

18BCB0142 David B.A.De vieira Velho

Exercise 1

```
SQL> create table employee_18BCB0142(FIRST_NAME varchar2(15), MID_NAME char(2),  
LAST_NAME varchar2(15));
```

Table created.

```
SQL> alter table employee_18BCB0142 add SSN_NUMBER char(9)  
2 ;
```

Table altered.

```
SQL> alter table employee_18BCB0142 add BIRTHDAY DATE;
```

Table altered.

```
SQL> alter table employee_18BCB0142 add ADDRESS varchar2(50);
```

Table altered.

```
SQL> alter table employee_18BCB0142 add SEX char(1);
```

Table altered.

```
SQL> alter table employee_18BCB0142 add SALARY number(7);
```

Table altered.

```
SQL> alter table employee_18BCB0142 add SUPERVISOR_SSN char(9);
```

Table altered.

```
SQL> alter table employee_18BCB0142 add DEPARTMENT_NUMBER number(5);
```

Table altered.

```
SQL> █
```

```
SQL>
SQL>
SQL> create table department_18BCB0142(DEPARTMENT_NAME varchar2(15),
  2 DEPARTMENT_NUMBER number(5),
  3 MANAGER_SSN char(9),
  4 MANAGER_START_DATE DATE);
```

Table created.

```
SQL> create table project_18BCB0142(PROJECT_NAME varchar2(15),
  2 PROJECT_NUMBER number(5),
  3 PROJECT_LOCATION varchar2(15),
  4 DEPARTMENT_NUMBER number(5));
```

Table created.

```
SQL> desc project_18BCB0142
```

Name	Null?	Type
PROJECT_NAME		VARCHAR2(15)
PROJECT_NUMBER		NUMBER(5)
PROJECT_LOCATION		VARCHAR2(15)
DEPARTMENT_NUMBER		NUMBER(5)

```
SQL> desc department_18BCB0142
```

Name	Null?	Type
DEPARTMENT_NAME		VARCHAR2(15)
DEPARTMENT_NUMBER		NUMBER(5)
MANAGER_SSN		CHAR(9)
MANAGER_START_DATE		DATE

```
SQL> █
```



```

SQL> insert into employee_18BCB0142 values('&FIRST_NAME', '&MID_NAME', '&LAST_NAME', '&SSN_NUMBER', '&BIRTHDAY', '&ADDRESS', '&SEX', '&SALARY', '&SUPERVISOR_SSN', '&DEPARTMENT_NUMBER');
Enter value for first_name: Joyce
Enter value for mid_name:
Enter value for last_name: PAN
Enter value for ssn_number: 124
Enter value for birthday: 07-FEB-1973
Enter value for address: Vellore
Enter value for sex: F
Enter value for salary: 70000
Enter value for supervisor_ssn: ''
Enter value for department_number: 1
old 1: insert into employee_18BCB0142 values('&FIRST_NAME', '&MID_NAME', '&LAST_NAME', '&SSN_NUMBER', '&BIRTHDAY', '&ADDRESS', '&SEX', '&SALARY', '&SUPERVISOR_SSN', '&DEPARTMENT_NUMBER')
new 1: insert into employee_18BCB0142 values('Joyce', ' ', 'PAN', '124', '07-FEB-1973', 'Vellore', 'F', '70000', '', '1')

```

1 row created.

```

SQL> insert into employee_18BCB0142 values('&FIRST_NAME', '&MID_NAME', '&LAST_NAME', '&SSN_NUMBER', '&BIRTHDAY', '&ADDRESS', '&SEX', '&SALARY', '&SUPERVISOR_SSN', '&DEPARTMENT_NUMBER');
Enter value for first_name: Franklin
Enter value for mid_name: T
Enter value for last_name: Wog
Enter value for ssn_number: 125
Enter value for birthday: 08-DEC-1972
Enter value for address: Delhi
Enter value for sex: M
Enter value for salary: 40000
Enter value for supervisor_ssn: 123
Enter value for department_number: 2
old 1: insert into employee_18BCB0142 values('&FIRST_NAME', '&MID_NAME', '&LAST_NAME', '&SSN_NUMBER', '&BIRTHDAY', '&ADDRESS', '&SEX', '&SALARY', '&SUPERVISOR_SSN', '&DEPARTMENT_NUMBER')
new 1: insert into employee_18BCB0142 values('Franklin', 'T', 'Wog', '125', '08-DEC-1972', 'Delhi', 'M', '40000', '123', '2')

```

1 row created.

1 row created.

```
SQL> insert into employee_18BCB0142 values('&FIRST_NAME', '&MID_NAME', '&LAST_NAME', '&SSN_NUMBER', '&BIRTHDAY', '&ADDRESS', '&SEX', '&SALARY', '&SUPERVISOR_SSN', '&DEPARTMENT_NUMBER');
```

Enter value for first_name: Jenifer

Enter value for mid_name: S

Enter value for last_name: Wallace

Enter value for ssn_number: 564

Enter value for birthday: 20-JUN-1987

Enter value for address: Chennai

Enter value for sex: F

Enter value for salary: 43000

Enter value for supervisor_ssn: 123

Enter value for department_number: 2

```
old 1: insert into employee_18BCB0142 values('&FIRST_NAME', '&MID_NAME', '&LAST_NAME', '&SSN_NUMBER', '&BIRTHDAY', '&ADDRESS', '&SEX', '&SALARY', '&SUPERVISOR_SSN', '&DEPARTMENT_NUMBER')
```

```
new 1: insert into employee_18BCB0142 values('Jenifer', 'S', 'Wallace', '564', '20-JUN-1987', 'Chennai', 'F', '43000', '123', '2')
```

1 row created.

```
SQL> insert into employee_18BCB0142 values('&FIRST_NAME', '&MID_NAME', '&LAST_NAME', '&SSN_NUMBER', '&BIRTHDAY', '&ADDRESS', '&SEX', '&SALARY', '&SUPERVISOR_SSN', '&DEPARTMENT_NUMBER');
```

Enter value for first_name: John

Enter value for mid_name: B

Enter value for last_name: Smith

Enter value for ssn_number: 678

Enter value for birthday: 09-JAN-1987

Enter value for address: Madurai

Enter value for sex: M

Enter value for salary: 30000

Enter value for supervisor_ssn: 124

Enter value for department_number: 1

```
old 1: insert into employee_18BCB0142 values('&FIRST_NAME', '&MID_NAME', '&LAST_NAME', '&SSN_NUMBER', '&BIRTHDAY', '&ADDRESS', '&SEX', '&SALARY', '&SUPERVISOR_SSN', '&DEPARTMENT_NUMBER')
```

```
new 1: insert into employee_18BCB0142 values('John', 'B', 'Smith', '678', '09-JAN-1987', 'Madurai', 'M', '30000', '124', '1')
```


1 row created.

```
SQL> insert into employee_18BCB0142 values('&FIRST_NAME', '&MID_NAME', '&LAST_NAME', '&SSN_NUMBER', '&BIRTHDAY', '&ADDRESS', '&SEX', '&SALARY', '&SUPERVISOR_SSN', '&DEPARTMENT_NUMBER');
```

Enter value for first_name: Ramesh

Enter value for mid_name: K

Enter value for last_name: Narayan

Enter value for ssn_number: 234

Enter value for birthday: 15-SEP-1985

Enter value for address: Bangalore

Enter value for sex: M

Enter value for salary: 38000

Enter value for supervisor_ssn: 124

Enter value for department_number: 3

```
old 1: insert into employee_18BCB0142 values('&FIRST_NAME', '&MID_NAME', '&LAST_NAME', '&SSN_NUMBER', '&BIRTHDAY', '&ADDRESS', '&SEX', '&SALARY', '&SUPERVISOR_SSN', '&DEPARTMENT_NUMBER')
```

```
new 1: insert into employee_18BCB0142 values('Ramesh', 'K', 'Narayan', '234', '15-SEP-1985', 'Bangalore', 'M', '38000', '124', '3')
```

1 row created.

```
SQL> select * from employee_18BCB0142
2 ;
```

FIRST_NAME	MI	LAST_NAME	SSN_NUMBE	BIRTHDAY	ADDRESS	S	SALARY	SUPERVISOR_SSN	DEPARTMENT_NUMBER
Doug	E	Gilbert	123	09-JUN-68	Chennai	M	80000		1
Joyce		PAN	124	07-FEB-73	Vellore	F	70000		1

```
SQL> desc department_18BCB0142
```

Name	Null?	Type
DEPARTMENT_NAME		VARCHAR2(15)
DEPARTMENT_NUMBER		NUMBER(5)
MANAGER_SSN		CHAR(9)
MANAGER_START_DATE		DATE

```
SQL> insert into department_18BCB0142 values('&DEPARTMENT_NAME', '&DEPARTMENT_NUMBER', '&MANAGER_SSN', '&MANAGER_START_DATE');
```

```
Enter value for department_name: Administration
```

```
Enter value for department_number: 2
```

```
Enter value for manager_ssn: 564
```

```
Enter value for manager_start_date: 03-JAN-2012
```

```
old 1: insert into department_18BCB0142 values('&DEPARTMENT_NAME', '&DEPARTMENT_NUMBER', '&MANAGER_SSN', '&MANAGER_START_DATE')
```

```
new 1: insert into department_18BCB0142 values('Administration', '2', '564', '03-JAN-2012')
```

```
1 row created.
```

```
SQL> insert into department_18BCB0142 values('&DEPARTMENT_NAME', '&DEPARTMENT_NUMBER', '&MANAGER_SSN', '&MANAGER_START_DATE');
```

```
Enter value for department_name: Headquarter
```

```
Enter value for department_number: 1
```

```
Enter value for manager_ssn: 678
```

```
Enter value for manager_start_date: 16-DEC-2014
```

```
old 1: insert into department_18BCB0142 values('&DEPARTMENT_NAME', '&DEPARTMENT_NUMBER', '&MANAGER_SSN', '&MANAGER_START_DATE')
```

```
new 1: insert into department_18BCB0142 values('Headquarter', '1', '678', '16-DEC-2014')
```

```
1 row created.
```

```
SQL> █
```

1 row created.

```
SQL> insert into department_18BCB0142 values('&DEPARTMENT_NAME', '&DEPARTMENT_NUMBER', '&MANAGER_SSN', '&MANAGER_START_DATE');
```

Enter value for department_name: Finance

Enter value for department_number: 3

Enter value for manager_ssn: 234

Enter value for manager_start_date: 18-MAY-2013

```
old 1: insert into department_18BCB0142 values('&DEPARTMENT_NAME', '&DEPARTMENT_NUMBER', '&MANAGER_SSN', '&MANAGER_START_DATE')
```

```
new 1: insert into department_18BCB0142 values('Finance', '3', '234', '18-MAY-2013')
```

1 row created.

```
SQL> insert into department_18BCB0142 values('&DEPARTMENT_NAME', '&DEPARTMENT_NUMBER', '&MANAGER_SSN', '&MANAGER_START_DATE');
```

Enter value for department_name: IT

Enter value for department_number: 4

Enter value for manager_ssn: 123

Enter value for manager_start_date: 12-JUN-2015

```
old 1: insert into department_18BCB0142 values('&DEPARTMENT_NAME', '&DEPARTMENT_NUMBER', '&MANAGER_SSN', '&MANAGER_START_DATE')
```

```
new 1: insert into department_18BCB0142 values('IT', '4', '123', '12-JUN-2015')
```

1 row created.

```
SQL> select * from department_18BCB0142
```

2 ;

DEPARTMENT_NAME	DEPARTMENT_NUMBER	MANAGER_S	MANAGER_S
Administration	2	564	03-JAN-12
Headquarter	1	678	16-DEC-14
Finance	3	234	18-MAY-13
IT	4	123	12-JUN-15

```
SQL> █
```



```
SQL> desc project_18BCB0142
```

Name	Null?	Type
PROJECT_NAME		VARCHAR2(15)
PROJECT_NUMBER		NUMBER(5)
PROJECT_LOCATION		VARCHAR2(15)
DEPARTMENT_NUMBER		NUMBER(5)

```
SQL> insert into project_18BCB0142 values('&PROJECT_NAME', '&PROJECT_NUMBER', '&PROJECT_LOCATION', '&DEPARTMENT_NUMBER');
```

```
Enter value for project_name: Projecta
```

```
Enter value for project_number: 3388
```

```
Enter value for project_location: Delhi
```

```
Enter value for department_number: 1
```

```
old 1: insert into project_18BCB0142 values('&PROJECT_NAME', '&PROJECT_NUMBER', '&PROJECT_LOCATION', '&DEPARTMENT_NUMBER')
```

```
new 1: insert into project_18BCB0142 values('Projecta', '3388', 'Delhi', '1')
```

```
1 row created.
```

```
SQL>
```

```

SQL> insert into project_18BCB0142 values('&PROJECT_NAME', '&PROJECT_NUMBER', '&
PROJECT_LOCATION', '&DEPARTMENT_NUMBER')
  2 ;
Enter value for project_name: ProjectB
Enter value for project_number: 1945
Enter value for project_location: Hyderabad
Enter value for department_number: 1
old 1: insert into project_18BCB0142 values('&PROJECT_NAME', '&PROJECT_NUMBER'
, '&PROJECT_LOCATION', '&DEPARTMENT_NUMBER')
new 1: insert into project_18BCB0142 values('ProjectB', '1945', 'Hyderabad', '
1')

1 row created.

SQL> insert into project_18BCB0142 values('&PROJECT_NAME', '&PROJECT_NUMBER', '&
PROJECT_LOCATION', '&DEPARTMENT_NUMBER')
  2 ;
Enter value for project_name: ProjectC
Enter value for project_number: 6688
Enter value for project_location: Chennai
Enter value for department_number: 2
old 1: insert into project_18BCB0142 values('&PROJECT_NAME', '&PROJECT_NUMBER'
, '&PROJECT_LOCATION', '&DEPARTMENT_NUMBER')
new 1: insert into project_18BCB0142 values('ProjectC', '6688', 'Chennai', '2'
)

1 row created.

SQL> insert into project_18BCB0142 values('&PROJECT_NAME', '&PROJECT_NUMBER', '&
PROJECT_LOCATION', '&DEPARTMENT_NUMBER')
  2 ;
Enter value for project_name: Project D
Enter value for project_number: 2423
Enter value for project_location: Chennai
Enter value for department_number: 2
old 1: insert into project_18BCB0142 values('&PROJECT_NAME', '&PROJECT_NUMBER'
, '&PROJECT_LOCATION', '&DEPARTMENT_NUMBER')

```

Q2.

```
SQL>
SQL> select * from employee_18BCB0142
2 ;
```

FIRST_NAME	MI	LAST_NAME	SSN_NUMBE	BIRTHDAY	ADDRESS	S	SALARY	SUPERVISO
Doug	E	Gilbert	123	09-JUN-68			80000	'
Chennai	1			M				
Joyce		PAN	124	07-FEB-73			70000	'
Vellore	1			F				

FIRST_NAME	MI	LAST_NAME	SSN_NUMBE	BIRTHDAY	ADDRESS	S	SALARY	SUPERVISO
Frankin	T	Wog	125	08-DEC-72			40000	123
Delhi	2			M				
Jenifer	S	Wallace	564	20-JUN-87			43000	123
Chennai				F				

FIRST_NAME	MI	LAST_NAME	SSN_NUMBE	BIRTHDAY	ADDRESS	S	SALARY	SUPERVISO
	2							

Q3.

```
SQL> select FIRST_NAME, SUPERVISOR_SSN from employee_18BCB0142
2 ;
```

FIRST_NAME	SUPERVISOR_SSN
Doug	1
Joyce	1
Franklin	123
Jennifer	123
John	124
Ramesh	124

6 rows selected.

```
SQL> █
```

Q4.

```
SQL> select FIRST_NAME from employee_18BCB0142 where BIRTHDAY='20-JUN-1980';
```

FIRST_NAME
Jennifer

Q5.

```
SQL> select DISTINCT SALARY from emp
2 ;
```

SALARY
70000
80000
38000
30000
40000
43000

6 rows selected.

Q6.

```
SQL> SELECT MANAGER_SSN, MANAGER_STARTDATE from dept where DEPARTMENT_NAME='Finance';
```

MANAGER_SSN	MANAGER_STARTDATE
1234	18-MAY-13

Q7.

```
SQL> update emp set DEPARTMENT_NUMBER='5' where FIRST_NAME='Joyce';  
1 row updated.
```

Q8.

```
SQL> alter table dept add DEPARTMENT_PHONE_NUMBER number(10);  
Table altered.
```

```
SQL> update dept set DEPARTMENT_PHONE_NUMBER=9922395178 where DEPARTMENT_NAME='Administration';  
1 row updated.  
SQL> update dept set DEPARTMENT_PHONE_NUMBER=9637201320 where DEPARTMENT_NAME='Headquarter';  
1 row updated.  
SQL> update dept set DEPARTMENT_PHONE_NUMBER=1234567890 where DEPARTMENT_NAME='Finance';  
1 row updated.  
SQL> update dept set DEPARTMENT_PHONE_NUMBER=789451230 where DEPARTMENT_NAME='IT';  
1 row updated.
```

Q9.

```
SQL>  
SQL> alter table dept modify DEPARTMENT_PHONE_NUMBER number(11);  
Table altered.
```

Q10.

```
SQL> alter table dept rename column DEPARTMENT_PHONE_NUMBER to PHONE_NUMBER;  
Table altered.
```

Q11.

```
SQL> rename dept to DEPARTMENT;  
Table renamed.
```

Q12.

```
SQL> alter table DEPARTMENT drop column PHONE_NUMBER;  
Table dropped.
```

Q13.

```
SQL> create table copydept as select * from DEPARTMENT;  
Table created.
```

Q14.

```
SQL> truncate table copydept;  
Table truncated.
```

Q15.

```
SQL> drop table copydept;  
Table dropped.
```


Exercise 2

Q1.

```
SQL> desc emp;
Name                               Null?      Type
-----
FIRST_NAME                         VARCHAR2(15)
MID_NAME                           CHAR(2)
LAST_NAME                         VARCHAR2(15)
SSN_NUMBER                         CHAR(9)
BIRTHDAY                           DATE
ADDRESS                           VARCHAR2(50)
SEX                                CHAR(1)
SALARY                             NUMBER(7)
SUPERVISOR_SSN                     CHAR(9)
DEPARTMENT_NUMBER                  NUMBER(5)

SQL> desc DEPARTMENT;
Name                               Null?      Type
-----
DEPARTMENT_NAME                     VARCHAR2(15)
DEPARTMENT_NUMBER                   NUMBER(5)
MANAGER_SSN                         CHAR(9)
MANAGESTARTDATE                     DATE
PHONE_NUMBER                       NUMBER(11)

SQL> desc project;
Name                               Null?      Type
-----
PROJECT_NAME                        VARCHAR2(15)
PROJECT_NUMBER                      NUMBER(5)
PROJECT_LOCATION                    VARCHAR2(15)
DEPARTMENT_NUMBER                  NUMBER(5)
```

Q2.

```

SQL> alter table emp modify(FIRST_NAME varchar2(15) CONSTRAINT nn_1 NOT NULL);
Table altered.

SQL> alter table emp modify(LAST_NAME CONSTRAINT nn_2 NOT NULL);
Table altered.

SQL> alter table emp add constraint pk_1 PRIMARY KEY(SSN_NUMBER);
Table altered.

SQL> alter table emp add constraint in_1 check(SEX IN ('f','F','m','M'));
Table altered.

SQL> alter table emp modify SALARY default 800;
Table altered.

SQL> alter table dept add constraint prk_1 PRIMARY KEY(DEPARTMENT_NUMBER);
alter table dept add constraint prk_1 PRIMARY KEY(DEPARTMENT_NUMBER)
*
ERROR at line 1:
ORA-00942: table or view does not exist

SQL> alter table DEPARTMENT add constraint prk_1 PRIMARY KEY(DEPARTMENT_NUMBER);
Table altered.

```

```

SQL> alter table DEPARTMENT modify(DEPARTMENT_NAME CONSTRAINT non_1 NOT NULL);
Table altered.

```

```

SQL> alter table DEPARTMENT modify(DEPARTMENT_NAME CONSTRAINT non_1 NOT NULL);
Table altered.

SQL> alter table DEPARTMENT add constraint for_1 foreign key(MANAGER_SSN) references EMP(SSN_NUMBER) on
delete set NULL;
Table altered.

SQL> alter table project modify (PROJECT_NAME constraint notn_1 NOT NULL);
Table altered.

SQL> alter table project add constraint prik_1 PRIMARY KEY(PROJECT_NUMBER);
Table altered.

SQL> alter table project add constraint fork_1 FOREIGN KEY(DEPARTMENT_NUMBER) REFERENCES DEPARTMENT(DEPA
RTMENT_NUMBER) on DELETE SET NULL;
Table altered.

```

CONSTRAINT VIOLATIONS:

Q4 and Q5.

```
SQL> create table copyemp as select * from emp;

Table created.

SQL> alter table emp add DOOR_NO number(3);

Table altered.

SQL> alter table emp add STREET varchar2(10);
■
Table altered.

SQL> alter table emp add STREET varchar2(10);
alter table emp add STREET varchar2(10)
      *
ERROR at line 1:
ORA-01430: column being added already exists in table

SQL> alter table emp add CITY varchar2(10);

Table altered.

SQL> alter table emp add CONTINENT varchar2(10);

Table altered.

SQL> alter table emp modify (SALARY REAL);
■
Table altered.
```