Assignment – 1

Creating table:

```
create table salgrade
 grade int primary key,
 losal int,
 hisal int
 );
create table emp
empno int primary key,
ename varchar2(20),
ejob varchar2(20),
mgr int,
hiredate date,
sal int,
comm int,
deptno int,
FOREIGN KEY(mgr) REFERENCES emp(empno) ON DELETE SET NULL
CREATE TABLE dept
deptno INT PRIMARY KEY,
dname VARCHAR(20),
loc VARCHAR(20)
```

Adding constraints

```
ALTER TABLE emp
ADD FOREIGN KEY(deptno) REFERENCES dept(deptno) ON DELETE SET NULL;
```

Inserting Values

```
insert into salgrade values (1, 700, 1200);
insert into salgrade values (2, 1201, 1400);
insert into salgrade values (3, 1401, 2000);
insert into salgrade values (4, 2001, 3000);
insert into salgrade values (5, 3001, 9999);

insert into dept values( 10, 'ACCOUNTING', 'NEW YORK');
insert into dept values( 20, 'RESEARCH', 'DALLAS');
```

```
insert into dept values( 30, 'SALES', 'CHICAGO');
insert into dept values( 40, 'OPERATIONS', 'BOSTON');
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values(7369, 'SMITH', 'CLERK', '17-DEC-80', 800, NULL, 20);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values(7499, 'ALLEN', 'SALESMAN', '20-FEB-81', 1600, 300, 30);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values(7521, 'WARD', 'SALESMAN', '22-FEB-81', 1250, 500, 30);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values(7566, 'JONES', 'MANAGER', '02-APR-81', 2975, null, 20);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values(7654, 'MARTIN', 'SALESMAN', '28-SEP-81', 1250, 1400, 30);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values( 7698, 'BLAKE', 'MANAGER', '01-MAY-81', 2850, null, 30);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values(7782, 'CLARK', 'MANAGER', '09-JUN-81', 2450, null, 10);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values( 7788, 'SCOTT', 'ANALYST', '19-APR-87', 3000, null, 20);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values( 7839, 'KING', 'PRESIDENT', '17-NOV-81', 5000, null, 10);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values( 7844, 'TURNER', 'SALESMAN', '08-SEP-81', 1500, 0, 30);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values( 7876, 'ADAMS', 'CLERK', '23-MAY-87', 1100, null, 20);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values(7900, 'JAMES', 'CLERK', '03-DEC-81', 950, null, 30);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values(7902, 'FORD', 'ANALYST', '03-DEC-81', 3000, null, 20);
insert into emp(empno, ename, ejob, hiredate, sal, comm, deptno)
values(7934, 'MILLER', 'CLERK', '23-JAN-82', 1300, null, 10);
```

Updating table

```
UPDATE emp SET mgr = 7902 WHERE empno = 7369;

UPDATE emp SET mgr = 7698 WHERE empno = 7499;

UPDATE emp SET mgr = 7698 WHERE empno = 7521;

UPDATE emp SET mgr = 7839 WHERE empno = 7566;

UPDATE emp SET mgr = 7698 WHERE empno = 7654;

UPDATE emp SET mgr = 7839 WHERE empno = 7698;

UPDATE emp SET mgr = 7839 WHERE empno = 7782;

UPDATE emp SET mgr = 7566 WHERE empno = 7788;

UPDATE emp SET mgr = 7698 WHERE empno = 7844;

UPDATE emp SET mgr = 7698 WHERE empno = 7876;

UPDATE emp SET mgr = 7698 WHERE empno = 7876;

UPDATE emp SET mgr = 7698 WHERE empno = 7900;

UPDATE emp SET mgr = 7566 WHERE empno = 7902;

UPDATE emp SET mgr = 7782 WHERE empno = 7934;
```

Queries:

		\$ LOSAL	∯ HISAL				
1	1	700	1200				\$ LOC
2	2	1201	1400	1	10	ACCOUNTING	NEW YORK
3	3	1401	2000	2	20	RESEARCH	DALLAS
4	4	2001	3000	3	30	SALES	CHICAGO
5	5	3001	9999	4	40	OPERATIONS	BOSTON

	⊕ EMPNO	⊕ ENAME	⊕ EJOB	∯ MGR		 SAL	⊕ СОММ	DEPTNO
1	7369	SMITH	CLERK	7902	17-12-80	800	(null)	20
2	7499	ALLEN	SALESMAN	7698	20-02-81	1600	300	30
3	7521	WARD	SALESMAN	7698	22-02-81	1250	500	30
4	7566	JONES	MANAGER	7839	02-04-81	2975	(null)	20
5	7654	MARTIN	SALESMAN	7698	28-09-81	1250	1400	30
6	7698	BLAKE	MANAGER	7839	01-05-81	2850	(null)	30
7	7782	CLARK	MANAGER	7839	09-06-81	2450	(null)	10
8	7788	SCOTT	ANALYST	7566	19-04-87	3000	(null)	20
9	7839	KING	PRESIDENT	(null)	17-11-81	5000	(null)	10
10	7844	TURNER	SALESMAN	7698	08-09-81	1500	0	30
11	7876	ADAMS	CLERK	7788	23-05-87	1100	(null)	20
12	7900	JAMES	CLERK	7698	03-12-81	950	(null)	30
13	7902	FORD	ANALYST	7566	03-12-81	3000	(null)	20
14	7934	MILLER	CLERK	7782	23-01-82	1300	(null)	10

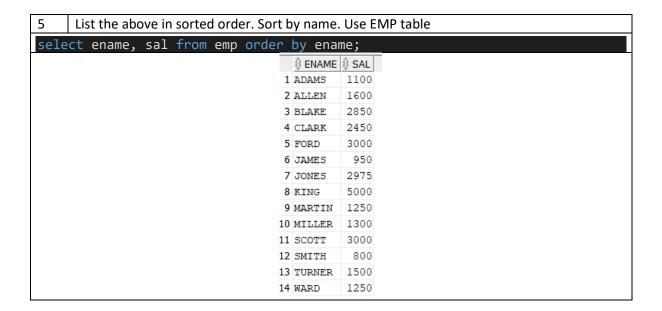
	⊕ (GRADE	∯ LC	OSAL	∯ HISA	L								
	1	1		700	120	0	4	DEPTNO	\$	DNAME		∯ LO	С	
	2	2		1201	140	0	1	10	A	CCOUNT:	ING	NEW	YORK	
	3	3		1401	200	0	2	20	RI	ESEARC	H	DALI	AS	
	4	4	- 2	2001	300	0	3	30	SZ	ALES		CHIC	AGO	
	5	5	;	3001	999	9	4	40	OI	PERATI(ONS	BOST	ON	
	⊕ EMPNO	⊕ ENA	ME	∯ EJO	В	⊕ N	IGR	⊕ HIREDA	TE	⊕ SAL	⊕ C	MMC	∯ DEPT	TNO
1	7369	SMITE	i (CLER	K		7902	17-12-8	0	800	(nı	ıll)		20
2	7499	ALLEN	1	SALE	SMAN		7698	20-02-8	1	1600		300		30
3	7521	WARD		SALE	SMAN		7698	22-02-8	1	1250		500		30
4	7566	JONES	5]	MANA	GER		7839	02-04-8	1	2975	(nı	all)		20
5	7654	MARTI	N.	SALE	SMAN		7698	28-09-8	1	1250		1400		30
6	7698	BLAKE	2 1	MANA	GER		7839	01-05-8	1	2850	(nı	all)		30
7	7782	CLAR	()	MANA	GER		7839	09-06-8	1	2450	(nı	all)		10
8	7788	SCOTI	! !	ANAL:	YST		7566	19-04-8	7	3000	(nı	all)		20
9	7839	KING		PRES:	IDENT	(nı	all)	17-11-8	1	5000	(nı	all)		10
0	7844	TURNE	R.	SALE	SMAN		7698	08-09-8	1	1500		0		30
1	787€	ADAMS	5 (CLER	K		7788	23-05-8	7	1100	(nı	all)		20
2	7900	JAMES	5 (CLER	K		7698	03-12-8	1	950	(nı	all)		30
3	7902	FORD		ANAL	YST		7566	03-12-8	1	3000	(nı	all)		20
4	7934	MILLE	R (CLER	K		7782	23-01-8	2	1300	(nı	all)		10

2	See the structure of the above tables									
desc	salgrad	e;								
desc	emp;									
desc	dept;									
			Name	Null?	Type					
			EMPNO	NOT NULL	NUMBER (38)					
			ENAME		VARCHAR2(20)					
			EJOB		VARCHAR2(20)					
Name	Null?	Type	MGR		NUMBER (38)	Name	Null?	Type		
			HIREDATE		DATE					
GRADE	NOT NULL	NUMBER (38)	SAL		NUMBER (38)	DEPTNO	NOT NULL	NUMBER (38)		
LOSAL	ı	NUMBER (38)	COMM		NUMBER (38)	DNAME		VARCHAR2 (20)		
HISAL	ı	NUMBER (38)	DEPTNO		NUMBER (38)	LOC		VARCHAR2(20)		

```
3 List all information whose salary in between 1000 and 3000. Use EMP table select * from emp where sal between 1000 and 3000;
```

	⊕ EMPNO		∯ EJOB			∜ SAL		DEPTNO
1	7499	ALLEN	SALESMAN	7698	20-02-81	1600	300	30
2	7521	WARD	SALESMAN	7698	22-02-81	1250	500	30
3	7566	JONES	MANAGER	7839	02-04-81	2975	(null)	20
4	7654	MARTIN	SALESMAN	7698	28-09-81	1250	1400	30
5	7698	BLAKE	MANAGER	7839	01-05-81	2850	(null)	30
6	7782	CLARK	MANAGER	7839	09-06-81	2450	(null)	10
7	7788	SCOTT	ANALYST	7566	19-04-87	3000	(null)	20
8	7844	TURNER	SALESMAN	7698	08-09-81	1500	0	30
9	7876	ADAMS	CLERK	7788	23-05-87	1100	(null)	20
10	7902	FORD	ANALYST	7566	03-12-81	3000	(null)	20
11	7934	MILLER	CLERK	7782	23-01-82	1300	(null)	10

List name and salary only of employees. Use EMP table. select ename, sal from emp; 1 SMITH 800 2 ALLEN 1600 3 WARD 1250 2975 4 JONES 5 MARTIN 1250 2850 6 BLAKE 7 CLARK 2450 8 SCOTT 3000 5000 9 KING 10 TURNER 1500 11 ADAMS 1100 12 JAMES 950 13 FORD 3000 14 MILLER 1300



6 List all employee name and dept no who are in dept 10 and 30. Use EMP table select ename, deptno from emp where deptno=10 or deptno=30;

	♦ ENAME	
1	ALLEN	30
2	WARD	30
3	MARTIN	30
4	BLAKE	30
5	CLARK	10
6	KING	10
7	TURNER	30
8	JAMES	30
9	MILLER	10

T List name ,job of all clerks in dept 20 . Use EMP table

select ename, ejob from emp where deptno=20 and ejob='CLERK';

\$\frac{0}{2} \text{ ENAME } \frac{0}{2} \text{ EIOB} \\
2 \text{ ADAMS } \text{ CLERK} \\
2 \text{ ADAMS } \text{ CLERK}

ENAME DOB

List name,job of all clerks in dept 20 and 30. Use EMP table

select ename, ejob from emp where (deptno=20 or deptno=30) and ejob='CLERK';

DEPTH CLERK
2 ADAMS CLERK
3 JAMES CLERK

9 Display all employees whose name starts with 'S'. Use EMP table.

select * from emp where ename like 'S%';

\$\frac{\pmathbb{EMPNO}{\pmathbb{ENAME}} \pmathbb{EDOB}}{\pmathbb{EDOB}} \pmathbb{MGR} \pmathbb{MIREDATE} \pmathbb{SAL} \pmathbb{COMM} \pmathbb{DEPTNO}}{\pmathbb{EDOB}} \frac{1}{7369} \pmathbb{SMITH} \pmathbb{CLERK} \quad 7902 \quad 17-12-80 \quad 800 \quad \text{(null)} \quad 20 \\ 2 \quad 7788 \quad SCOTT \quad ANALYST \quad 7566 \quad 19-04-87 \quad 3000 \quad \text{(null)} \quad 20 \\ \quad 20 \quad \quad

Display all employees whose name has four characters only. Use EMP table

select * from emp where ename like '____';

EMPNO ### ENAME ### EJOB ### MGR ### HIREDATE ### SAL ### COMM ### DEPTNO

1 7521 WARD SALESMAN 7698 22-02-81 1250 500 30

2 7839 KING PRESIDENT (null) 17-11-81 5000 (null) 10

3 7902 FORD ANALYST 7566 03-12-81 3000 (null) 20

Display all employees whose name ends with 'L'. Use EMP table.

select * from emp where ename like '%L';

No output

12 List all employees who have a manager. Use EMP table.

select * from emp where mgr is not null;

	⊕ EMPNO	0 ∯ ENAME	∯ EJOB	∯ MGR		∯ SAL	⊕ СОММ	
1	736	9 SMITH	CLERK	7902	17-12-80	800	(null)	20
2	749	9 ALLEN	SALESMAN	7698	20-02-81	1600	300	30
3	752	1 WARD	SALESMAN	7698	22-02-81	1250	500	30
4	756	6 JONES	MANAGER	7839	02-04-81	2975	(null)	20
5	765	4 MARTIN	SALESMAN	7698	28-09-81	1250	1400	30
6	769	8 BLAKE	MANAGER	7839	01-05-81	2850	(null)	30
7	778	2 CLARK	MANAGER	7839	09-06-81	2450	(null)	10
8	778	8 SCOTT	ANALYST	7566	19-04-87	3000	(null)	20
9	784	4 TURNER	SALESMAN	7698	08-09-81	1500	0	30
10	787	6 ADAMS	CLERK	7788	23-05-87	1100	(null)	20
11	790	0 JAMES	CLERK	7698	03-12-81	950	(null)	30
12	790	2 FORD	ANALYST	7566	03-12-81	3000	(null)	20
13	793	4 MILLER	CLERK	7782	23-01-82	1300	(null)	10

List all employees who do not have a manager. Use EMP table

select * from emp where mgr is null;

\$\frac{1}{2}\$ EMPNO \$\frac{1}{2}\$ ENAME \$\frac{1}{2}\$ EIOB \$\frac{1}{2}\$ MGR \$\frac{1}{2}\$ HIREDATE \$\frac{1}{2}\$ SAL \$\frac{1}{2}\$ COMM \$\frac{1}{2}\$ DEPTNO \$

1 7839 KING PRESIDENT (null) 17-11-81 5000 (null) 10

List name and Total of salary i.e sal+commission. Use EMP table. select ename, sal+ NVL(comm, 0) "TOTAL SALARY" from emp; ⊕ ENAME |⊕ TOTAL SALARY | 1 SMITH 800 2 ALLEN 1900 3 WARD 1750 4 JONES 2975 5 MARTIN 2650 6 BLAKE 2850 7 CLARK 2450 8 SCOTT 3000 9 KING 5000 10 TURNER 1500 11 ADAMS 1100 12 JAMES 950 3000 13 FORD 1300 14 MILLER

List name and Annual Salary i.e sal*12. Use EMP table

select ename, sal*12 "ANNUAL SALARY" from emp;

	♦ ENAME	
1	SMITH	9600
2	ALLEN	19200
3	WARD	15000
4	JONES	35700
5	MARTIN	15000
6	BLAKE	34200
7	CLARK	29400
8	SCOTT	36000
9	KING	60000
10	TURNER	18000
11	ADAMS	13200
12	JAMES	11400
13	FORD	36000
14	MILLER	15600

List all employees who joind in the year 1991. Use EMP table

select * from emp where to_char(hiredate,'YYYYY') LIKE '1991';

No output

Display data as who, what, when and how much display should look like

Eg: SMITH HAS HELD THE POSITION OF CLERK IN DEPARTMENT 20 SINCE '12-OCT-1990'AND EARNS 1500.

select ename||'HAS HELD THE POSITION OF '||ejob||' IN DEPARTMENT '
||deptno||' SINCE '||to_char(hiredate, 'dd-MONyyyy')||' AND EARNS '||sal||'.'
"Employee Details" from emp;

Employee Details

1 SMITHHAS HELD THE POSITION OF CLERK IN DEPARTMENT 20 SINCE 17-DEC-1980 AND EARNS 800.

2 ALLENHAS HELD THE POSITION OF SALESMAN IN DEPARTMENT 30 SINCE 20-FEB-1981 AND EARNS 1600.

3 WARDHAS HELD THE POSITION OF SALESMAN IN DEPARTMENT 30 SINCE 22-FEB-1981 AND EARNS 1250.

4 JONESHAS HELD THE POSITION OF MANAGER IN DEPARTMENT 20 SINCE 02-APR-1981 AND EARNS 2975.

5 MARTINHAS HELD THE POSITION OF SALESMAN IN DEPARTMENT 30 SINCE 28-SEP-1981 AND EARNS 1250.

6 BLAKEHAS HELD THE POSITION OF MANAGER IN DEPARTMENT 30 SINCE 01-MAY-1981 AND EARNS 2850.

7 CLARKHAS HELD THE POSITION OF MANAGER IN DEPARTMENT 10 SINCE 09-JUN-1981 AND EARNS 2450.
8 SCOTTHAS HELD THE POSITION OF ANALYST IN DEPARTMENT 20 SINCE 19-APR-1987 AND EARNS 3000.

9 KINGHAS HELD THE POSITION OF PRESIDENT IN DEPARTMENT 10 SINCE 17-NOV-1981 AND EARNS 5000.

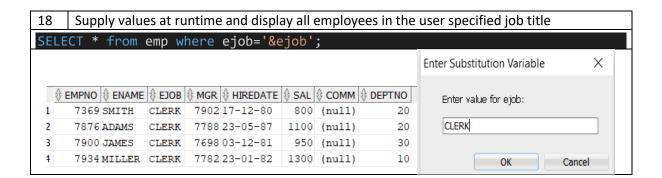
10 TURNERHAS HELD THE POSITION OF SALESMAN IN DEPARTMENT 30 SINCE 08-SEP-1981 AND EARNS 1500.

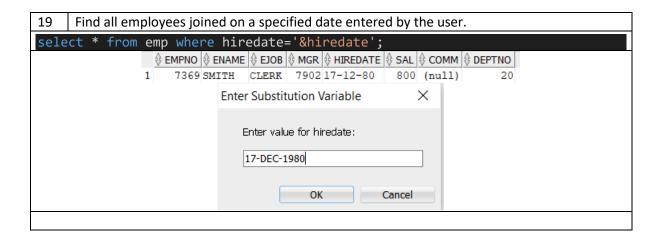
11 ADAMSHAS HELD THE POSITION OF CLERK IN DEPARTMENT 20 SINCE 23-MAY-1987 AND EARNS 1100.

12 JAMESHAS HELD THE POSITION OF CLERK IN DEPARTMENT 30 SINCE 03-DEC-1981 AND EARNS 950.

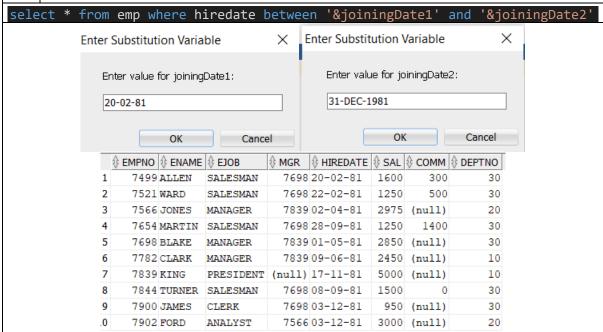
13 FORDHAS HELD THE POSITION OF ANALYST IN DEPARTMENT 20 SINCE 03-DEC-1981 AND EARNS 3000.

14 MILLERHAS HELD THE POSITION OF CLERK IN DEPARTMENT 10 SINCE 23-JAN-1982 AND EARNS 1300.





Generate a query that accepts two dates i.e. the joining dates of EMP(range) at runtime and gives the output. Rerun it and then change the substitution variables with && and return it twice.



Define one variable i.e the REM= 'sal*12+NVL(comm.,0) Use the variable to find all employees who earn \$10000 a year or more

```
declare REM number;
begin
    select (SAL*12)+(NVL(COMM,0))
    into REM from EMP where REM>10000;
end;
```

```
1 ALLEN 19500
2 WARD 15500
3 JONES 35700
4 MARTIN 16400
5 BLAKE 34200
6 CLARK 29400
7 SCOTT 36000
8 KING
        60000
9 TURNER 18000
10 ADAMS 13200
11 JAMES 11400
12 FORD
        36000
13 MILLER 15600
```

```
22
     . Create a EMP10 table which has the following fields
     Empno
               NUMBER(2)
     Ename
               VARCHAR2(25)
     Date join DATE
     Deptno
               NUMBER(2)
     Salary
               NUMBER(10,2)
     Job
               VARCHAR2(10)
     Comm
              NUMBER(7,2)
create table emp10
empno number(2),
ename varchar2(25),
date_join date,
deptno number(2),
salary number(10,2),
job varchar2(10),
comm number(7,2)
                              Table EMP10 created.
```

```
23
     Create another table with the following constraints
     Empno
               NUMBER(2)
     Ename
               VARCHAR2(25)
     Date_join DATE
     Deptno
                NUMBER(2)
     Salary
              NUMBER(10,2)
     Job
              VARCHAR2(10)
     Comm
              NUMBER(7,2)
create table emp10
empno number(2),
ename varchar2(25),
date_join date,
deptno number(2),
salary number(10,2),
```

```
job varchar2(10),
comm number(7,2)
);
Table EMP10 created.
```

Give different field names to the table. Create a table emp20 with only name, sal and job from EMP table with employees of department 20

```
create table emp20
ename varchar2(25),
salary number(10,2),
job varchar2(10)
);
insert into emp20 select ename, sal, ejob from emp where deptno=20;
                           1 SMITH
                                      800 CLERK
                           2 JONES
                                     2975 MANAGER
                           3 SCOTT
                                     3000 ANALYST
                           4 ADAMS
                                     1100 CLERK
                           5 FORD
                                     3000 ANALYST
```