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## Lab 4

```
create table emp(  
empno number(4) not null  
        CONSTRAINT emp_empno_PK PRIMARY KEY,  
fname varchar2(30) not null,  
lname varchar2(30) not null,  
address varchar2(30) not null,  
sex char(1) not null,  
salary number(15) not null,  
pos varchar2(30) not null,  
deptno number(2) not null  
);
```

Table EMP created.

```
describe emp;
```

Name	Null?	Type
-----	-----	-----
EMPNO	NOT NULL	NUMBER(4)
FNAME	NOT NULL	VARCHAR2(30)
LNAME	NOT NULL	VARCHAR2(30)
ADDRESS	NOT NULL	VARCHAR2(30)
SEX	NOT NULL	CHAR(1)
SALARY	NOT NULL	NUMBER(15)
POS	NOT NULL	VARCHAR2(30)
DEPTNO	NOT NULL	NUMBER(2)

```
insert into emp(empno, fname, lname, address, sex, salary, pos, deptno) Values  
    (1007, 'Diana', 'Lorentz', '638 Voss, Bellaire, TX', 'F', 24000, 'Clerk', 20);  
insert into emp(empno, fname, lname, address, sex, salary, pos, deptno) Values  
    (2002, 'Pat', 'Fay', '3321 Castle, Spring, TX', 'F', 15000, 'Sales Representative', 80);  
insert into emp(empno, fname, lname, address, sex, salary, pos, deptno) Values  
    (1760, 'Johnathan', 'Taylor', '561 Rice, Houston, TX', 'M', 60000, 'Manager', 20);  
insert into emp(empno, fname, lname, address, sex, salary, pos, deptno) Values  
    (1740, 'Ellen', 'Abel', '890 Stone, Houston, TX', 'F', 65000, 'Manager', 60);  
insert into emp(empno, fname, lname, address, sex, salary, pos, deptno) Values  
    (2060, 'William', 'Gietz', '450 Berry, Bellaire, TX', 'M', 65000, 'Manager', 80);  
insert into emp(empno, fname, lname, address, sex, salary, pos, deptno) Values  
    (2000, 'Jennifer', 'Whalen', '980 Fire Oak, Humble, TX', 'F', 28000, 'Clerk', 60);  
insert into emp(empno, fname, lname, address, sex, salary, pos, deptno) Values  
    (1444, 'Peter', 'Vargas', '975 Dallas, Houston, TX', 'M', 20000, 'Sales Representative', 80);
```

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

select \* from emp;

	EMPNO	FNAME	LNAME	ADDRESS	S	SALARY	POS
	DEPTNO						
20	1007	Diana	Lorentz	638 Voss, Bellaire, TX	F	24000	Clerk
80	2002	Pat	Fay	3321 Castle, Spring, TX	F	15000	Sales Representative
20	1760	Johnathan	Taylor	561 Rice, Houston, TX	M	60000	Manager
60	1740	Ellen	Abel	890 Stone, Houston, TX	F	65000	Manager
80	2060	William	Gietz	450 Berry, Bellaire, TX	M	65000	Manager
60	2000	Jennifer	Whalen	980 Fire Oak, Humble, TX	F	28000	Clerk
80	1444	Peter	Vargas	975 Dallas, Houston, TX	M	20000	Sales Representative

7 rows selected.

EMPNO	FNAME	LNAME	ADDRESS	S	SALARY	POS
DEPTNO						
20	1007	Diana	Lorentz	638 Voss, Bellaire, TX	F	24000 Clerk
80	2002	Pat	Fay	3321 Castle, Spring, TX	F	15000 Sales Representative
20	1760	Johnathan	Taylor	561 Rice, Houston, TX	M	60000 Manager
60	1740	Ellen	Abel	890 Stone, Houston, TX	F	65000 Manager
80	2060	William	Gietz	450 Berry, Bellaire, TX	M	65000 Manager
60	2000	Jennifer	Whalen	980 Fire Oak, Humble, TX	F	28000 Clerk
80	1444	Peter	Vargas	975 Dallas, Houston, TX	M	20000 Sales Representative

```

create table dept(
deptnumber number(2) not null
        CONSTRAINT dept_deptnumber_UK PRIMARY KEY,
deptname varchar2(30) not null,
mgr number(5) not null
);

```

Table DEPT created.

```

describe dept;

```

Name	Null?	Type
DEPTNUMBER	NOT NULL	NUMBER(2)
DEPTNAME	NOT NULL	VARCHAR2(30)
MGR	NOT NULL	NUMBER(5)

```

insert into dept(deptnumber, deptname, mgr) values
(20, 'Marketing', 1760);
insert into dept(deptnumber, deptname, mgr) values
(60, 'IT', 1740);
insert into dept(deptnumber, deptname, mgr) values
(80, 'Sales', 2060);

```

1 row inserted.

1 row inserted.

1 row inserted.

```

select * from dept;

```

DEPTNUMBER	DEPTNAME	MGR
-----	-----	-----

20 Marketing	1760
60 IT	1740
80 Sales	2060

```
create table proj(
projnumber number(2) not null
    CONSTRAINT proj_projnumber_PK PRIMARY KEY,
projname varchar2(30) not null,
deptnum number(2) not null
);
```

Table PROJ created.

```
describe proj;
```

Name	Null?	Type
PROJNUMBER	NOT NULL	NUMBER(2)
PROJNAME	NOT NULL	VARCHAR2(30)
DEPTNUM	NOT NULL	NUMBER(2)

```
insert into proj(projnumber, projname, deptnum) values
(10, 'Product X', 20);
insert into proj(projnumber, projname, deptnum) values
(20, 'Product Y', 20);
insert into proj(projnumber, projname, deptnum) values
(30, 'Computerization', 60);
insert into proj(projnumber, projname, deptnum) values
(40, 'Product Z', 80);
insert into proj(projnumber, projname, deptnum) values
(50, 'Mobile Apps', 60);
```

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

```
select * from proj;
```

PROJNUMBER	PROJNAME	DEPTNUM
10	Product X	20
20	Product Y	20
30	Computerization	60
40	Product Z	80
50	Mobile Apps	60

```
create table emp_proj(  
  empno number(4) not null,  
  projno number(2) not null,  
  hoursworked number(3,1) not null,  
  CONSTRAINT emp_proj_empno_projno_PK PRIMARY KEY (empno, projno)  
);
```

Table EMP\_PROJ created.

```
describe emp_proj;
```

Name	Null?	Type
EMPNO	NOT NULL	NUMBER(4)
PROJNO	NOT NULL	NUMBER(2)
HOURSWORKED	NOT NULL	NUMBER(3,1)

```
insert into emp_proj(empno, projno, hoursworked) values
```

```
(1000, 30, 32.5);
insert into emp_proj(empno, projno, hoursworked) values
(1000, 50, 7.5);
insert into emp_proj(empno, projno, hoursworked) values
(2002, 10, 40.0);
insert into emp_proj(empno, projno, hoursworked) values
(1444, 20, 20.0);
insert into emp_proj(empno, projno, hoursworked) values
(1760, 10, 5.0);
insert into emp_proj(empno, projno, hoursworked) values
(1760, 20, 10.0);
insert into emp_proj(empno, projno, hoursworked) values
(1740, 50, 15.0);
insert into emp_proj(empno, projno, hoursworked) values
(2060, 40, 12.0);
```

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

1 row inserted.

```
select * from emp_proj;
```

EMPNO	PROJNO	HOURSWORKED
1000	30	32.5

1000	50	7.5
2002	10	40
1444	20	20
1760	10	5
1760	20	10
1740	50	15
2060	40	12

8 rows selected.

```

alter table emp
  add constraint emp_deptno_fk foreign key (deptno) references dept(deptnumber);
alter table proj
  add constraint proj_deptnum_fk foreign key (deptnum) references dept(deptnumber);
alter table dept
  add constraint dept_mgr_fk foreign key (mgr) references emp(empno);
alter table emp_proj
  add constraint emp_proj_empno_fk foreign key (empno) references emp(empno);
alter table emp_proj
  add constraint emp_proj_projno_fk foreign key (projno) references proj(projnumber);

```

Table EMP altered.

Table PROJ altered.

Table DEPT altered.

Error starting at line : 107 in command -

```

alter table emp_proj
  add constraint emp_proj_empno_fk foreign key (empno) references emp(empno)

```

Error report -

ORA-02298: cannot validate (JMEDINA.EMP\_PROJ\_EMPNO\_FK) - parent keys not found  
 02298. 00000 - "cannot validate (%s.%s) - parent keys not found"

\*Cause: an alter table validating constraint failed because the table has  
 child records.

\*Action: Obvious

Table EMP\_PROJ altered.

```
insert into emp_proj values ('&empno', '&projno', '&hoursworked');
```

```
old:insert into emp_proj values ('&empno', '&projno', '&hoursworked')
1 row inserted.
```

```
select * from emp_proj;
```

EMPNO	PROJNO	HOURSWORKED
1000	30	32.5
1000	50	7.5
2002	10	40
1444	20	20
1760	10	5
1760	20	10
1740	50	15
2060	40	12
1740	30	35.5

```
9 rows selected.
```

```
alter table emp
  add email VARCHAR2(50);
```

```
Table EMP altered.
```

```
insert into emp values (1172, 'joe', 'Calvert', '672 White Pine, Austin, TX', 'X', 10000, 10);
```

```
did not work because we did not declare which values we will be inserting, therefore it assumes we will be inserting values for all columns.
```

```
Error starting at line : 119 in command -
insert into emp values (1172, 'joe', 'Calvert', '672 White Pine, Austin, TX', 'X', 10000, 10)
Error at Command Line : 119 Column : 13
Error report -
SQL Error: ORA-00947: not enough values
00947. 00000 - "not enough values"
*Cause:
*Action:
```

```
insert into emp(empno, fname, lname, address, sex, salary, pos, deptno) values
(1172, 'joe', 'Calvert', '672 White Pine, Austin, TX', 'X', 10000, 'UNKNOWN', 20);
```



1 row inserted.

select \* from emp;

EMPNO	FNAME	LNAME	ADDRESS	S	SALARY	POS
DEPTNO	EMAIL					
20	1007 Diana	Lorentz	638 Voss, Bellaire, TX	F	24000	Clerk
80	2002 Pat	Fay	3321 Castle, Spring, TX	F	15000	Sales Representative
20	1760 Johnathan	Taylor	561 Rice, Houston, TX	M	60000	Manager
60	1740 Ellen	Abel	890 Stone, Houston, TX	F	65000	Manager
80	2060 William	Gietz	450 Berry, Bellaire, TX	M	65000	Manager
60	2000 Jennifer	Whalen	980 Fire Oak, Humble, TX	F	28000	Clerk
80	1444 Peter	Vargas	975 Dallas, Houston, TX	M	20000	Sales Representative
20	1172 joe	Calvert	672 White Pine, Austin, TX	X	10000	UNKNOWN

8 rows selected.