Answer Script

Question No. 01

Give examples of primary key and composite primary key and foreign key

Answer No. 01

1. Primary Key :

Primary Key is works as a unique and distinct identifier, example :

Student Table :

roll (PK)	first_name	last_name
101	Michel	Jackson
102	John	Abraham
103	Steven	Pickering

2. Composite Primary Key :

Table_01 : Student Table

roll	first_name	last_name
101	Michel	Jackson
102	John	Abraham
103	Steven	Pickering

Table_02 : Course Table

course_id	course_name	credit
CSE110	Programming	3
CSE220	OOP	3
CSE221	Algorithm	

Table_03 : Result Table

roll	course_id	cgpa

101	CSE110	3.5
102	CSE221	3.7
102	CSE220	3.3

In Table_03, (roll, course_id) combinedly makes a composite primary key

3. Foreign Key :

Table_01 : Student Table

roll(PK)	first_name	last_name
101	Michel	Jackson
102	John	Abraham
103	Steven	Pickering

Table_02 : Result Table

roll (FK)	cgpa
101	3.5
102	3.7
102	3.3

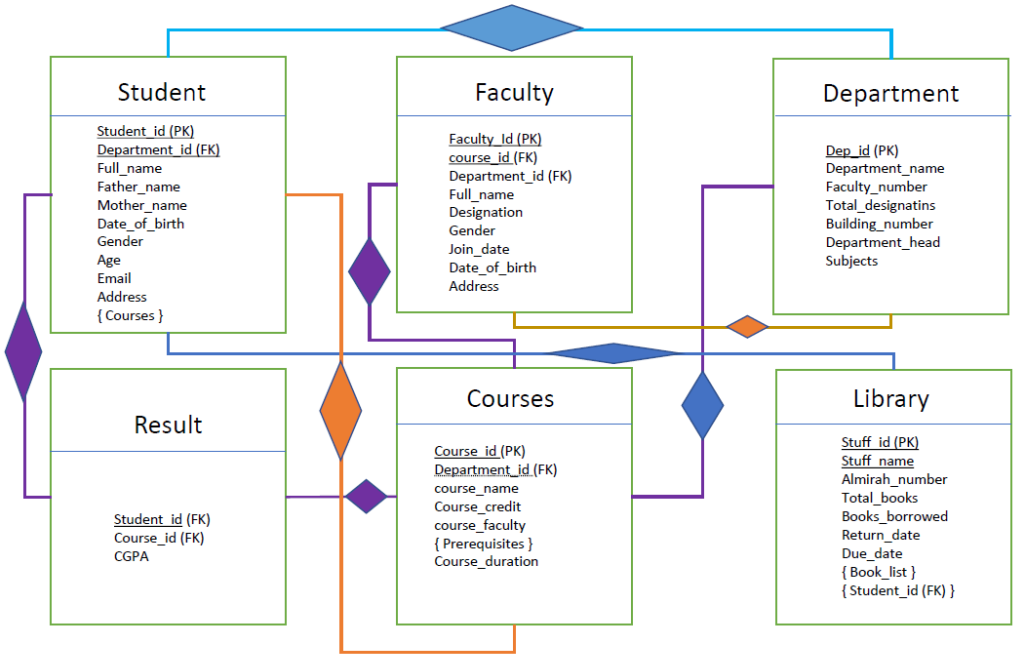
From the Result Table, roll is a foreign key in reference of Student table's primary key roll.

Question No. 02

Make an ERD of an University Management System

Answer No. 02

Entity Relationship Diagram



Question No. 03

. Make a table named User which will have the following fields

a. Username
b. Email
c. First Name
d. Last Name
e. Phone No
f. Address
g. HSC Result
h. Date of Birth
i. Age
j. password

Answer No. 03

```
DROP DATABASE IF EXISTS phitron;
CREATE DATABASE phitron;
USE phitron;

CREATE TABLE User(
   Username VARCHAR(10),
   email VARCHAR(30),
   first_name VARCHAR(15),
   last_name VARCHAR(15),
   phone_no CHAR(11),
   address VARCHAR(40),
   hsc_result FLOAT,
   date_of_birst DATE,
   age INT,
   pass_word VARCHAR(20)
);
```

Question No. 04

Write proper constraints of question no 3 and create table

Answer No. 04

```
DROP DATABASE IF EXISTS phitron;
CREATE DATABASE phitron;
USE phitron;

CREATE TABLE User(
   username VARCHAR(10) NOT NULL UNIQUE,
   PRIMARY KEY (username),
   email VARCHAR(30) NOT NULL,
   first_name VARCHAR(15) NOT NULL,
   last_name VARCHAR(15) NOT NULL,
   phone_no CHAR(11) NOT NULL,
   CONSTRAINT UNIQUE (phone_no),
   address VARCHAR(40) NOT NULL,
   hsc_result FLOAT NOT NULL,
   date_of_birst DATE NOT NULL,
   age INT NOT NULL,
   pass_word VARCHAR(20) NOT NULL
);
```

Question No. 05

Write the disadvantages of redundancy and incompleteness in database design.

Answer No. 05

Disadvantages of Redundancy in Database Design :

1. Increases Storage Consumption
2. Reduces Performance
3. Data Integrity Issues
4. Difficulty in Data Processing
5. Updating Data Complexity
6. Costly
7. Tough to handle
8. Increases Work Load
9. Time Consuming to fix error
10. Inefficient Data Usage

Question No. 06

From HR Database, Select the employee who has last name starts with “k” or ends with “k”

Answer No. 06

```
USE hr;
SELECT *
FROM employees
WHERE last_name LIKE "k%" OR last_name LIKE "%k";
```

Question No. 07

From HR Database Select the employee who gets more salary than his/her manager

Answer No. 07

```
USE hr;
```

```
SELECT *
FROM employees as E1
JOIN employees as E2
ON (E1.employee_id = E2.manager_id)
WHERE E1.salary > E2.salary;
```

Question No. 08

From HR Database, print all the employee names along with department names

Answer No. 08

```
USE hr;
SELECT CONCAT(E.first_name," ",E.last_name) AS full_name , D.department_name
FROM employees AS E JOIN departments AS D
ON (E.department_id = D.department_id);
```