

INTERNATIONAL ISLAMIC UNIVERSITY CHITTAGONG



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FINAL PROJECT

Matric / ID No. : C211010
Name : Shovan Bhattacharjee
Semester : 4th
Section : 4AM
Mail : c211010@ugrad.iiuc.ac.bd
Course Code : CSE-2424
Course Title : Database Management System Lab
Date : 28.11.22

Project Name : *Certificate Management System Database*



Submitted To:

Dr. Mohammad Aman Ullah

Associate Professor, CSE

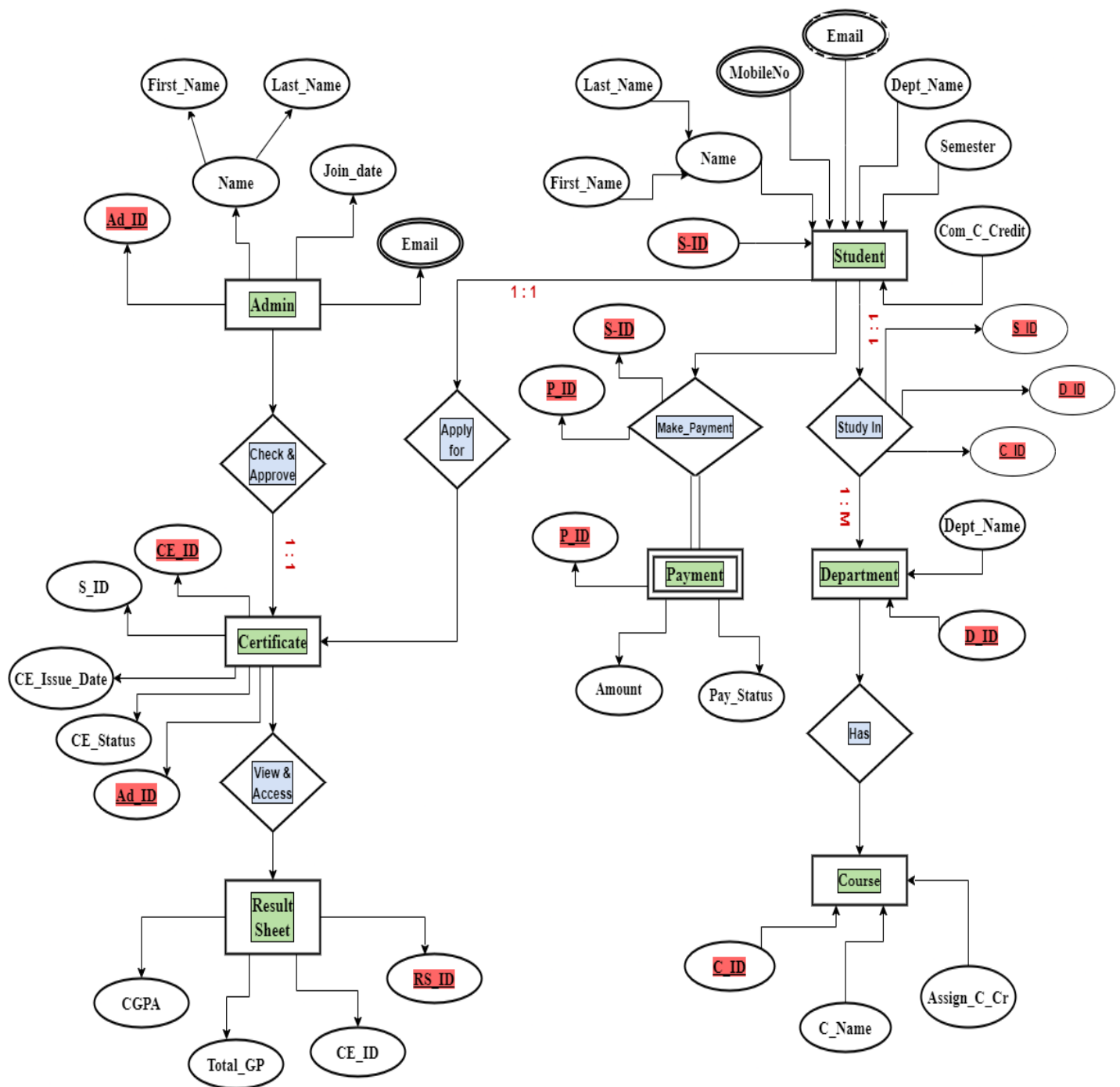
International Islamic University Chittagong

Project Title :
CERTIFICATE MANAGEMENT SYSTEM DATABASE

Abstract:

The project entitled “**Certificate Management System**” manages the working concept of the Certificate system of a university database Server. This project is to developed for university or college institutions to work efficiently and track every student’s detail with their payment history and which track is the student pay their payment or not. Also, after completing a course, a student can apply for the certificate through it. But it must be in a pending situation until an admin can check everything about the student (like payment, completing course credit, etc.). When an admin confirms everything then he set the certificate status to “Accept”. Then a student can have their results and get their certificates. Also, there is an admin database where store the information about admins. An admin can see the mobile no. and email if they needed to contact them. There is a Course database section where we know about the course details offered by the university or college. There is a fixed assigned course credit information i.e., a student must complete this amount of course credit to apply for a certificate. Through this system, we can control and find information related to certificate issue problems. This system contains some relations between data tables for finding information very efficiently. But mostly used are Study_In and Make_Payment relations which contain the primary key of the data table which are connected with it. In this system try to decrease the number of functional dependencies to efficient and faster the system.

ER Model Diagram:

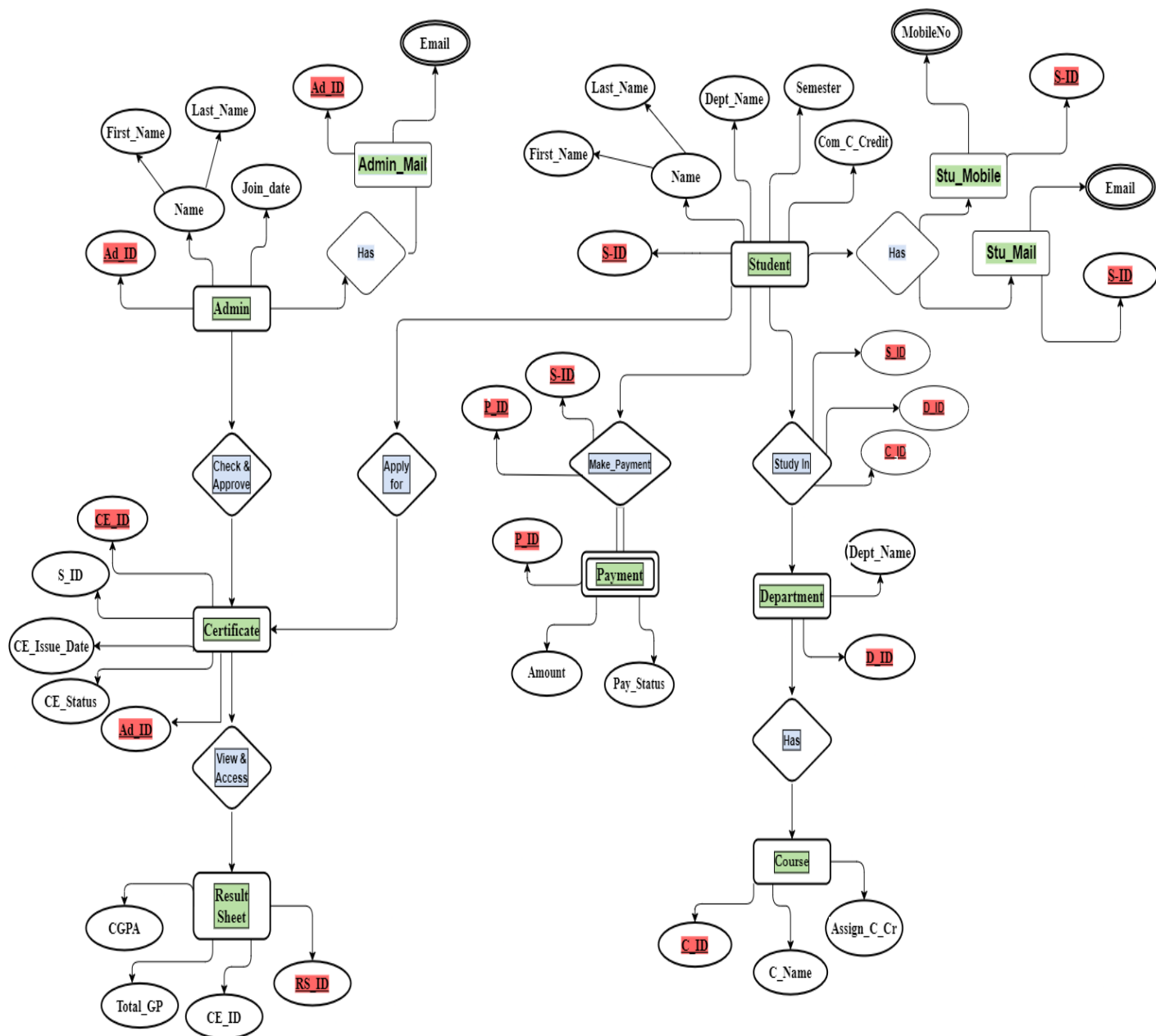


ERD of Certificate Management System

ID : C211010

Name : Shovan Bhattacharjee

Normalized ER Model Diagram:



Normalized ERD of Certificate Management System

ID : C211010

Name : Shovan Bhattacharjee






NOTE: Here we normalized the ERD by removing multivalued attributes from the table and creating another table for them. For that, the 1NF and 4NF formed and others like 2NF and 3NF are already formed.

Schema:

1. **ADMIN** (AD_ID , First_Name, Last_Name, Join_Date)
2. **ADMIN_MAIL** (AD_ID(FK), Email)
3. **CERTIFICATE** (CE_ID , S_ID(FK), CE_ISSUE_DATE, CE_STATUS, AD_ID(FK))
4. **COURSE** (C_ID, C_NAME, ASSIGN_C_CR)
5. **DEPARTMENT** (D_ID, DEPT_NAME)
6. **MAKE_PAYMENT** (P_ID(FK), S_ID(FK))
7. **PAYMENT** (P_ID, AMOUNT, PAY_STATUS)
8. **RESULT_SHEET** (RS_ID, CE_ID(FK), TOTAL_CGP, CGPA)
9. **STUDENT** (S_ID, FIRST_NAME, LAST_NAME, DEPT_NAME, SEMESTER, COM_C_CREDIT)
10. **STU_EMAIL** (S_ID(FK), EMAIL)
11. **STU_MOBILE** (S_ID(FK), MOBILENO)
12. **STUDY_IN** (S_ID(FK), D_ID(FK), C_ID(FK))

DDL Statements & Tables with Data:**ADMIN**

```
CREATE TABLE "ADMIN"
(
  "AD_ID" VARCHAR2(4000) NOT NULL ENABLE,
  "FIRST_NAME" VARCHAR2(4000),
  "LAST_NAME" VARCHAR2(4000),
  "JOIN_DATE" DATE,
  CONSTRAINT "ADMIN_PK" PRIMARY KEY ("AD_ID") ENABLE
)
```













EDIT	AD_ID	FIRST_NAME	LAST_NAME	JOIN_DATE
	A01	Forhad	Hasan	27-MAR-20
	A05	Muhammad	Shariar	02-APR-19
	A06	Alam	Hossain	20-SEP-20
	A10	Safiul	Hossain	23-JUN-22
	A07	Manjur	Islam	14-JUL-18
	A02	Russel	Islam	06-AUG-20
	A03	Marjuk	Khan	22-NOV-21
	A04	Shihab	Khan	08-JAN-20
	A08	Zia	Khan	29-DEC-19
	A09	Mahmudulla	Khan	11-NOV-16
row(s) 1 - 10 of 10				

ADMIN_MAIL

```

CREATE TABLE "ADMIN_MAIL"
(
  "AD_ID" VARCHAR2(4000) NOT NULL ENABLE,
  "EMAIL" VARCHAR2(4000) NOT NULL ENABLE,
  CONSTRAINT "ADMIN_MAIL_FK" FOREIGN KEY ("AD_ID")
    REFERENCES "ADMIN" ("AD_ID") ENABLE
)

```

EDIT	AD_ID	EMAIL
	A02	a02@gmail.com
	A05	a05@gmail.com
	A02	a20@gmail.com
	A04	a04@gmail.com
	A03	a03@gmail.com
	A06	a06@gmail.com
	A08	a08@gmail.com
	A09	a09@gmail.com
	A09	a90@gmail.com
	A01	a01@gmail.com
	A07	a07@gmail.com
	A10	a10@gmail.com
row(s) 1 - 12 of 12		

CERTIFICATE

```











CREATE TABLE "CERTIFICATE"
(
  "CE_ID" VARCHAR2(4000) NOT NULL ENABLE,
  "S_ID" VARCHAR2(4000),
  "CE_ISSUE_DATE" DATE NOT NULL ENABLE,
  "CE_STATUS" VARCHAR2(4000),
  "AD_ID" VARCHAR2(4000) NOT NULL ENABLE,
  CONSTRAINT "CERTIFICATE_PK" PRIMARY KEY ("CE_ID") ENABLE,
  CONSTRAINT "CERTIFICATE_FK" FOREIGN KEY ("S_ID")
    REFERENCES "STUDENT" ("S_ID") ENABLE,
  CONSTRAINT "CERTIFICATE_CON" FOREIGN KEY ("AD_ID")
    REFERENCES "ADMIN" ("AD_ID") ENABLE
)

```

EDIT	CE_ID	S_ID	CE_ISSUE_DATE	CE_STATUS	AD_ID
	CE01	S2201	10-JAN-22	Pending	A01
	CE06	S2206	18-MAR-22	Not Accepted	A06
	CE07	S2207	23-JUN-22	Pending	A07
	CE09	S2209	19-APR-22	Accepted	A09
	CE03	S2203	16-APR-22	Accepted	A03
	CE04	S2204	25-JAN-22	Pending	A04
	CE08	S2208	15-MAY-22	Accepted	A08
	CE10	S2210	18-NOV-22	Not Accepted	A10
	CE02	S2202	20-MAR-22	Accepted	A02
	CE05	S2205	11-FEB-22	Accepted	A05
row(s) 1 - 10 of 10					











COURSE

```
CREATE TABLE "COURSE"
(
    "C_ID" VARCHAR2(40) NOT NULL ENABLE,
    "C_NAME" VARCHAR2(4000),
    "ASSIGN_C_CR" NUMBER NOT NULL ENABLE,
    CONSTRAINT "COURSE_PK" PRIMARY KEY ("C_ID") ENABLE
)
```

EDIT	C_ID	C_NAME	ASSIGN_C_CR
	C01	BSc in CSE	160
	C02	BSc in CCE	159
	C03	BSc in ETE	158
	C07	BSc in Mechanical	160
	C09	BSc in Civil	154
	C04	BSc in EEE	159
	C05	BSc in Civil	150
	C10	BSc in Automobile	135
	C06	BSc in Software Engineering	158
	C08	Bachelor's in pharmacy	149
row(s) 1 - 10 of 10			

DEPARTMENT

```
CREATE TABLE "DEPARTMENT"
(
  "D_ID" VARCHAR2(4000) NOT NULL ENABLE,
  "DEPT_NAME" VARCHAR2(4000) NOT NULL ENABLE,
  CONSTRAINT "DEPARTMENT_PK" PRIMARY KEY ("D_ID") ENABLE
)
```

EDIT	D_ID	DEPT_NAME
	D07	BBA
	D01	CSE
	D04	ETE
	D05	EEE
	D03	Automobile
	D08	Civil
	D10	Software Engineering
	D02	CCE
	D06	Pharmacy
	D09	Mechanical
row(s) 1 - 10 of 10		

MAKE_PAYMENT

```











CREATE TABLE "MAKE_PAYMENT"
(
    "P_ID" VARCHAR2(4000) NOT NULL ENABLE,
    "S_ID" VARCHAR2(4000) NOT NULL ENABLE,
    CONSTRAINT "MAKE_PAYMENT_FK" FOREIGN KEY ("P_ID")
        REFERENCES "PAYMENT" ("P_ID") ENABLE,
    CONSTRAINT "MAKE_PAYMENT_CON" FOREIGN KEY ("S_ID")
        REFERENCES "STUDENT" ("S_ID") ENABLE
)

```

EDIT	P_ID	S_ID
	P04	S2205
	P08	S2202
	P02	S2204
	P06	S2210
	P07	S2208
	P01	S2203
	P03	S2201
	P05	S2206
	P10	S2207
	P09	S2209
row(s) 1 - 10 of 10		











PAYMENT

```
CREATE TABLE "PAYMENT"
(
  "P_ID" VARCHAR2(4000) NOT NULL ENABLE,
  "AMOUNT" NUMBER,
  "PAY_STATUS" VARCHAR2(4000),
  CONSTRAINT "PAYMENT_PK" PRIMARY KEY ("P_ID") ENABLE
)
```

EDIT	P_ID	AMOUNT	PAY_STATUS
	P09	460000	Complete
	P01	530000	Complete
	P03	320000	Not Completed
	P06	300000	Not Completed
	P02	530000	Complete
	P05	460000	Not Completed
	P07	460000	Complete
	P04	510000	Complete
	P08	520000	Complete
	P10	560000	Complete
row(s) 1 - 10 of 10			

RESULT SHEET

```
CREATE TABLE "RESULT_SHEET"
(
  "RS_ID" VARCHAR2(4000) NOT NULL ENABLE,
  "CE_ID" VARCHAR2(4000) NOT NULL ENABLE,
  "TOTAL_CGP" NUMBER,
  "CGPA" NUMBER NOT NULL ENABLE,
  CONSTRAINT "RESULT_SHEET_PK" PRIMARY KEY ("RS_ID") ENABLE,
  CONSTRAINT "RESULT_SHEET_FK" FOREIGN KEY ("CE_ID")
    REFERENCES "CERTIFICATE" ("CE_ID") ENABLE
)
```











EDIT	RS_ID	CE_ID	TOTAL_CGP	CGPA
	R04	CE04	586	3.6625
	R02	CE02	490	3.289
	R03	CE03	610	3.8125
	R05	CE05	615	3.868
	R07	CE07	575	3.833
	R09	CE09	564	3.5696
	R06	CE06	530	3.581
	R08	CE08	590	3.71
	R10	CE10	295	3.734
	R01	CE01	265	3.813
row(s) 1 - 10 of 10				

STU_EMAIL

```














CREATE TABLE "STU_EMAIL"
(
    "S_ID" VARCHAR2(4000) NOT NULL ENABLE,
    "EMAIL" VARCHAR2(4000) NOT NULL ENABLE,
    CONSTRAINT "STU_EMAIL_FK" FOREIGN KEY ("S_ID")
        REFERENCES "STUDENT" ("S_ID") ENABLE
)

```

EDIT	S_ID	EMAIL
	S2201	s2201@ugrad.gmail.com
	S2202	s2202@ugrad.gmail.com
	S2206	s2206@ugrad.gmail.com
	S2208	s2208@ugrad.gmail.com
	S2210	s2210@ugrad.gmail.com
	S2205	s2205@ugrad.gmail.com
	S2209	s2209@ugrad.gmail.com
	S2203	s2203@ugrad.gmail.com
	S2204	s2204@ugrad.gmail.com
	S2207	s2207@ugrad.gmail.com
row(s) 1 - 10 of 10		

STU_MOBILE

```
CREATE TABLE "STU_MOBILE"
(
  "S_ID" VARCHAR2(4000) NOT NULL ENABLE,
  "MOBILENO" VARCHAR2(20) NOT NULL ENABLE,
  CONSTRAINT "STU_MOBILE_FK" FOREIGN KEY ("S_ID")
    REFERENCES "STUDENT" ("S_ID") ENABLE
)
```

EDIT	S_ID	MOBILENO
	S2202	15123302
	S2209	15123309
	S2210	15123310
	S2205	15123305
	S2208	15123308
	S2201	15123301
	S2203	15123303
	S2207	15123307
	S2203	15123323
	S2201	15123321
	S2204	15123304
	S2206	15123306
	S2205	15123325
row(s) 1 - 13 of 13		

STUDY IN

```

CREATE TABLE "STUDY_IN"
(
    "S_ID" VARCHAR2(4000) NOT NULL ENABLE,
    "D_ID" VARCHAR2(4000) NOT NULL ENABLE,
    "C_ID" VARCHAR2(4000) NOT NULL ENABLE,
    CONSTRAINT "STUDY_IN_FK" FOREIGN KEY ("S_ID")
        REFERENCES "STUDENT" ("S_ID") ENABLE,
    CONSTRAINT "STUDY_IN_FK2" FOREIGN KEY ("D_ID")
        REFERENCES "DEPARTMENT" ("D_ID") ENABLE,
    CONSTRAINT "STUDY_IN_FK3" FOREIGN KEY ("C_ID")
        REFERENCES "COURSE" ("C_ID") ENABLE
)

```

EDIT	S_ID	D_ID	C_ID
	S2201	D01	C01
	S2208	D02	C02
	S2204	D01	C01
	S2206	D05	C04
	S2207	D06	C09
	S2210	D04	C03
	S2209	D04	C03
	S2203	D01	C01
	S2205	D05	C04
	S2202	D06	C08
row(s) 1 - 10 of 10			

SEARCHING DATA FROM INDIVIDUAL TABLE

Q1: Find AD_ID , Job_experienced of all admins in month.

Answer:

```
Select AD_ID,round(months_between(sysdate,join_date)) as Job_Experienced_Month
From Admin;
```

AD_ID	JOB_EXPERIENCED_MONTH
A01	32
A05	44
A06	26
A10	5
A07	52
A02	28
A03	12
A04	35
A08	35
A09	73

10 rows returned in 0.00 seconds

[CSV Export](#)

Q2: Show all certificate details whose CE_STATUS is pending.

Answer:

```
Select *
From Certificate
Where CE_Status = 'Pending' ;
```

CE_ID	S_ID	CE_ISSUE_DATE	CE_STATUS	AD_ID
CE01	S2201	10-JAN-22	Pending	A01
CE07	S2207	23-JUN-22	Pending	A07
CE04	S2204	25-JAN-22	Pending	A04

3 rows returned in 0.01 seconds

[CSV Export](#)

Q3: Show all C_ID and C_Name whose Assign_C_CR in 150,154,160.

Answer:

```
Select C_ID,C_Name
From Course
Where Assign_C_Cr IN (150,154,160);
```

C_ID	C_NAME
C01	BSc in CSE
C07	BSc in Mechanical
C09	BSc in Civil
C05	BSc in Civil

4 rows returned in 0.00 seconds

Q4: Find the S_ID, Name whose Last_Name is like "%a_".

Answer:

```
Select S_ID, First_Name, Last_Name
From Student
Where Last_Name LIKE ('%a_');
```

S_ID	FIRST_NAME	LAST_NAME
S2208	Ismail	Hasan
S2210	Afif	Khan
S2206	Jyed	Iqbal
S2207	Arnab	Khan

4 rows returned in 0.02 seconds

[CSV Export](#)

Q5: Count the student whose semester is 8.

Answer:

```
Select COUNT(S_ID)
From Student
Where Semester = '8';
```

COUNT(S_ID)

7

1 rows returned in 0.00 seconds

Q6: Find the maximum and minimum CGPA from the Result_Sheet table.

Answer:

```
Select MAX(CGPA), MIN(CGPA)
From Result_Sheet;
```

MAX(CGPA)	MIN(CGPA)
3.868	3.289

1 rows returned in 0.00 seconds

Q7: Find the all admin's details who's Last_Name is "Khan" (Not case-sensitive).

Answer:

```
Select *
From Admin
Where lower>Last_Name) = lower('Khan');
```

AD_ID	FIRST_NAME	LAST_NAME	JOIN_DATE
A03	Marjuk	Khan	22-NOV-21
A04	Shihab	Khan	08-JAN-20
A08	Zia	Khan	29-DEC-19
A09	Mahmudulla	Khan	11-NOV-16

4 rows returned in 0.00 seconds

[CSV Export](#)

Q8: Show P_ID from Payment whose Pay_Status is Complete and Amount is Greater than or equal to 450000.

Answer:

```
Select P_ID
From Payment
Where Pay_Status = 'Complete' OR Amount>='450000';
```

P_ID
P09
P01
P02
P05
P07
P04
P08
P10

8 rows returned in 0.00 seconds

Q9: Show RS_ID,CE_ID,CGPA whose Total_CGP in between 500,600.

Answer:

```
Select RS_ID, CE_ID, CGPA  
From Result_Sheet  
Where Total_CGP BETWEEN 500 AND 600;|
```

RS_ID	CE_ID	CGPA
R04	CE04	3.6625
R07	CE07	3.833
R09	CE09	3.5696
R06	CE06	3.581
R08	CE08	3.71

5 rows returned in 0.00 seconds

Q10: Show all details from Study_In Order By C_ID.

Answer:

```
Select *  
From Study_In  
ORDER BY C_ID;
```

S_ID	D_ID	C_ID
S2201	D01	C01
S2204	D01	C01
S2203	D01	C01
S2208	D02	C02
S2210	D04	C03
S2209	D04	C03
S2206	D05	C04
S2205	D05	C04
S2202	D06	C08
S2207	D06	C09

10 rows returned in 0.00 seconds

SEARCHING DATA FROM MULTIPLE TABLE

Q1: Show Admin_Email who join after '01-Jan-2020'. (NATURAL JOIN)

Answer:

```
Select AD_ID,Email
From Admin NATURAL JOIN Admin_Mail
Where Join_Date > '01-Jan-2020';
```

AD_ID	EMAIL
A02	a02@gmail.com
A02	a20@gmail.com
A04	a04@gmail.com
A03	a03@gmail.com
A06	a06@gmail.com
A01	a01@gmail.com
A10	a10@gmail.com

7 rows returned in 0.00 seconds

Q2: Show all details of the Student and Certificate whose CE_Status is Pending. (CROSS-JOIN)

Answer:

```
Select *
From Student CROSS JOIN Certificate
Where CE_STATUS='Pending';
```

S_ID	FIRST_NAME	LAST_NAME	DEPT_NAME	SEMESTER	COM_C_CREDIT	CE_ID	S_ID	CE_ISSUE_DATE	CE_STATUS	AD_ID
S2201	Shovan	Bhattacharjee	CSE	4	69.5	CE01	S2201	10-JAN-22	Pending	A01
S2203	Anamul	Haque	CSE	8	160	CE01	S2201	10-JAN-22	Pending	A01
S2205	Tanveer	Hossain	EEE	8	159	CE01	S2201	10-JAN-22	Pending	A01
S2209	Durjoy	Chowdhury	ETE	8	158	CE01	S2201	10-JAN-22	Pending	A01
S2204	Mehraj	Hossain	CSE	8	160	CE01	S2201	10-JAN-22	Pending	A01
S2208	Ismail	Hasan	CCE	8	159	CE01	S2201	10-JAN-22	Pending	A01
S2210	Afif	Khan	ETE	5	79	CE01	S2201	10-JAN-22	Pending	A01
S2202	Shariar	Ifti	Pharmacy	8	149	CE01	S2201	10-JAN-22	Pending	A01
S2206	Jyed	Iqbal	EEE	7	148	CE01	S2201	10-JAN-22	Pending	A01
S2207	Arnab	Khan	Civil	8	150	CE01	S2201	10-JAN-22	Pending	A01

30 rows returned in 0.00 seconds

Q3: Show Student Name, D_ID whose payment amount is not cleared. (Equi-Join)

Answer:

```
Select S.S_ID, First_Name, Last_Name, DEPT_Name
From Student S, Make_Payment MP, Payment P
Where S.S_ID=MP.S_ID and MP.P_ID=P.P_ID and PAY_STATUS='Not Completed'
Order By S_ID;
```

S_ID	FIRST_NAME	LAST_NAME	DEPT_NAME
S2201	Shovan	Bhattacharjee	CSE
S2206	Jyed	Iqbal	EEE
S2210	Afif	Khan	ETE

3 rows returned in 0.00 seconds

[CSV Export](#)

Q4: Show Assign_C_CR and Dept_Name in descending order of Assign_C_CR and greater than 150.

Answer:

```
Select DEPT_NAME, ASSIGN_C_CR
From Department D, Study_In SI, Course C
Where D.D_ID = SI.D_ID and SI.C_ID = C.C_ID and ASSIGN_C_CR > 150
Order By ASSIGN_C_CR DESC;
```

DEPT_NAME	ASSIGN_C_CR
CSE	160
CSE	160
CSE	160
EEE	159
CCE	159
EEE	159
ETE	158
ETE	158
Pharmacy	154

9 rows returned in 0.00 seconds

Q5: Show the details of all student's Certificate Issue forms with their mark sheet whose CE_STATUS is Pending. (Left Outer Join)

Answer:

```
Select *
From Certificate C Left Outer Join Result_Sheet RS
ON C.CE_ID = RS.CE_ID
Where CE_STATUS='Pending';|
```

CE_ID	S_ID	CE_ISSUE_DATE	CE_STATUS	AD_ID	RS_ID	CE_ID	TOTAL_CGP	CGPA
CE04	S2204	25-JAN-22	Pending	A04	R04	CE04	586	3.6625
CE07	S2207	23-JUN-22	Pending	A07	R07	CE07	575	3.833
CE01	S2201	10-JAN-22	Pending	A01	R01	CE01	265	3.813

3 rows returned in 0.00 seconds

[CSV Export](#)

SUB-QUERIES

Q1: Find all info of Email,Join_Date format as (Day.Month.Year) of all Admin whose Last_Name is same as AD_ID = A09.

Answer:

```
Select A.AD_ID, A.FIRST_NAME, A.LAST_NAME, TO_CHAR(JOIN_DATE,'dd.mm.yy'), AM.EMAIL
From Admin A, Admin_Mail AM
Where A.AD_ID=AM.AD_ID and LAST_NAME = (Select Admin.Last_Name
From Admin
Where AD_ID='A09');|
```

AD_ID	FIRST_NAME	LAST_NAME	TO_CHAR(JOIN_DATE,'DD.MM.YY')	EMAIL
A04	Shihab	Khan	08.01.20	a04@gmail.com
A03	Marjuk	Khan	22.11.21	a03@gmail.com
A08	Zia	Khan	29.12.19	a08@gmail.com
A09	Mahmudulla	Khan	11.11.16	a09@gmail.com
A09	Mahmudulla	Khan	11.11.16	a90@gmail.com

5 rows returned in 0.01 seconds

[CSV Export](#)

Q2: Show the S_ID, CE_ID, and CGPA of those whose CGPA is in the Range who has Greater than the avg Total_CGP.(NESTED SUB-Queries)

Answer:

```
Select C.S_ID, C.CE_ID, CGPA
From Certificate C, Result_Sheet RS
Where C.CE_ID=RS.CE_ID and CGPA IN (Select CGPA
                                     From Result_Sheet
                                     Where Total_CGP > (Select AVG(Total_CGP)
                                                         From Result_Sheet));
```

S_ID	CE_ID	CGPA
S2204	CE04	3.6625
S2203	CE03	3.8125
S2205	CE05	3.868
S2207	CE07	3.833
S2209	CE09	3.5696
S2206	CE06	3.581
S2208	CE08	3.71

7 rows returned in 0.01 seconds

Q3: Write a SQL query to find out the student details who have the same departments as any one of D01, D04, D05, and D10.

Answer:

```
Select *
From Student
Where Dept_Name = ANY (Select Dept_Name
                       From Department
                       Where D_ID='D01' OR D_ID='D04' OR D_ID='D05' OR D_ID='D10');
```

S_ID	CE_ID	CGPA
S2204	CE04	3.6625
S2203	CE03	3.8125
S2205	CE05	3.868
S2207	CE07	3.833
S2209	CE09	3.5696
S2206	CE06	3.581
S2208	CE08	3.71

7 rows returned in 0.01 seconds

Q4: Show the RS_ID, and CGPA of all students whose CE_Status is Accepted.

Answer:

```
Select RS_ID, CGPA
From Result_Sheet
Where CE_ID IN (Select CE_ID
                From Certificate
                Where CE_STATUS='Accepted');
```

RS_ID	CGPA
R02	3.289
R03	3.8125
R05	3.868
R09	3.5696
R08	3.71

5 rows returned in 0.00 seconds

Q5: Show the Name and Job_Experienced of all admins who are Accepted the CE_Status and also show their Join_Date in the format 'fmDD Month YYYY'.

Answer:

```
Select First_Name, Last_Name, TO_CHAR(JOIN_DATE,'fmDD Month YYYY'), round(months_between(sysdate,join_date)/12) Experienced_Year
From Admin
Where AD_ID IN (Select AD_ID
                From Certificate
                Where CE_Status='Accepted');
```

FIRST_NAME	LAST_NAME	TO_CHAR(JOIN_DATE,'FMDDMONTHYYYY')	EXPERIENCED_YEAR
Muhammad	Shariar	2 April 2019	4
Russel	Islam	6 August 2020	2
Marjuk	Khan	22 November 2021	1
Zia	Khan	29 December 2019	3
Mahmudulla	Khan	11 November 2016	6

5 rows returned in 0.00 seconds

[CSV Export](#)

QUERIES WITH PL/SQL

Q1: Show the details of the student whose id is 'S2201'. (Using Variables)

Answer:

```

DECLARE
    Stu_ID Student.S_ID%type;
    Stu_FNAME Student.First_Name%type;
    Stu_LNAME Student.Last_Name%type;
    Stu_DeptName Student.Dept_Name%type;
    Stu_Semester Student.Semester%type;
    Stu_Com_C_Cr Student.COM_C_CREDIT%type;
BEGIN
    Select S_ID, FIRST_NAME, LAST_NAME, DEPT_NAME, SEMESTER, COM_C_CREDIT into Stu_ID, Stu_FNAME, Stu_LNAME, Stu_DeptName, Stu_Semester, Stu_Com_C_Cr
    From Student
    Where S_ID='S2201';

    dbms_output.put_line('Student Id   : ' || Stu_ID);
    dbms_output.put_line('Student Name : ' || Stu_FNAME || ' ' || Stu_LNAME);
    dbms_output.put_line('Student Dept. Name : ' || Stu_DeptName);
    dbms_output.put_line('Student Semester : ' || Stu_Semester);
    dbms_output.put_line('Student Com. Credit : ' || Stu_Com_C_Cr);
END;
```

```

Student Id      : S2201
Student Name    : Shovan Bhattacharjee
Student Dept. Name : CSE
Student Semester : 4
Student Com. Credit : 69.5
```

Statement processed.

0.00 seconds

Q2: Show the details of Payments whose Pay_Status is Completed. (Using Cursor)

Answer:

```

DECLARE
    Pay_ID PAYMENT.P_ID%type;
    Pay_Amount PAYMENT.AMOUNT%type;
    Pay_Sta PAYMENT.PAY_STATUS%type;
CURSOR PCur IS
    Select *
    From Payment
    Where PAY_STATUS='Complete';
BEGIN
    OPEN PCur;
    LOOP
        FETCH PCur INTO Pay_ID, Pay_Amount, Pay_Sta;
        EXIT WHEN PCur%notfound;

        dbms_output.put_line('Payment Id      : ' || Pay_ID);
        dbms_output.put_line('Payment Amount : ' || Pay_Amount);
        dbms_output.put_line('Payment Status : ' || Pay_Sta);
        dbms_output.put_line(' ');
    END LOOP;
    CLOSE PCur;
END;

```

```

Payment Id      : P09
Payment Amount  : 460000
Payment Status  : Complete

```

```

Payment Id      : P01
Payment Amount  : 530000
Payment Status  : Complete

```

```

Payment Id      : P02
Payment Amount  : 530000
Payment Status  : Complete

```

```

Payment Id      : P07
Payment Amount  : 460000
Payment Status  : Complete

```

```

Payment Id      : P04
Payment Amount  : 510000
Payment Status  : Complete

```

```

Payment Id      : P08
Payment Amount  : 520000
Payment Status  : Complete

```

```

Payment Id      : P10
Payment Amount  : 560000
Payment Status  : Complete

```

Statement processed.

0.00 seconds

Q3: Show AD_ID, Email who are joined after '20-Apr-19'. (Using Cursor Record)

Answer:

```

DECLARE

CURSOR ADCur IS
  Select ADMIN.AD_ID,EMAIL
  From ADMIN,ADMIN_MAIL
  Where ADMIN.AD_ID=ADMIN_MAIL.AD_ID and Join_Date>'20-Apr-19';

ADRec ADCur%rowtype;

BEGIN
  OPEN ADCur;
  LOOP
    FETCH ADCur INTO ADRec;
    EXIT WHEN ADCur%notfound;

    dbms_output.put_line('Admin Id      : ' || ADRec.AD_ID);
    dbms_output.put_line('Admin Email   : ' || ADRec.EMAIL);
    dbms_output.put_line(' ');
  END LOOP;
  CLOSE ADCur;
END;

```

```

Admin Id      : A02
Admin Email   : a02@gmail.com

Admin Id      : A02
Admin Email   : a20@gmail.com

Admin Id      : A04
Admin Email   : a04@gmail.com

Admin Id      : A03
Admin Email   : a03@gmail.com

Admin Id      : A06
Admin Email   : a06@gmail.com

Admin Id      : A08
Admin Email   : a08@gmail.com

Admin Id      : A01
Admin Email   : a01@gmail.com

Admin Id      : A10
Admin Email   : a10@gmail.com

```

Statement processed.

0.00 seconds

Q4: Show the Certificate Details along with CGPA whose CE_Status is 'Accepted'.

Answer:

DECLARE

CURSOR CECur IS

```
Select CE.CE_ID,CE_ISSUE_DATE,S_ID,CE_STATUS,CGPA
From Certificate CE,Result_Sheet RS
Where CE.CE_ID=RS.CE_ID and CE_STATUS='Accepted';
```

CERec CECur%rowtype;

BEGIN

OPEN CECur;

LOOP

FETCH CECur INTO CERec;

EXIT WHEN CECur%notfound;

```
dbms_output.put_line('CE Id           : ' || CERec.CE_ID);
dbms_output.put_line('Student ID      : ' || CERec.CE_ISSUE_DATE);
dbms_output.put_line('CE Issue Date   : ' || CERec.S_ID);
dbms_output.put_line('CE Status       : ' || CERec.CE_STATUS);
dbms_output.put_line('CGPA            : ' || CERec.CGPA);
dbms_output.put_line(' ');
```

END LOOP;

CLOSE CECur;

END;

```
CE Id           : CE09
Student ID      : 19-APR-22
CE Issue Date   : S2209
CE Status       : Accepted
CGPA            : 3.5696
```

```
CE Id           : CE03
Student ID      : 16-APR-22
CE Issue Date   : S2203
CE Status       : Accepted
CGPA            : 3.8125
```

```
CE Id           : CE08
Student ID      : 15-MAY-22
CE Issue Date   : S2208
CE Status       : Accepted
CGPA            : 3.71
```

```
CE Id           : CE02
Student ID      : 20-MAR-22
CE Issue Date   : S2202
CE Status       : Accepted
CGPA            : 3.289
```

```
CE Id           : CE05
Student ID      : 11-FEB-22
CE Issue Date   : S2205
CE Status       : Accepted
CGPA            : 3.868
```

Statement processed.

0.00 seconds

Q5: Show all Students who do not complete their payment.

Answer:

```

DECLARE

CURSOR PCur IS
  Select S_ID,PAY_STATUS
  From Payment P,Make_Payment MP
  Where P.P_ID=MP.P_ID and PAY_STATUS='Not Completed';

PRec PCur%rowtype;

BEGIN
  OPEN PCur;
  LOOP
    FETCH PCur INTO PRec;
    EXIT WHEN PCur%notfound;

    dbms_output.put_line('PAY Status      : ' || PRec.PAY_STATUS);
    dbms_output.put_line('Student ID      : ' || PRec.S_ID);
    dbms_output.put_line(' ');
  END LOOP;
  CLOSE PCur;
END;
```

```

PAY Status      : Not Completed
Student ID      : S2210
```

```

PAY Status      : Not Completed
Student ID      : S2201
```

```

PAY Status      : Not Completed
Student ID      : S2206
```

Statement processed.

0.00 seconds

THE END!