*--create department table*

create table dept (

dept\_id number(4) constraint dep\_id\_pk primary key,

dept\_name varchar2(50) unique

);

*-- create students table*

create table students (

student\_id number(4) constraint stud\_id\_pk primary key,

firstname varchar2(50),

lastname varchar2(50),

email varchar2(100),

dateofbirth date,

gender varchar2(50),

dept\_id number(4) constraint depp\_id\_fk references dept(dept\_id) not null

);

*-- add column levels*

alter table students

add (levels VARCHAR2(50));

*-- create courses table*

create table courses(

course\_id number(4) constraint crs\_id\_pk primary key,

course\_name varchar2(50),

course\_hours number(4),

dept\_id number(4) constraint dep\_id\_fk references dept(dept\_id) not null

);

*--add gpa column and make sure it not greater than 4*

alter table students

add (gpa number(4,3));

ALTER TABLE students

ADD CONSTRAINT check\_gpa\_range CHECK (gpa <= 4);

*-- create enrollment table*

create table enrollment(

student\_id number(4) constraint std\_id\_fk references students(student\_id) not null,

course\_id number(4) constraint crs\_id\_fk references courses(course\_id) not null,

constraint pk\_enrollment PRIMARY KEY (student\_id, course\_id),

grade char(2)

);

*-------------------------------------*

*-- insert into department table*

insert into dept(DEPT\_ID, DEPT\_NAME)

values(1, 'computer science');

insert into dept(DEPT\_ID, DEPT\_NAME)

values(2, 'AI');

*------------------------------*

*-- insert into students table*

insert into students (STUDENT\_ID, FIRSTNAME, LASTNAME, EMAIL, DATEOFBIRTH, GENDER,DEPT\_ID)

values (1,'farrah','hatem','farah@gamil.com',to\_date('2001-06-13','YYYY-MM-DD'),'f',1);

insert into students (STUDENT\_ID, FIRSTNAME, LASTNAME, EMAIL, DATEOFBIRTH, GENDER,DEPT\_ID)

values (2,'meran','ehab','meran@gamil.com',to\_date('2001-11-29','YYYY-MM-DD'),'f',1);

insert into students (STUDENT\_ID, FIRSTNAME, LASTNAME, EMAIL, DATEOFBIRTH, GENDER,DEPT\_ID)

values (3,'ahmed','mohamed','ahmed@gamil.com',to\_date('2000-04-12','YYYY-MM-DD'),'m',1);

insert into students (STUDENT\_ID, FIRSTNAME, LASTNAME, EMAIL, DATEOFBIRTH, GENDER,DEPT\_ID)

values (4,'karem','mohamed','karem@gamil.com',to\_date('2001-07-12','YYYY-MM-DD'),'m',2);

*----------------------------------------------------------------------*

*-- insert into courses table*

insert into courses(COURSE\_ID, COURSE\_NAME, COURSE\_HOURS, DEPT\_ID)

values (1, 'Introduction to Programming', 3, 1);

insert into courses(COURSE\_ID, COURSE\_NAME, COURSE\_HOURS, DEPT\_ID)

values (2, 'Data Structures', 4, 1);

insert into courses(COURSE\_ID, COURSE\_NAME, COURSE\_HOURS, DEPT\_ID)

values (3, 'Machine Learning Fundamentals', 3, 2);

*------------------------------------------------*

*-- insert into enrollment table*

insert into enrollment(STUDENT\_ID,COURSE\_ID , GRADE)

values (1, 1, 'c');

insert into enrollment(STUDENT\_ID,COURSE\_ID, GRADE)

values (2, 1, 'A');

insert into enrollment(STUDENT\_ID, COURSE\_ID, GRADE)

values (4, 3, 'B-');

*--------------------*

*-- test if all the data right and exist*

select \*

from students;

*----------------*

select \*

from dept;

*--------------*

select \*

from courses;

*---------------*

select \*

from enrollment;

*---------------*

*--select courses of each student*

select e.student\_id,c.course\_hours,c.course\_name

from enrollment e

join courses c on e.course\_id=c.course\_id

order by e.student\_id;

*---------------*

*--select courses of each department*

select c.course\_id, c.course\_name, d.dept\_name

from courses c

join dept d on c.dept\_id=d.dept\_id

order by c.course\_id;

*--------------*

*--select students that take a specefic course*

select s.student\_id,s.firstname || ' ' || s.lastname as full\_name

from students s

join enrollment e on s.student\_id = e.student\_id

where e.course\_id=25;

*---------------*