-- Question 1: Students and Courses Tables --------

-- create table in coureses---------

DROP TABLE Courses PURGE;

create table Courses(

course\_id number primary key,

course\_name varchar2(100)

);

-- create table in student---------

DROP TABLE Students PURGE;

create table Students(

student\_id number primary key,

student\_name varchar2(50) ,

enrollment\_date date ,

course\_id number,

foreign key (course\_id) references Courses

);

------------------ Courses Table Insert Questions: ------------------------

insert into Courses(course\_id,course\_name)

VALUES (201,'Database Management');

insert into Courses(course\_id,course\_name)

VALUES (202,'Web Development');

insert into Courses(course\_id,course\_name)

VALUES (203,'Programming Fundamentals');

insert into Courses(course\_id,course\_name)

VALUES (204,'Data Structures');

insert into Courses(course\_id,course\_name)

VALUES (205,'Software Engineering');

insert into Courses(course\_id,course\_name)

VALUES (206,'Network Security');

insert into Courses(course\_id,course\_name)

VALUES (207,'Artificial Intelligence');

insert into Courses(course\_id,course\_name)

VALUES (208,'Mobile App Development');

insert into Courses(course\_id,course\_name)

VALUES (209,'Operating Systems');

insert into Courses(course\_id,course\_name)

VALUES (210,'Computer Graphics');

---------------- Students Table Insert Questions: -----------------

insert into Students(student\_id,student\_name,enrollment\_date,course\_id)

VALUES (101,'John Smith','15-sep-2022',201);

insert into Students(student\_id,student\_name,enrollment\_date,course\_id)

VALUES (102,'Mary Johnson','20-aug-2022',202);

insert into Students(student\_id,student\_name,enrollment\_date,course\_id)

VALUES (103,'David Wilson','10-oct-2022',203);

insert into Students(student\_id,student\_name,enrollment\_date,course\_id)

VALUES (104,'Jessica Brown','05-jul-2022',204);

insert into Students(student\_id,student\_name,enrollment\_date,course\_id)

VALUES (105,'Emily Davis','30-nov-2022',205);

insert into Students(student\_id,student\_name,enrollment\_date,course\_id)

VALUES (106,'Daniel Miller','12-jun-2022',206);

insert into Students(student\_id,student\_name,enrollment\_date,course\_id)

VALUES (107,'Olivia Harris','25-dec-2022',207);

insert into Students(student\_id,student\_name,enrollment\_date,course\_id)

VALUES (108,'Liam Martinez','08-may-2022',208);

insert into Students(student\_id,student\_name,enrollment\_date,course\_id)

VALUES (109,'Ava Jones','18-apr-2022',209);

insert into Students(student\_id,student\_name,enrollment\_date,course\_id)

VALUES (110,'Noah Anderson','02-mar-2022',210);

---------- Question 2: Employees and Departments Tables -------

-- create table in Departments---------

DROP TABLE Departments PURGE;

create table Departments(

department\_id number primary key,

department\_name varchar2(100)

);

-- create table in Employees---------

DROP TABLE Employees PURGE;

create table Employees(

employee\_id number primary key,

first\_name varchar2(50),

last\_name varchar2(50),

department\_id number,

salary number,

foreign key (department\_id) references Departments

);

--------------- Departments Table Insert Questions: -----------------

insert into Departments(department\_id,department\_name)

VALUES (101,'Information Technology');

insert into Departments(department\_id,department\_name)

VALUES (102, 'Human Resources');

insert into Departments(department\_id,department\_name)

VALUES (103,'Marketing');

insert into Departments(department\_id,department\_name)

VALUES (104,'Finance');

insert into Departments(department\_id,department\_name)

VALUES (105, 'Operations');

insert into Departments(department\_id,department\_name)

VALUES (106,'Research and Development');

insert into Departments(department\_id,department\_name)

VALUES (107, 'Customer Support');

insert into Departments(department\_id,department\_name)

VALUES (108, 'Sales');

insert into Departments(department\_id,department\_name)

VALUES (109, 'Quality Assurance');

insert into Departments(department\_id,department\_name)

VALUES (110, 'Legal Affairs');

------------------- Employees Table Insert Questions: -----------------

insert into Employees(employee\_id,first\_name,last\_name,department\_id,salary)

VALUES (1001,'John','Smith',101,60000.00);

insert into Employees(employee\_id,first\_name,last\_name,department\_id,salary)

VALUES (1002,'Mary','Johnson',102,55000.00);

insert into Employees(employee\_id,first\_name,last\_name,department\_id,salary)

VALUES (1003,'David','Wilson',103,62000.00);

insert into Employees(employee\_id,first\_name,last\_name,department\_id,salary)

VALUES (1004,'Jessica','Brown',101,58000.00);

insert into Employees(employee\_id,first\_name,last\_name,department\_id,salary)

VALUES (1005,'Emily','Smith',102,61000.00);

insert into Employees(employee\_id,first\_name,last\_name,department\_id,salary)

VALUES (1006,'Daniel','Miller',103,54000.00);

insert into Employees(employee\_id,first\_name,last\_name,department\_id,salary)

VALUES (1007,'Olivia','Harris',101,59000.00);

insert into Employees(employee\_id,first\_name,last\_name,department\_id,salary)

VALUES (1008,'Liam','Martinez',102,57000.00);

insert into Employees(employee\_id,first\_name,last\_name,department\_id,salary)

VALUES (1009,'Ava','Jones',103,63000.00);

insert into Employees(employee\_id,first\_name,last\_name,department\_id,salary)

VALUES (1010,'Noah','Anderson',101,56000.00);

-- Question 3: Orders and Customers Tables---------

-- create table in Customers---------

DROP TABLE Customers PURGE;

create table Customers(

customer\_id number primary key,

customer\_name varchar2(100),

email varchar2(100)

);

-- create table in Orders---------

DROP TABLE Orders PURGE;

create table Orders(

order\_id number primary key,

order\_date date,

customer\_id number,

foreign key (customer\_id) references Customers

);

-- Question 4: Authors and Books Tables--------

-- create table in Authors---------

DROP TABLE Authors PURGE;

create table Authors(

author\_id number primary key,

author\_name varchar2(100),

nationality varchar2(50)

);

-- create table in Books---------

DROP TABLE Books PURGE;

create table Books(

book\_id number primary key,

book\_title varchar2(200),

author\_id number,

foreign key (author\_id) references Authors

);

======================== Students Table Select Queries: ==========

1. Retrieve the names of all students in the Students table.

SELECT student\_name FROM Students;

OP:

STUDENT\_NAME

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

John Smith

Mary Johnson

David Wilson

Jessica Brown

Emily Davis

Daniel Miller

Olivia Harris

Liam Martinez

Ava Jones

Noah Anderson

10 rows selected.

2.Find the students who were enrolled before January 1, 2022.

SELECT \* FROM Students WHERE enrollment\_date < '1-jan-2022';

OP:

STUDENT\_ID STUDENT\_NAME ENROLLMENT\_DATE COURSE\_ID

\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_

101 John Smith 15-09-22 201

102 Mary Johnson 20-08-22 202

103 David Wilson 10-10-22 203

104 Jessica Brown 05-07-22 204

105 Emily Davis 30-11-22 205

106 Daniel Miller 12-06-22 206

107 Olivia Harris 25-12-22 207

108 Liam Martinez 08-05-22 208

109 Ava Jones 18-04-22 209

110 Noah Anderson 02-03-22 210

10 rows selected.

3. List the students whose names start with the letter 'D'.

SELECT \* FROM Students WHERE student\_name LIKE 'D%';

OP:

STUDENT\_ID STUDENT\_NAME ENROLLMENT\_DATE COURSE\_ID

\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_

103 David Wilson 10-10-22 203

106 Daniel Miller 12-06-22 206

4.Display the count of students in the Students table.

SELECT COUNT(\*) as student\_count FROM Students;

OP:

STUDENT\_COUNT

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10

5.Find the student with the highest student\_id.

select max(student\_id) from Students;

OP:

STUDENT\_ID

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

110