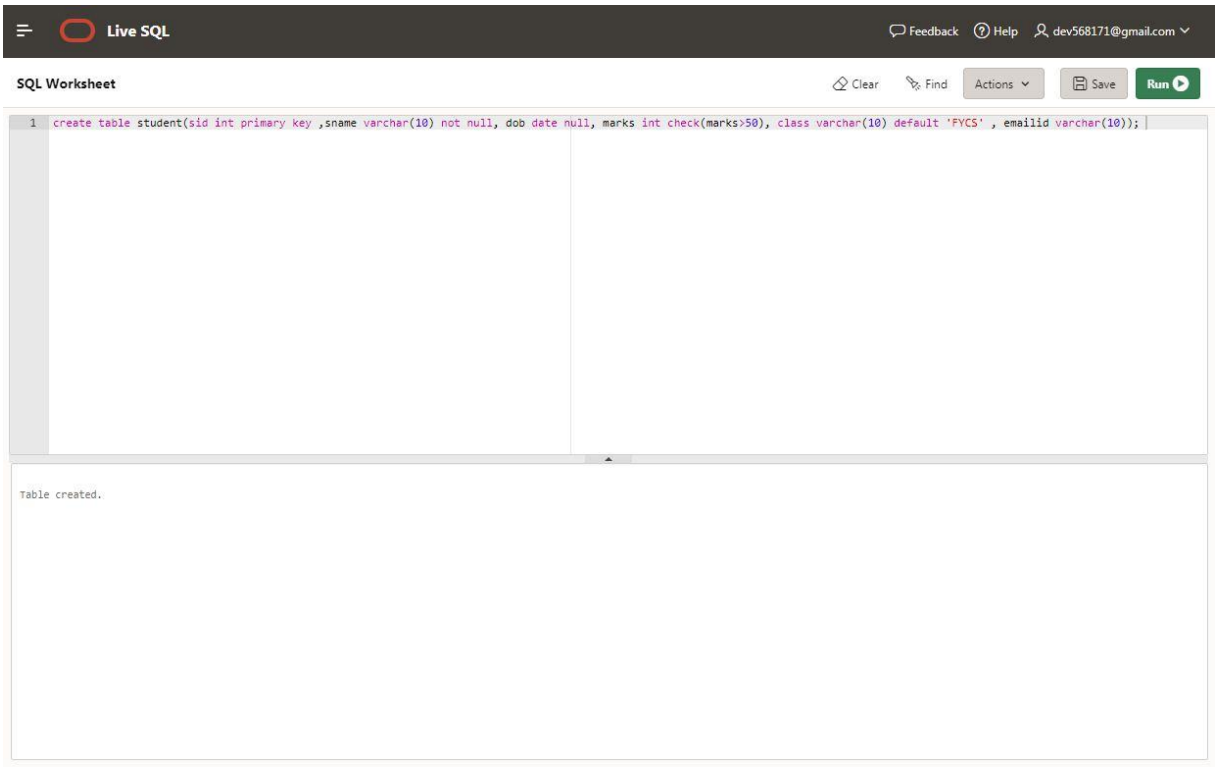
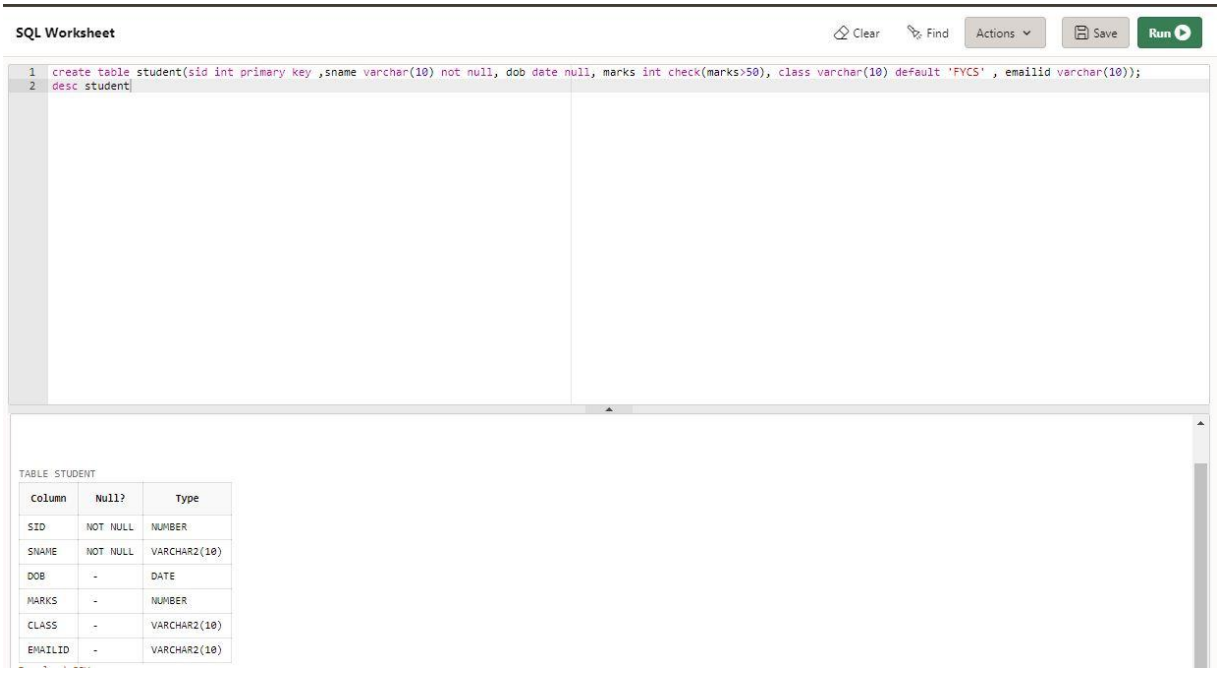
A. Write the query for the following.

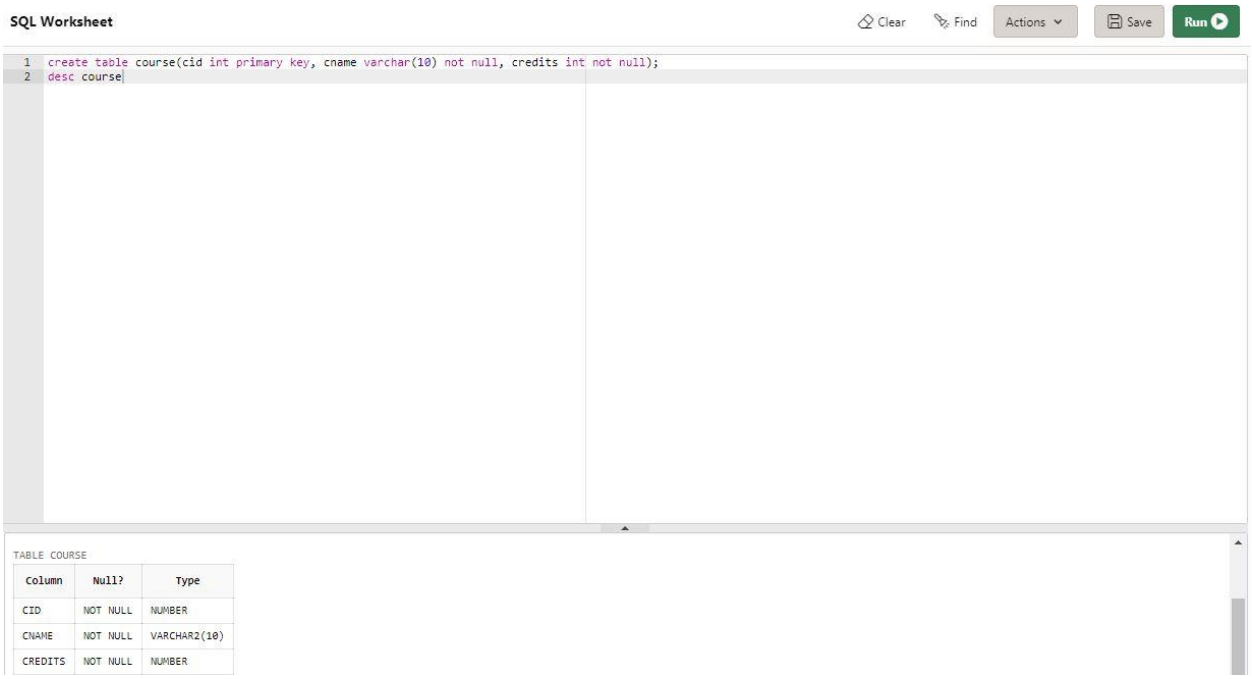
1. **Create the following table and include the necessary constraints NOT NULL, DEFAULT, CHECK, PRIMARY KEY,UNIQUE.**

a. Student (sId,sname,gender,dob,marks,class,email)





a. course(cid,cname,credits)



2) Alter the structure of the course table

a. Modify data type of cname

SQL Worksheet

Clear | Find | Actions | Save | Run

```
1  alter table course
2  modify cname varchar(20);
3  desc course
```

Table altered.

TABLE COURSE

Column	Null?	Type
CID	NOT NULL	NUMBER
CNAME	NOT NULL	VARCHAR2(20)
CREDITS	NOT NULL	NUMBER

D) **Add a column coursehours with minimum course hours greater than 45.**

SQL Worksheet

Clear | Find | Actions | Save | Run

```
1  alter table course
2  add coursehours int check(coursehours>45);
```

Table altered.

SQL Worksheet

Clear Find Actions Save Run

```
1  alter table course
2  add coursehours int check(coursehours>45);
3  desc course
```

TABLE COURSE

Column	Null?	Type
CID	NOT NULL	NUMBER
CNAME	NOT NULL	VARCHAR2(20)
CREDITS	NOT NULL	NUMBER
COURSEHOURS	-	NUMBER

E) **Add a column cdesc**

SQL Worksheet

Clear Find Actions Save Run

```
1  alter table course
2  add cdesc varchar(10);
```

Table altered.

SQL Worksheet

Clear Find Actions Save Run

```
1  alter table course
2  add cdesc varchar(10);
3  desc course
```

TABLE COURSE

Column	Null?	Type
CID	NOT NULL	NUMBER
CNAME	NOT NULL	VARCHAR2(20)
CREDITS	NOT NULL	NUMBER
COURSEHOURS	-	NUMBER
CDESC	-	VARCHAR2(10)

3) Alter the structure of the student table

F)Add column age with minimum age as 17

SQL Worksheet

Clear Find Actions Save Run

```
1  alter table student
2  add age int check(age>17);
```

Table altered.

SQL Worksheet

Clear Find Actions Save Run

```
1  alter table student
2  add age int check(age>17);
3  desc student
```

TABLE STUDENT

Column	Null?	Type
SID	NOT NULL	NUMBER
SNAME	NOT NULL	VARCHAR2(10)
DOB	-	DATE
MARKS	-	NUMBER
CLASS	-	VARCHAR2(10)
EMAILID	-	VARCHAR2(10)
AGE	-	NUMBER

G)Delete column dob

SQL Worksheet

Clear Find Actions Save Run

```
1  alter table student
2  drop column dob;
```

Table altered.

SQL Worksheet

Clear Find Actions Save Run

```
1 alter table student
2 drop column dob;
3 desc student
```

TABLE STUDENT

Column	Null?	Type
SID	NOT NULL	NUMBER
SNAME	NOT NULL	VARCHAR2(10)
MARKS	-	NUMBER
CLASS	-	VARCHAR2(10)
EMAILID	-	VARCHAR2(10)
AGE	-	NUMBER

H)Add a column phoneno

SQL Worksheet

Clear Find Actions Save Run

```
1 alter table student
2 add phoneno int;
```

Table altered.

SQL Worksheet

Clear Find Actions Save Run

```
1 alter table student
2 add phoneno int;
3 desc student
```

TABLE STUDENT

Column	Null?	Type
SID	NOT NULL	NUMBER
SNAME	NOT NULL	VARCHAR2(10)
MARKS	-	NUMBER
CLASS	-	VARCHAR2(10)
EMAILID	-	VARCHAR2(10)
AGE	-	NUMBER
PHONENO	-	NUMBER

I)Rename phoneno to contactno

SQL Worksheet

Clear Find Actions Save Run

```
1 alter table student
2 rename column phoneno to contactno;
```

Table altered.

SQL Worksheet

Clear | Find | Actions | Save | Run

```
1 alter table student
2 rename column phoneno to contactno;
3 desc student
```

TABLE STUDENT

Column	Null?	Type
SID	NOT NULL	NUMBER
SNAME	NOT NULL	VARCHAR2(10)
MARKS	-	NUMBER
CLASS	-	VARCHAR2(10)
EMAILID	-	VARCHAR2(10)
AGE	-	NUMBER
CONTACTNO	-	NUMBER

4)Rename student table as Student_details

SQL Worksheet

Clear | Find | Actions | Save | Run

```
1 alter table student
2 rename to student_details;
```

Table altered.

SQL Worksheet

Clear Find Actions Save Run

```
1 alter table student
2 rename to student_details;
3 desc student_details
```

TABLE STUDENT_DETAILS

Column	Null?	Type
SID	NOT NULL	NUMBER
SNAME	NOT NULL	VARCHAR2(10)
MARKS	-	NUMBER
CLASS	-	VARCHAR2(10)
EMAILID	-	VARCHAR2(10)
AGE	-	NUMBER
CONTACTNO	-	NUMBER

6)Drop the table student_details and course.

SQL Worksheet

Clear Find Actions Save Run

```
1 drop table course;
```

Table dropped.

SQL Worksheet

Clear Find Actions Save Run

```
1  drop table course;
2  drop table student_details;
```

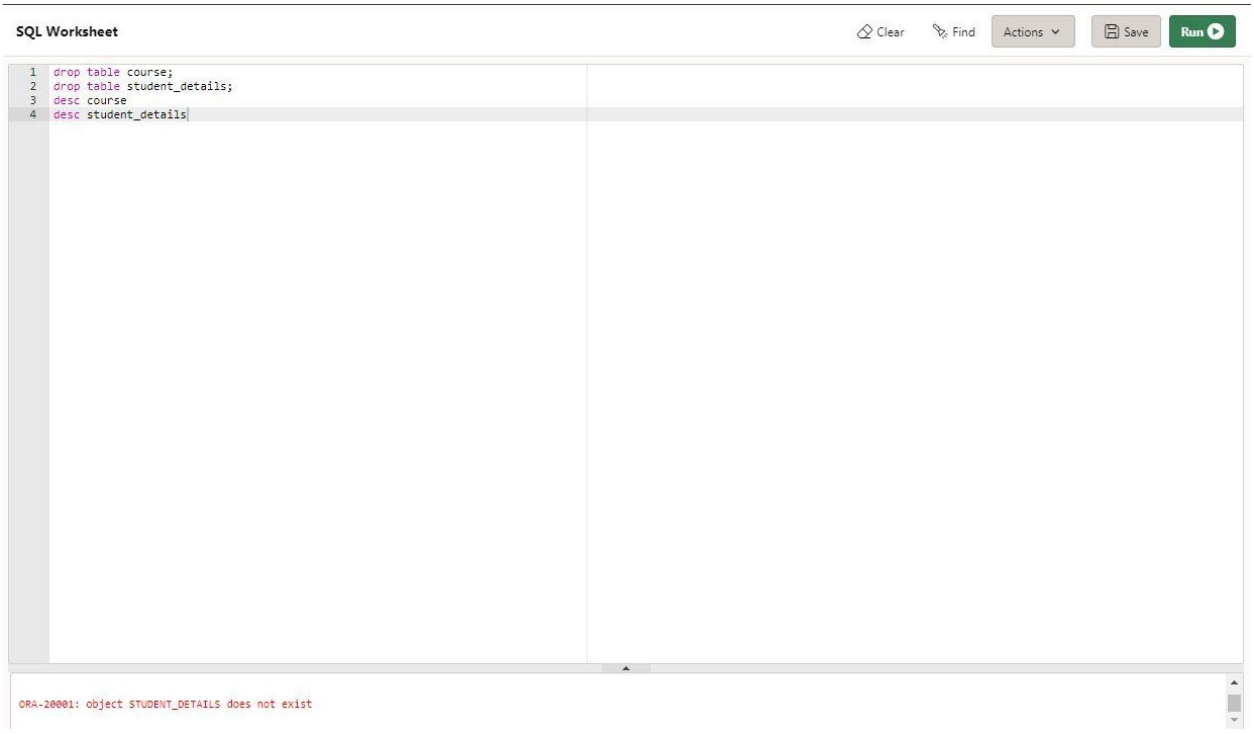
```
Table dropped.
```

SQL Worksheet

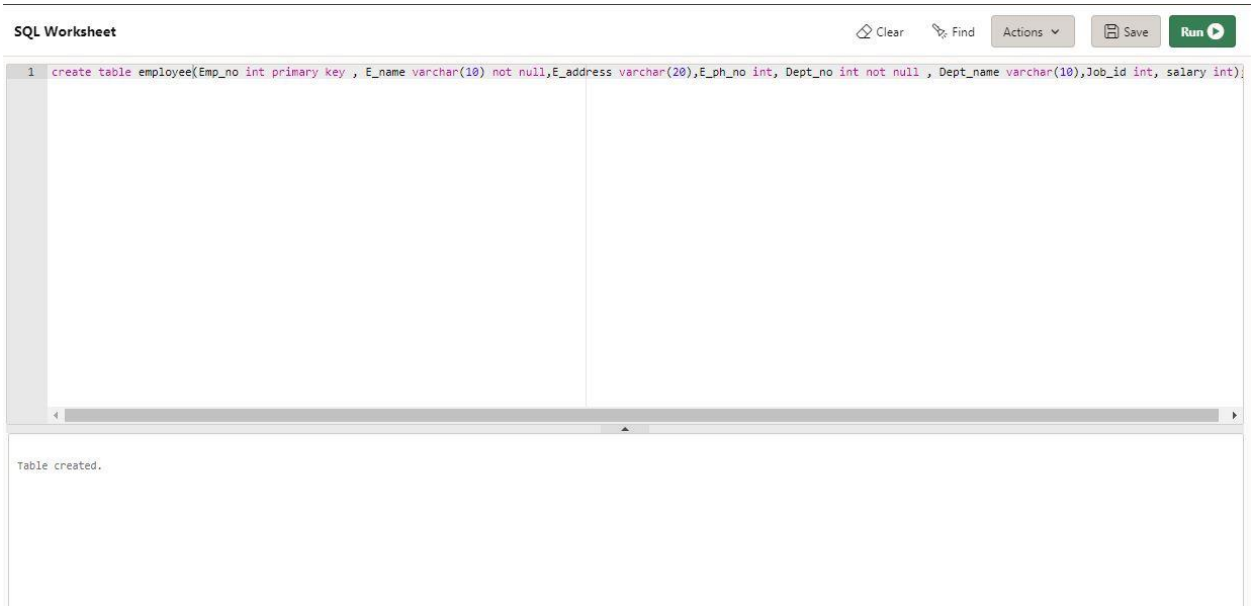
Clear Find Actions Save Run

```
1  drop table course;
2  drop table student_details;
3  desc course
```

```
ORA-20001: object COURSE does not exist
```



B) 1. Create a table EMPLOYEE with following attributes and specific data types and constraints required (Emp_no, E_name, E_address, E_ph_no, Dept_no, Dept_name,Job_id , Salary)



SQL Worksheet

Clear Find Actions Save Run

```
1  create table employee(Emp_no int primary key , E_name varchar(10) not null,E_address varchar(20),E_ph_no int, Dept_no int not null , Dept_name varchar(10),Job_id int, salary int);
2  desc employee
```

TABLE EMPLOYEE

Column	Null?	Type
EMP_NO	NOT NULL	NUMBER
E_NAME	NOT NULL	VARCHAR2(10)
E_ADDRESS	-	VARCHAR2(20)
E_PH_NO	-	NUMBER
DEPT_NO	NOT NULL	NUMBER
DEPT_NAME	-	VARCHAR2(10)
JOB_ID	-	NUMBER
SALARY	-	NUMBER

2. **Add a new column HIREDATE to the existing relation.**

SQL Worksheet

Clear Find Actions Save Run

```
1  alter table employee
2  add heridate date;
```

Table altered.

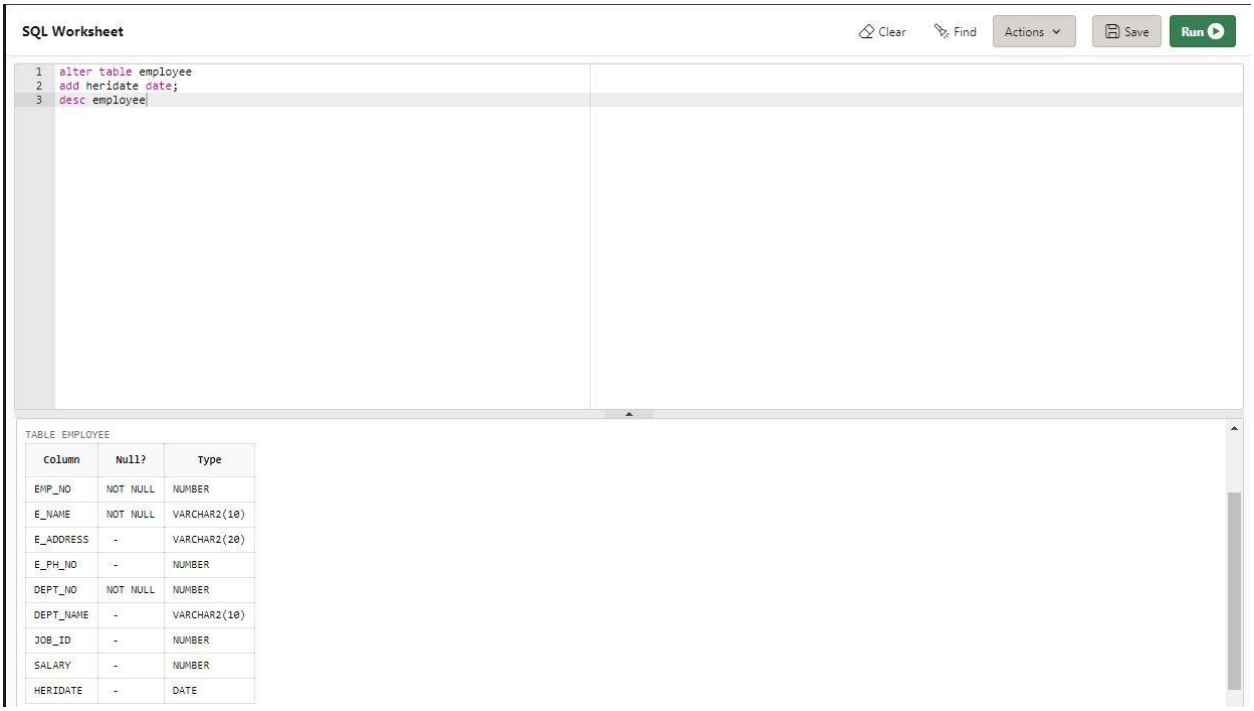


TABLE EMPLOYEE

Column	Null?	Type
EMP_NO	NOT NULL	NUMBER
E_NAME	NOT NULL	VARCHAR2(10)
E_ADDRESS	-	VARCHAR2(20)
E_PH_NO	-	NUMBER
DEPT_NO	NOT NULL	NUMBER
DEPT_NAME	-	VARCHAR2(10)
JOB_ID	-	NUMBER
SALARY	-	NUMBER
HERIDATE	-	DATE

alter

3. Change the datatype of JOB_ID from char to varchar2.

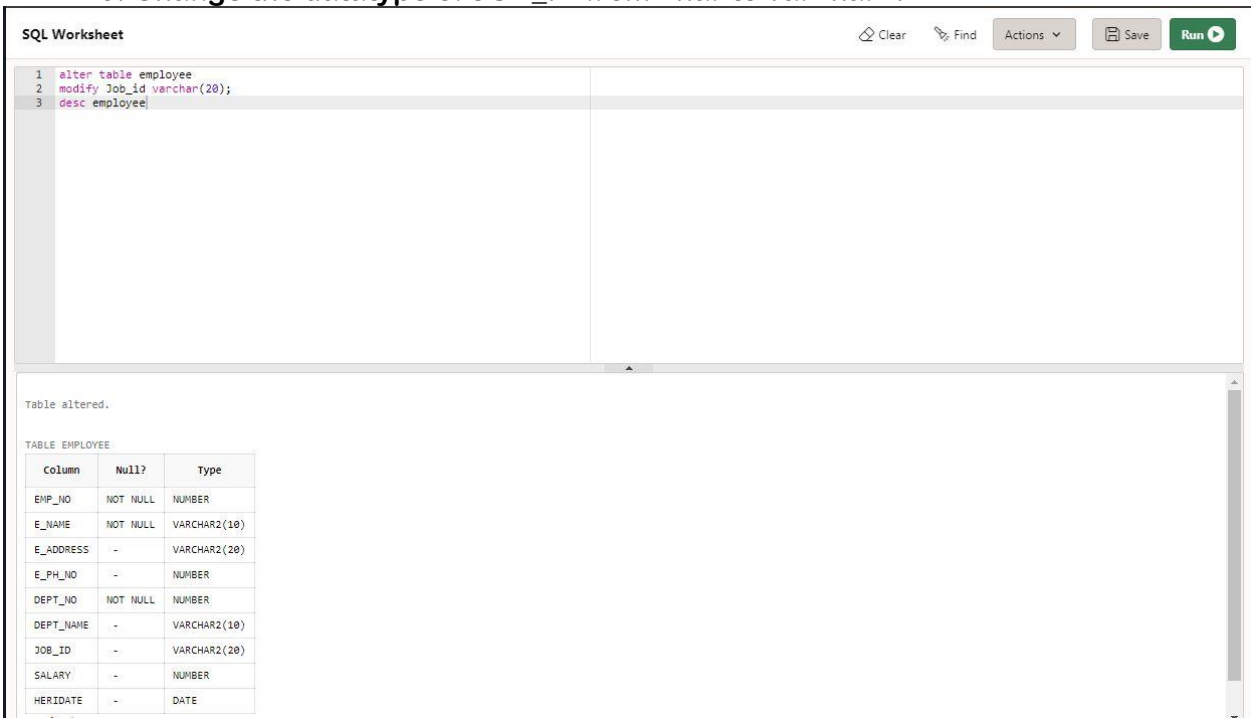
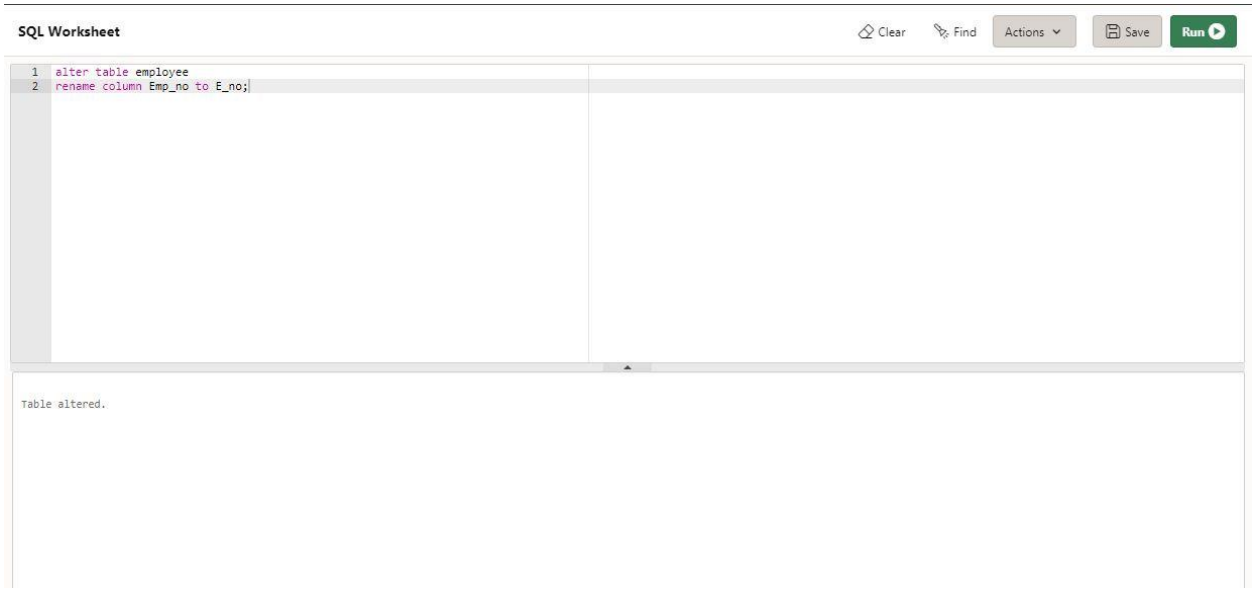


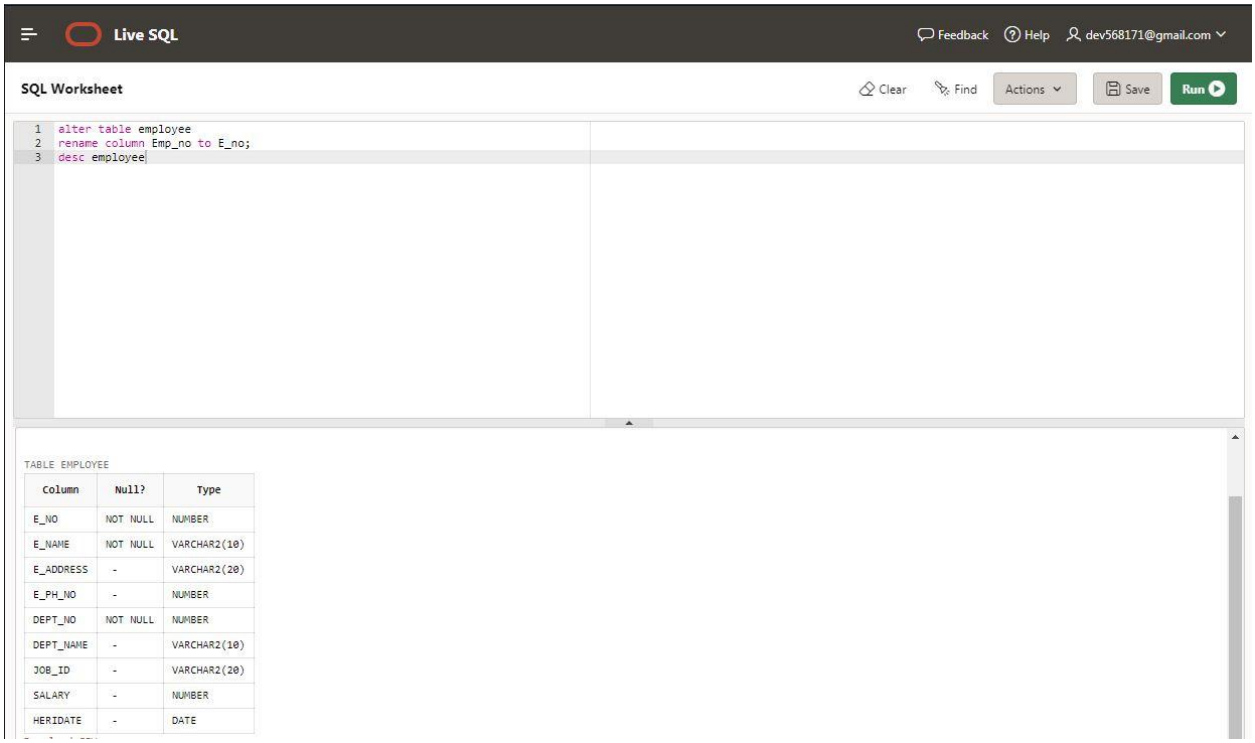
Table altered.

TABLE EMPLOYEE

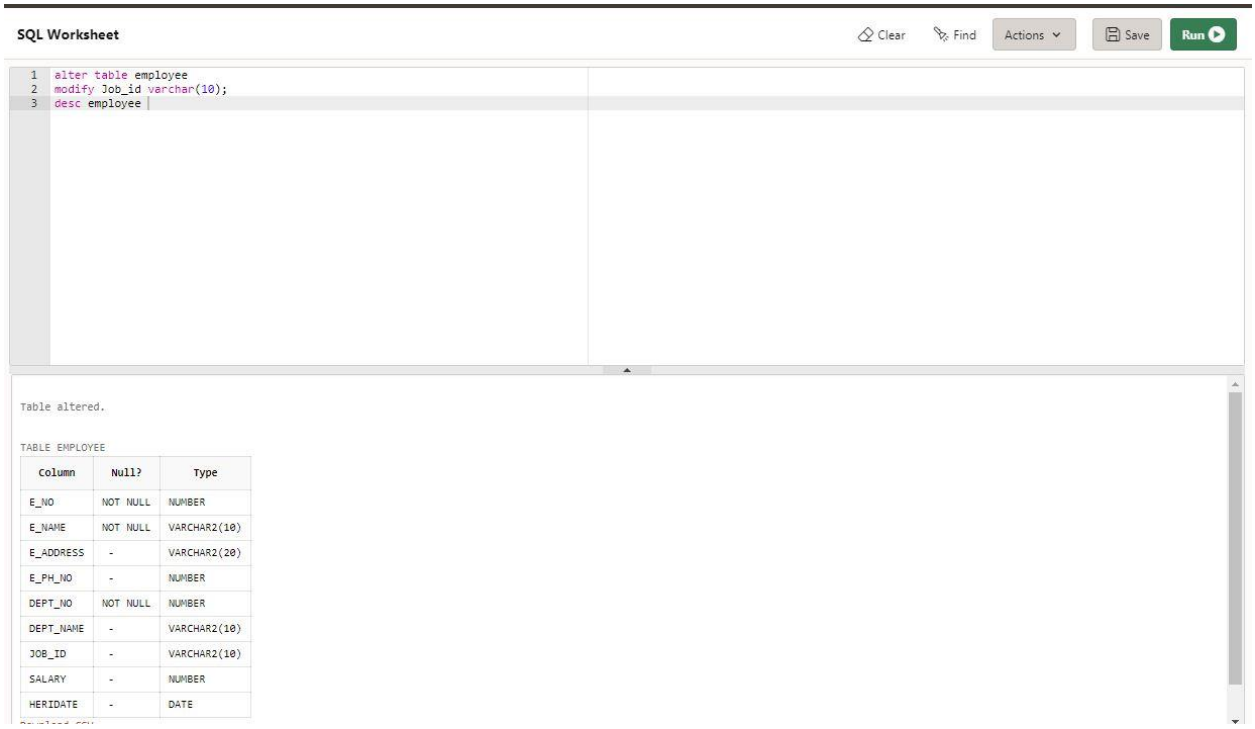
Column	Null?	Type
EMP_NO	NOT NULL	NUMBER
E_NAME	NOT NULL	VARCHAR2(10)
E_ADDRESS	-	VARCHAR2(20)
E_PH_NO	-	NUMBER
DEPT_NO	NOT NULL	NUMBER
DEPT_NAME	-	VARCHAR2(10)
JOB_ID	-	VARCHAR2(20)
SALARY	-	NUMBER
HERIDATE	-	DATE

4)Change the name of column/field Emp_no to E_no.





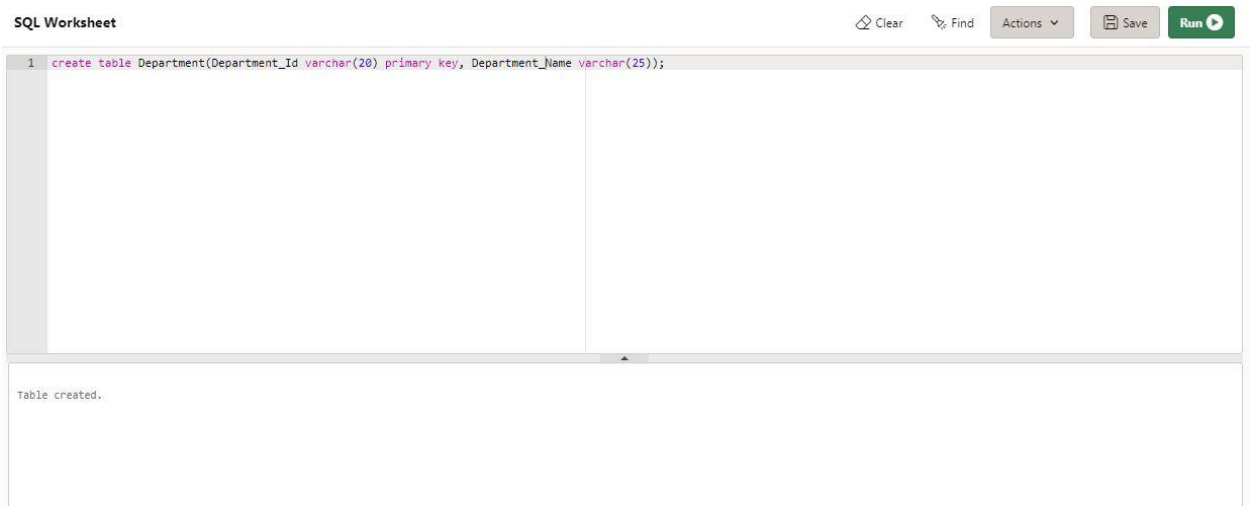
5. Modify the column width of the job field of emp table.



Column	Null?	Type
E_NO	NOT NULL	NUMBER
E_NAME	NOT NULL	VARCHAR2(10)
E_ADDRESS	-	VARCHAR2(20)
E_PH_NO	-	NUMBER
DEPT_NO	NOT NULL	NUMBER
DEPT_NAME	-	VARCHAR2(10)
JOB_ID	-	VARCHAR2(10)
SALARY	-	NUMBER
HERIDATE	-	DATE

C) Create the following tables with specified attributes and constraints

1. **Department Table: Department_Id varchar2(20) primary key, Department_Name varchar2(25) with required data**



SQL Worksheet

Clear Find Actions Save Run

```
1  create table Department(Department_Id varchar(20) primary key, Department_Name varchar(25));
2  alter table Department
3  modify Department_Name varchar(25) not null;
```

```
Table altered.
```

SQL Worksheet

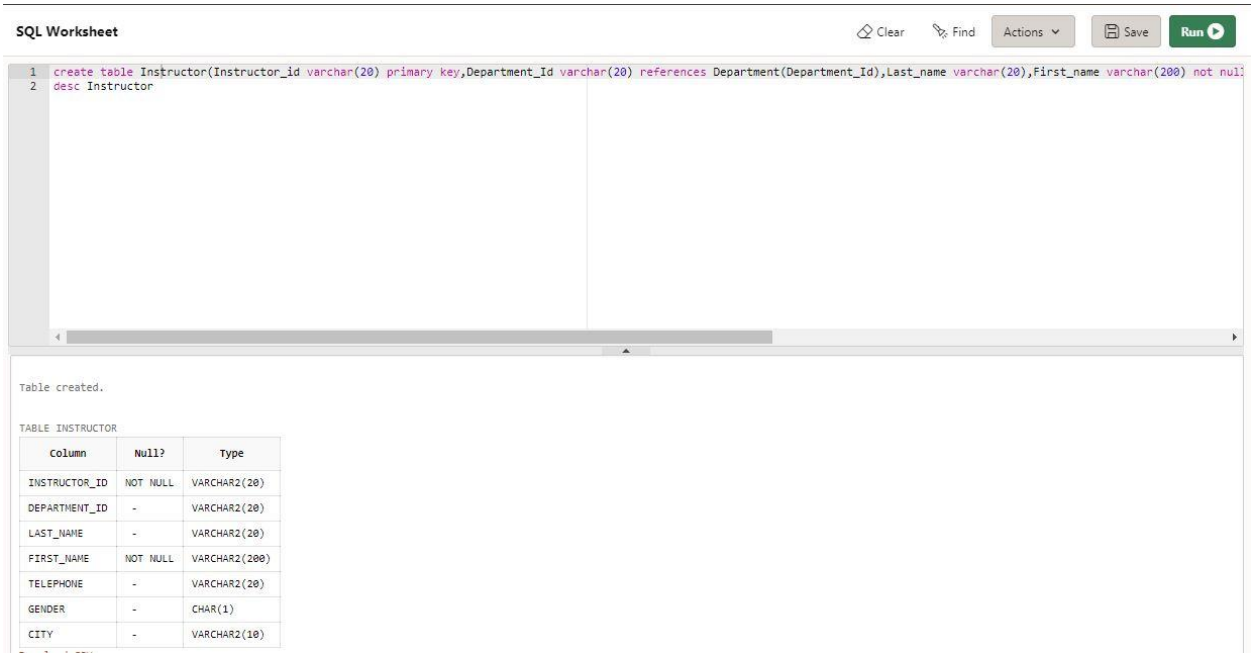
Clear Find Actions Save Run

```
1  create table Department(Department_Id varchar(20) primary key, Department_Name varchar(25));
2  alter table Department
3  modify Department_Name varchar(25) not null;
4  desc Department
```

TABLE DEPARTMENT

Column	Null?	Type
DEPARTMENT_ID	NOT NULL	VARCHAR2(20)
DEPARTMENT_NAME	NOT NULL	VARCHAR2(25)

2)Instructor Table: Instructor_id varchar2(20) primary key, Department_Id varchar2(20) Foreign key, Last_Name varchar2(25), First_Name varchar2(200) must have value, Telephone varchar2(20) must be unique, gender char(1) must be either ‘F’ or ‘M’,city varchar(10) default value must be ‘MUMBAI’.



D) Create the following described below:

Table Name: EMP

Column	Data Type	Length	Precision	Scale	Primary Key	Nullable
EMPNO	Int	-	-	-	Yes	-
ENAME	Varchar2	10	-	-	-	No
JOB	Varchar2	9	-	-	-	✓
MGR	Int	-	-	-	-	✓
HIREDATE	Date	-	-	-	-	✓
SAL	Number	-	7	2	-	✓
COMM	Int	-	-	-	-	✓
DEPTNO	Int	-	-	-	-	✓

Table Name: DEPT

Column	Data Type	Length	Precision	Scale	Primary Key	Nullable
DEPTNO	Int	-	-	-	Yes	-
DNAME	Varchar2	14	-	-	-	No
LOC	Varchar2	13	-	-	-	✓

SQL Worksheet

Clear Find Actions Save Run

```
1  create table dev_DEPT(Dept_no int primary key,Dname varchar(14) not null, Loc varchar(13));
```

```
Table created.
```

SQL Worksheet

Clear Find Actions Save Run

```
1  create table dev_DEPT(Dept_no int primary key,Dname varchar(14) not null, Loc varchar(13));
2  desc dev_DEPT
```

TABLE DEV_DEPT

Column	Null?	Type
DEPT_NO	NOT NULL	NUMBER
DNAME	NOT NULL	VARCHAR2(14)
LOC	-	VARCHAR2(13)

SQL Worksheet

Clear Find Actions Save Run

```
1  create table dev_EMP(EMP_no int primary key, Ename varchar(10) not null, Job varchar(9),MGR int,Heridate date,SAL decimal (7,2),Comm int , Dept_no int references dev_DEPT(Dept_no)
```

```
Table created.
```

SQL Worksheet

Clear Find Actions Save Run

```
1  create table dev_EMP(EMP_no int primary key, Ename varchar(10) not null, Job varchar(9),MGR int,Heridate date,SAL decimal (7,2),Comm int , Dept_no int references dev_DEPT(Dept_no)
2  desc dev_EMP;
```

TABLE DEV_EMP

Column	Null?	Type
EMP_NO	NOT NULL	NUMBER
ENAME	NOT NULL	VARCHAR2(10)
JOB	-	VARCHAR2(9)
MGR	-	NUMBER
HERIDATE	-	DATE
SAL	-	NUMBER(7,2)
COMM	-	NUMBER
DEPT_NO	-	NUMBER