> INSERT INTO Loc VALUES(s.nextval, 'MUMBAI');  
1 row created.  
  
SQL> INSERT INTO Loc VALUES(s.nextval, 'BANGALORE');  
1 row created.  
  
SQL> INSERT INTO Loc VALUES(s.nextval, 'HYDERABAD');  
1 row created.
```

10. Displaying Content in Table 'Loc':

```
SQL> SELECT * FROM Loc;
```

```
LOCID
```

```
CITY
```

```
500
```

```
KOLKATA
```

```
501
```

```
DARJEELING
```

```
502
```

```
MUMBAI
```

```
LOCID
```

```
CITY
```

```
503
```

```
BANGALORE
```

```
504
```

```
HYDERABAD
```

11. Updating Table 'dept':

```
SQL> UPDATE dept SET locid=500 WHERE deptid=111;
1 row updated.

SQL> UPDATE dept SET locid=503 WHERE deptid=201;
1 row updated.

SQL> UPDATE dept SET locid=501 WHERE deptid=301;
1 row updated.

SQL> SELECT * FROM dept;
```

DEPTID	DEPTNAME	LOCID
111	ANALYST	500
201	RESEARCH	503
301	FINANCE	501

12. Altering Table 'Employee' By Adding Column 'salary':

```
SQL> ALTER TABLE Employee ADD salary NUMBER(7);
Table altered.
```

13. Inserting Values Into Table 'Employee':

```
SQL> INSERT INTO Employee VALUES(101, 'abc', 'def', 'abc@gmail.com', '9876543210', SYSDATE, 111, 'M', 45000);
1 row created.

SQL>
INSERT INTO Employee VALUES(102, 'ghi', 'jkl', 'ghi@gmail.com', '8765432109', SYSDATE, 111, 'M', 35000);
1 row created.

SQL> INSERT INTO Employee VALUES(103, 'mno', 'pqr', 'mno@gmail.com', '7654321098', SYSDATE, 3011, 'F', 55000);
INSERT INTO Employee VALUES(103, 'mno', 'pqr', 'mno@gmail.com', '7654321098', SYSDATE, 3011, 'F', 55000)
*
ERROR at line 1:
ORA-02291: integrity constraint (SYSTEM.EMPLOYEE_DEPT_REF) violated - parentkey not found

SQL> INSERT INTO Employee VALUES(103, 'mno', 'pqr', 'mno@gmail.com', '7654321098', SYSDATE, 301, 'F', 55000);
1 row created.

SQL> INSERT INTO Employee VALUES(104, 'stu', 'vwx', 'stu@gmail.com', '6543210987', SYSDATE, 201, 'F', 25000);
1 row created.
```

14. Displaying Content In Table 'Employee':

```
SQL> SELECT * FROM Employee;
```

EMPID	FIRSTNAME	LASTNAME	EMAILID
MOBILENO	DATEOFJOI	DEPTID	G
SALARY			
101	abc	def	abc@gmail.com
9876543210	04-FEB-23	111 M	45000
102	ghi	jkl	ghi@gmail.com
8765432109	04-FEB-23	111 M	35000
103	mno	pqr	mno@gmail.com
7654321098	04-FEB-23	301 F	55000
EMPID	FIRSTNAME	LASTNAME	EMAILID
MOBILENO	DATEOFJOI	DEPTID	G
SALARY			
104	stu	vwx	stu@gmail.com
6543210987	04-FEB-23	201 F	25000

15. User Login:

```
SQL> ALTER SESSION SET "_ORACLE_SCRIPT"=TRUE;
```

Session altered.

```
SQL> CREATE USER sunny IDENTIFIED BY sunny;
```

User created.

```
SQL> GRANT ALL PRIVILEGES TO sunny;
```

Grant succeeded.

```
SQL> conn sunny;
```

Enter password:

Connected.

16. Joing 3 Tables:

```
SQL> SELECT e.firstName, d.deptname, l.city FROM SYSTEM.employee e NATURAL JOIN SYSTEM.dept d NATURAL JOIN SYSTEM.loc l;
```

FIRSTNAME	DEPTNAME
-----------	----------

CITY

abc	ANALYST
KOLKATA	

ghi	ANALYST
KOLKATA	

mno	FINANCE
DARJEELING	

FIRSTNAME	DEPTNAME
-----------	----------

CITY

stu	RESEARCH
BANGALORE	

17. Printing 'EmpId' and 'firstName' of Table 'Employee' having highest salary:

```
SQL> SELECT EmpId,firstName
2 FROM SYSTEM.Employee
3 WHERE salary=(SELECT MAX(salary) FROM SYSTEM.Employee);
```

EMPID	FIRSTNAME
-------	-----------

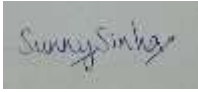
103	mno
-----	-----

18. Printing 'EmpId' and 'firstName' of Table 'Employee' having second highest salary:

```
SQL> SELECT EmpId,firstName
2 FROM SYSTEM.Employee
3 WHERE salary=(
4 SELECT MAX(salary)
5 FROM(
6 SELECT salary
7 FROM SYSTEM.Employee
8 WHERE salary NOT IN (SELECT MAX(salary) FROM SYSTEM.Employee)
9 )
10 );
```

EMPID	FIRSTNAME
-------	-----------

101	abc
-----	-----

A small, square, grayscale image showing a handwritten signature in dark ink on a light background. The signature appears to read "Sunny Sinha" in a cursive, slightly stylized script.

Sunny Sinha