PROJECT REPORT

Project Name:SCHOOL MANAGEMENT SYSTEM

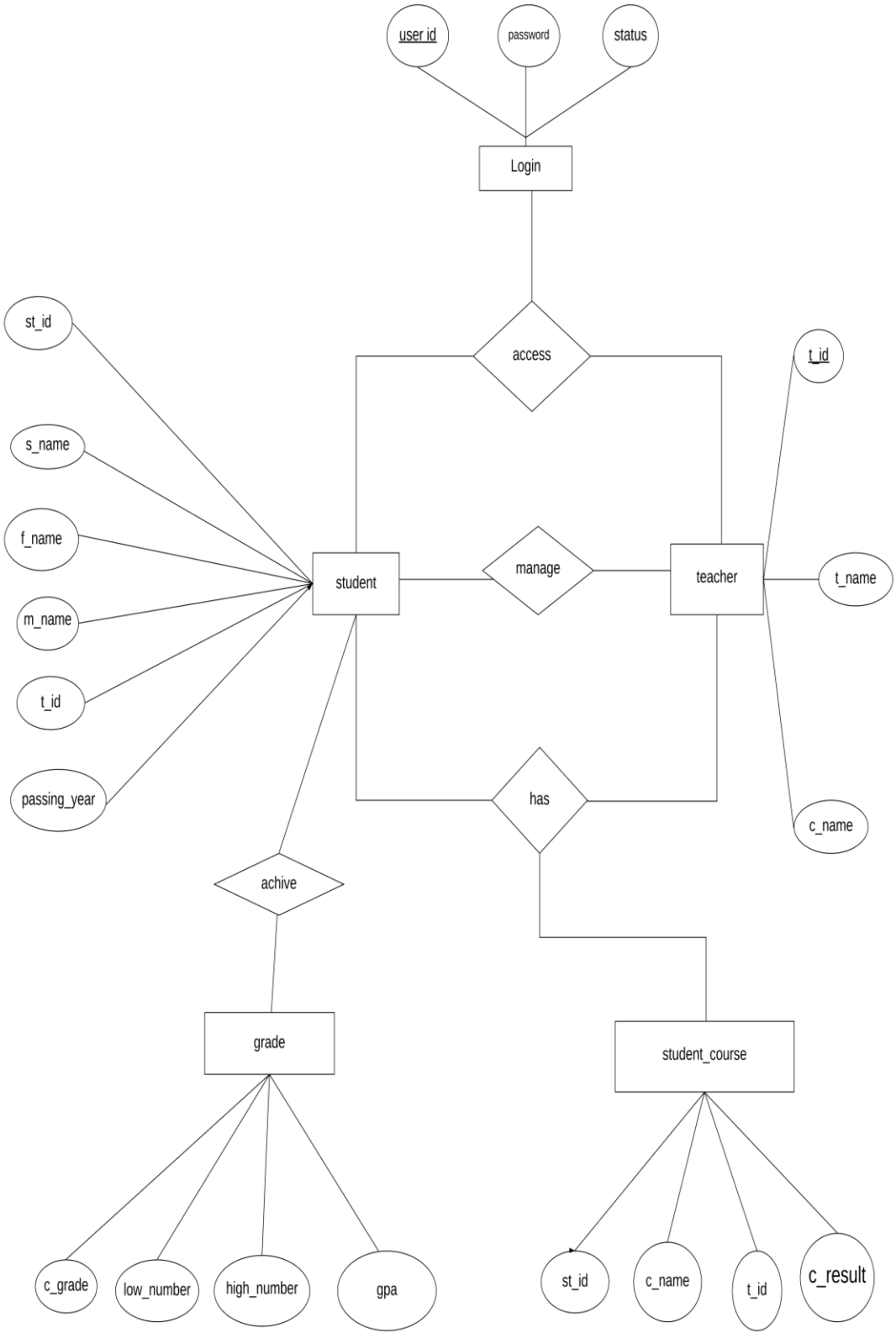
Course Name :ADVANCE DATABASE MANAGEMENT SYSTEM

Table of Contents:

Summary of System:

The main objective of our school management system is to oversee the full subtle elements of students, classes, instructors, guardians and results. The project discover out the data around understudies such as student's name, student's father's and mother's title, id number of the understudy, student's course teacher's data, student's grade and gpa, course related questions etc.There are five diverse table within the venture database like STUDENT_INFO, TEACHER_INFO, STUDENT_COURSE, Grade and LOGIN. The STUDENT_INFO table contains a few column that grant us points of interest almost understudies and their parental data. TEACHER_INFO table gives teacher's points of interest. STUDENT_COURSE tell us approximately which courses are taken by the understudies. Like other table Review contains the moo number and tall number of particular course that the understudy accomplishes. At that point the review is calculated from gpa. At final the LOGIN table has three columns. From this table we will get the data almost the actuation status of understudies. There are 3 primary keys in three different table, one is ST_ID in STUDENT_INFO, Second one is T_ID in TEACHER_INFO and third one USER_ID in LOGIN. We can create a lots of queries from our project to filter student's designation mainly by performing normal queries, equi-joining, non equi-joining, self-joining, applying group by and order by, having clause, function(Max, Min, Count, Sum, Avg).

ERD diagram


user id
password
status
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t_id
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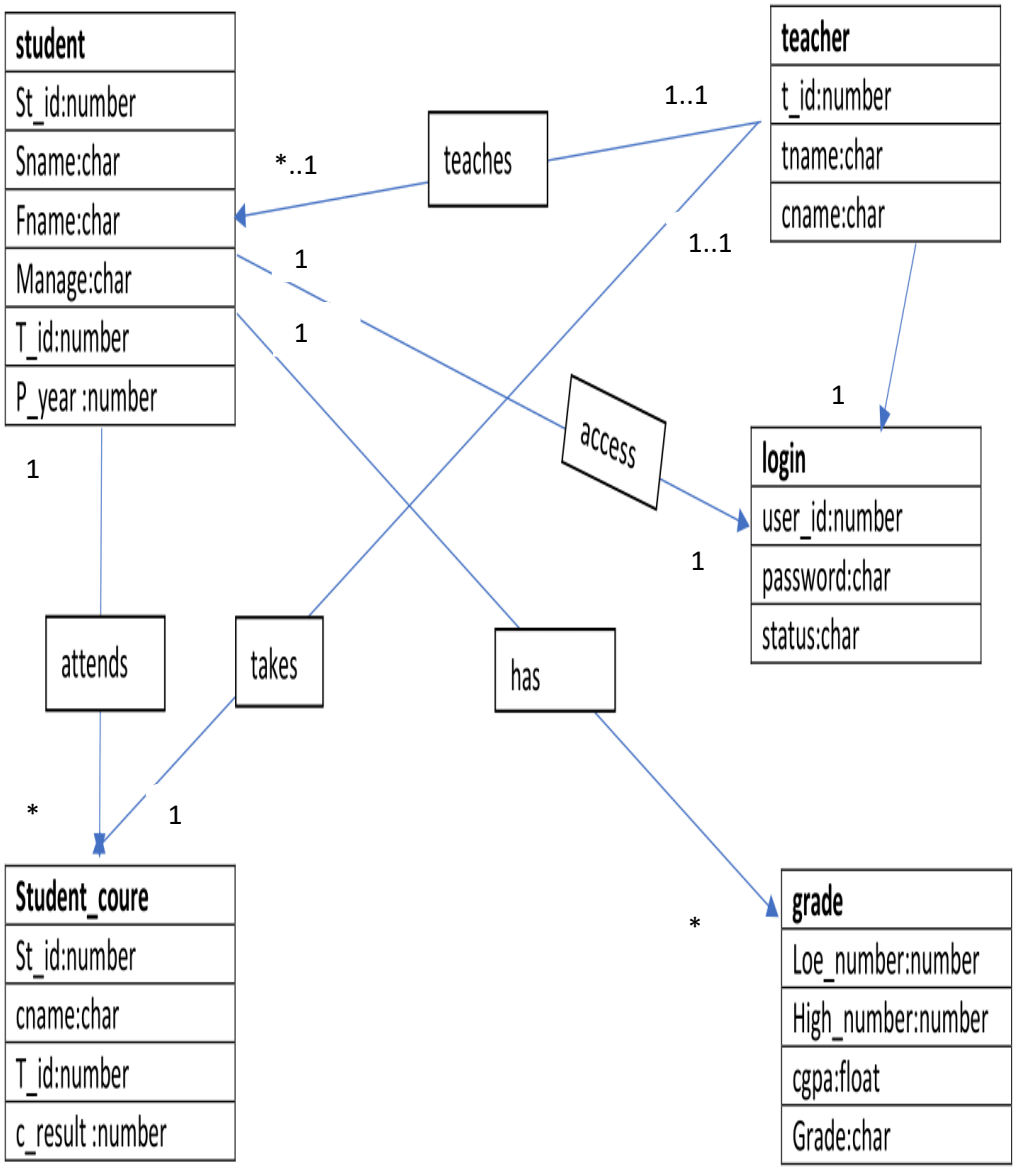
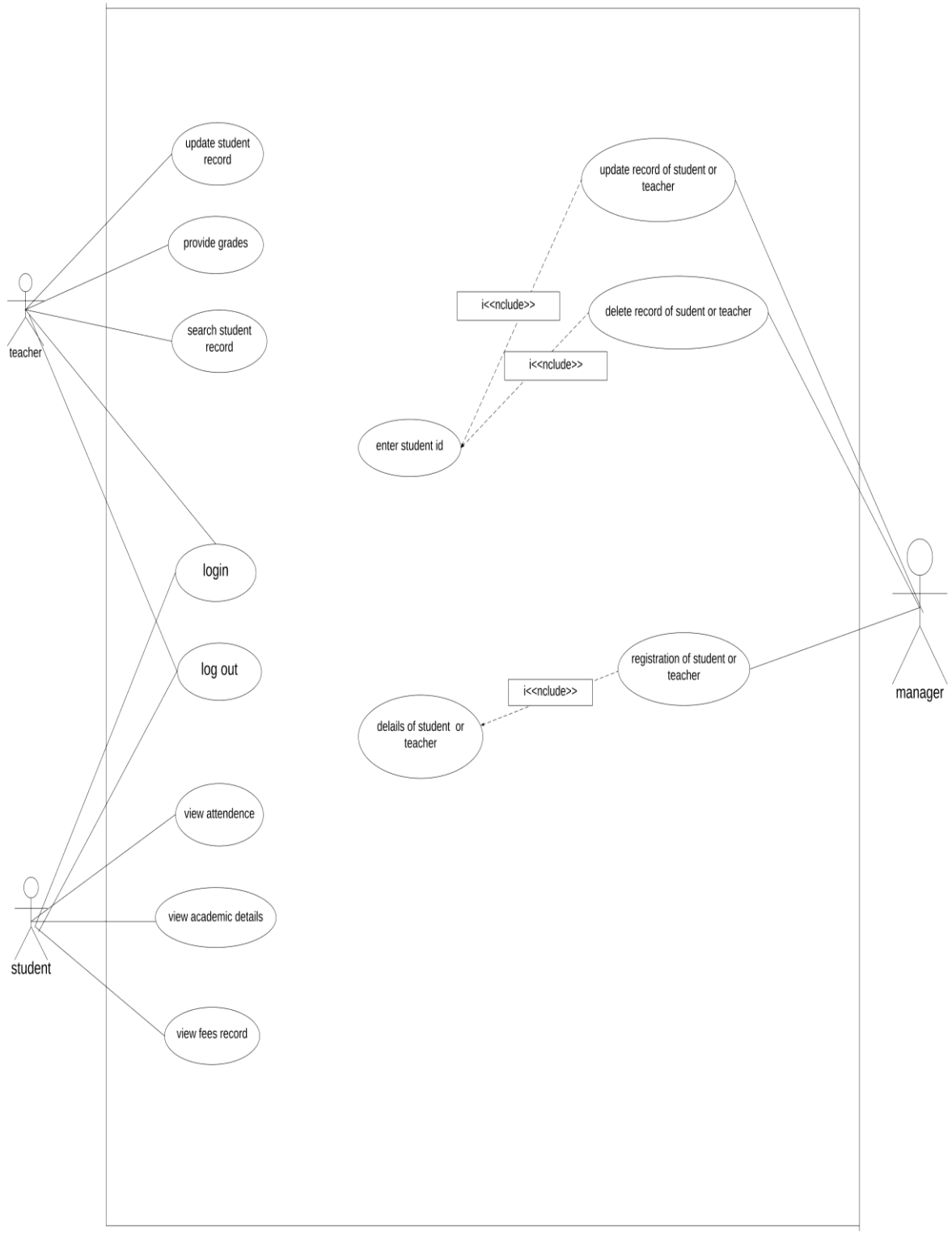
low_number
high_number
gpa
student_course
st_id
c_name
t_id
c_result

Class diagrams



Use case


update student record
provide grades
search student record
teacher
login
log out
view attendence
view academic details
view fees record
student
update record of student or teacher
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registration of student or teacher
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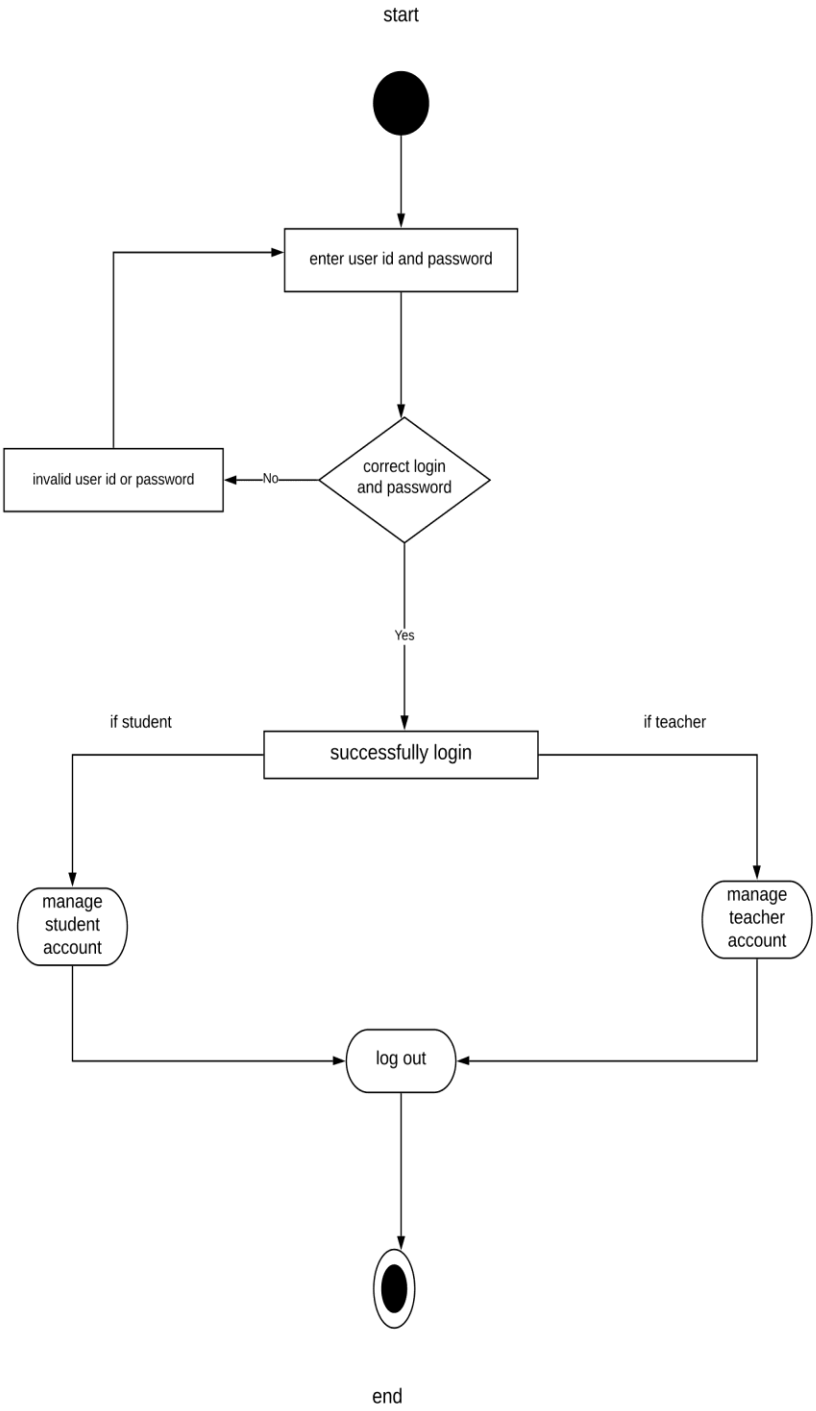
manager

Activity diagram



Database Schema Diagram:

Table 1: STUDENT_INFO

Number	Column	Type	Length	Nullable
01	ST_ID	NUMBER	10	NO
02	SNAME	VARCHAR2	20	YES
03	FNAME	VARCHAR2	20	YES
04	MNAME	VARCHAR2	20	YES
05	T_ID	NUMBER	10	YES
06	PASSING_YEAR	NUMBER	4	YES

Table 2: TEACHER_INFO

Number	Column	Type	Length	Nullable
01	T_ID	NUMBER	10	NO
02	TNAME	VARCHAR2	20	YES
03	CNAME	VARCHAR2	20	YES

Table 3: STUDENT_COURSE

Number	Column	Type	Length	Nullable
01	ST_ID	NUMBER	10	YES
02	CNAME	VARCHAR2	20	YES
03	T_ID	NUMBER	10	YES
04	C_RESULT	NUMBER	10	YES

Table 4: GRADE

Number	Column	Type	Length	Nullable
01	LOW_NUMBER	NUMBER	10	YES
02	HIGH_NUMBER	NUMBER	10	YES
03	GPA	NUMBER	10	YES
04	C_GRADE	VARCHAR2	10	YES

Table 5: LOGIN

Number	Column	Type	Length	Nullable
01	USER_ID	NUMBER	10	NO
02	PASSWORD	VARCHAR2	10	YES
03	STATUS	VARCHAR2	10	YES

SQL commands for table creation:

For STUDENT _INFO Table:

```
CREATE TABLE STUDENT_INFO
    (ST_ID NUMBER(10) PRIMARY KEY,
      SNAME VARCHAR2(20),
      FNAME VARCHAR2(20),
      MNAME VARCHAR2(20),
      T_ID NUMBER(10),
```

```
        PASSING_YEAR NUMBER(4));


INSERT INTO STUDENT_INFO
VALUES(10001,'ALICE','BOB','GANIKA',20002,2015);

INSERT INTO STUDENT_INFO
VALUES(10002,'NAYEM','HASEM','NAZMA',20001,2014);

INSERT INTO STUDENT_INFO

VALUES(10003,'NADIA','AMIR','SETU',20006,2015);

INSERT INTO STUDENT_INFO
VALUES(10004,'ARIF','KARIM','SANJIDA',20004,2018);

INSERT INTO STUDENT_INFO
VALUES(10005,'JANNAT','RAJ','TULEI',20002,2017);

INSERT INTO STUDENT_INFO
VALUES(10006,'SOHID','MONCUR','KHADIJA',20007,2015);

INSERT INTO STUDENT_INFO
VALUES(10007,'RAHIM','KARIM','ROHIMA',20001,2018);

INSERT INTO STUDENT_INFO
VALUES(10008,'ASHIK','NOZRUL','AMINA',20003,2017);

INSERT INTO STUDENT_INFO
VALUES(10009,'OLIVA','JOY','EVANA',20005,2014);

INSERT INTO STUDENT_INFO
VALUES(10010,'SOJIB','SHIBLO','MITU',20006,2015);
```

For TEACHER_INFO Table:

```
CREATE TABLE TEACHER_INFO
    (T_ID NUMBER(10) PRIMARY KEY,
      TNAME VARCHAR2(20),
      CNAME VARCHAR2(20));

INSERT INTO TEACHER_INFO VALUES(20001,'PRODIP','BANGLA');
INSERT INTO TEACHER_INFO VALUES(20002,'MASUM','BANGLA');
INSERT INTO TEACHER_INFO VALUES(20003,'BILLAH','MATH');
INSERT INTO TEACHER_INFO VALUES(20004,'SHAKIB','MATH');
INSERT INTO TEACHER_INFO VALUES(20005,'RAKIB','BANGLA');
INSERT INTO TEACHER_INFO VALUES(20006,'TANJIL','ENGLISH');
INSERT INTO TEACHER_INFO VALUES(20007,'HASIB','MATH');
INSERT INTO TEACHER_INFO VALUES(20008,'AMIN','ENGLISH');
INSERT INTO TEACHER_INFO VALUES(20009,'FATIMA','BANGLA');
INSERT INTO TEACHER_INFO VALUES(20010,'KANIJ','ENGLISH');
```

For STUDENT_COURSE Table:

```
CREATE TABLE STUDENT_COURSE
    (ST_ID NUMBER(10),
      CNAME VARCHAR2(20),
      T_ID NUMBER(10),
      C_RESULT NUMBER(10));
```

```
INSERT INTO STUDENT_COURSE VALUES(10001,'BANGLA',20001,88);
INSERT INTO STUDENT_COURSE VALUES(10001,'MATH',20003,93);
INSERT INTO STUDENT_COURSE VALUES(10001,'ENGLISH',20006,67);
INSERT INTO STUDENT_COURSE VALUES(10002,'BANGLA',20002,90);
INSERT INTO STUDENT_COURSE VALUES(10002,'MATH',20007,78);
INSERT INTO STUDENT_COURSE VALUES(10002,'ENGLISH',20008,95);
INSERT INTO STUDENT_COURSE VALUES(10003,'BANGLA',20009,30);
INSERT INTO STUDENT_COURSE VALUES(10003,'MATH',20003,80);
INSERT INTO STUDENT_COURSE VALUES(10003,'ENGLISH',20010,49);
INSERT INTO STUDENT_COURSE VALUES(10004,'BANGLA',20001,90);
INSERT INTO STUDENT_COURSE VALUES(10004,'MATH',20004,49);
INSERT INTO STUDENT_COURSE VALUES(10004,'ENGLISH',20006,37);
INSERT INTO STUDENT_COURSE VALUES(10005,'BANGLA',20009,83);
INSERT INTO STUDENT_COURSE VALUES(10005,'MATH',20003,93);
INSERT INTO STUDENT_COURSE VALUES(10005,'ENGLISH',20010,89);
INSERT INTO STUDENT_COURSE VALUES(10006,'BANGLA',20002,80);
INSERT INTO STUDENT_COURSE VALUES(10006,'MATH',20007,40);
INSERT INTO STUDENT_COURSE VALUES(10006,'ENGLISH',20008,87);
INSERT INTO STUDENT_COURSE VALUES(10007,'BANGLA',20001,98);
INSERT INTO STUDENT_COURSE VALUES(10007,'MATH',20003,49);
INSERT INTO STUDENT_COURSE VALUES(10007,'ENGLISH',20010,99);
INSERT INTO STUDENT_COURSE VALUES(10008,'BANGLA',20009,87);
```

```
INSERT INTO STUDENT_COURSE VALUES(10008,'MATH',20003,58);
INSERT INTO STUDENT_COURSE VALUES(10008,'ENGLISH',20006,87);
INSERT INTO STUDENT_COURSE VALUES(10009,'BANGLA',20002,89);
INSERT INTO STUDENT_COURSE VALUES(10009,'MATH',20007,70);
INSERT INTO STUDENT_COURSE VALUES(10009,'ENGLISH',20008,86);
INSERT INTO STUDENT_COURSE VALUES(10010,'BANGLA',20002,87);
INSERT INTO STUDENT_COURSE VALUES(10010,'MATH'20004,38);
INSERT INTO STUDENT_COURSE VALUES(10010,'ENGLISH',20008,88);
```

For GRADE Table:

```
CREATE TABLE GRADE
( LOW_NUMBER NUMBER(10),
        HI_NUMBER NUMBER(10),
        GPA NUMBER(10),
GRADE VARCHAR2(10));

INSERT INTO GRADE VALUES (80,100,5.00,'A+');
INSERT INTO GRADE VALUES (70,79,4.00,'A');
INSERT INTO GRADE VALUES (60,69,3.50,'A-');
INSERT INTO GRADE VALUES (50,59,3.00,'B');
INSERT INTO GRADE VALUES (40,49,2.00,'C');
INSERT INTO GRADE VALUES (33,39,1.00,'D');
INSERT INTO GRADE VALUES (0,32,0.00,'F');
```

For LOGIN Table:

```
CREATE TABLE LOGIN
( USER_ID NUMBER(10) PRIMARY KEY,
        PASSWORD VARCHAR2(10),
        STATUS VARCHAR2(10));
INSERT INTO LOGIN VALUES (10001,'PS001','ACTIVE');
INSERT INTO LOGIN VALUES (10002,'PS002','ACTIVE');
INSERT INTO LOGIN VALUES (10003,'PS003','ACTIVE');
INSERT INTO LOGIN VALUES (10004,'PS004','ACTIVE');
INSERT INTO LOGIN VALUES (10005,'PS005','ACTIVE');
INSERT INTO LOGIN VALUES (10006,'PS006','ACTIVE');
INSERT INTO LOGIN VALUES (10007,'PS007','ACTIVE');
INSERT INTO LOGIN VALUES (10008,'PS008','ACTIVE');
INSERT INTO LOGIN VALUES (10009,'PS009','ACTIVE');
INSERT INTO LOGIN VALUES (10010,'PS010','ACTIVE');
INSERT INTO LOGIN VALUES (20001,'PS011','ACTIVE');
INSERT INTO LOGIN VALUES (20002,'PS012','ACTIVE');
INSERT INTO LOGIN VALUES (20003,'PS013','ACTIVE');
INSERT INTO LOGIN VALUES (20004,'PS014','ACTIVE');
INSERT INTO LOGIN VALUES (20005,'PS014','ACTIVE');
INSERT INTO LOGIN VALUES (20006,'PS015','ACTIVE');
INSERT INTO LOGIN VALUES (20007,'PS016','ACTIVE');
INSERT INTO LOGIN VALUES (20008,'PS017','ACTIVE');
INSERT INTO LOGIN VALUES (20009,'PS018','ACTIVE');
```

INSERT INTO LOGIN VALUES (20010,'PS019','ACTIVE');

Screenshot of Sample Data:

STUDENT_INFO:

ST_ID	SNAME	FNAME	MNAME	T_ID	PASSING_YEAR
10001	ALICE	BOB	GANIKA	20002	2015
10002	NAYEM	HASEM	NAZMA	20001	2014
10003	NADIA	AMIR	SETU	20006	2015
10005	JANNAT	RAJ	TULEI	20002	2017
10006	SOHID	MONCUR	KHADIJA	20007	2015
10007	RAHIM	KARIM	ROHIMA	20001	2018
10004	ARIF	KARIM	SANJIDA	20004	2018
10008	ASHIK	NOZRUL	AMINA	20003	2017
10009	OLIVA	JOY	EVANA	20005	2014
10010	SOJIB	SHIBLO	MITU	20006	2015

10 rows returned in 0.14 seconds CSV Export

TEACHER_INFO:

T_ID	TNAME	CNAME
20001	PRODIP	BANGLA
20002	MASUM	BANGLA
20003	BILLAH	MATH
20004	SHAKIB	MATH
20006	TANJIL	ENGLISH
20007	HASIB	MATH
20008	AMIN	ENGLISH
20009	FATIMA	BANGLA
20005	RAKIB	BANGLA
20010	KANIJ	ENGLISH

10 rows returned in 0.00 seconds

STUDENT_COURSE:

ST_ID	CNAME	T_ID	C_RESULT
10001	BANGLA	20001	88
10001	ENGLISH	20006	67
10003	BANGLA	20009	30
10003	MATH	20003	80
10004	BANGLA	20001	90
10004	ENGLISH	20006	37
10005	ENGLISH	20010	89
10006	MATH	20007	40
10006	ENGLISH	20008	87
10007	BANGLA	20001	98
10007	MATH	20003	49
10009	MATH	20007	70
10009	ENGLISH	20008	86
10010	BANGLA	20002	87
10010	MATH	20004	38
10001	MATH	20003	93
10002	BANGLA	20002	90
10002	MATH	20007	78
10002	ENGLISH	20008	95
10003	ENGLISH	20010	49
10004	MATH	20004	49
10005	BANGLA	20009	83
10005	MATH	20003	93
10006	BANGLA	20002	80
10007	ENGLISH	20010	99
10008	BANGLA	20009	87
10008	MATH	20003	58
10008	ENGLISH	20006	87
10009	BANGLA	20002	89
10009	ENGLISH	20008	86

More than 30 rows available. Increase rows selector to view more rows.

30 rows returned in 0.01 seconds CSV Export

GRADE:

LOW_NUMBER	HI_NUMBER	GPA	GRADE
70	79	4	A
60	69	4	A-
40	49	2	C
33	39	1	D
80	100	5	A+
50	59	3	B
0	32	0	F

7 rows returned in 0.02 seconds CSV Export

LOGIN:

USER_ID	PASSWORD	STATUS
10001	PS001	ACTIVE
10002	PS002	ACTIVE
10003	PS003	ACTIVE
10008	PS008	ACTIVE
10010	PS010	ACTIVE
20001	PS011	ACTIVE
20003	PS013	ACTIVE
20006	PS015	ACTIVE
20008	PS017	ACTIVE
20009	PS018	ACTIVE
20010	PS019	ACTIVE
10004	PS004	ACTIVE
10005	PS005	ACTIVE
10006	PS006	ACTIVE
10007	PS007	ACTIVE
10009	PS009	ACTIVE
20002	PS012	ACTIVE
20004	PS014	ACTIVE
20005	PS014	ACTIVE
20007	PS016	ACTIVE

20 rows returned in 0.06 seconds

Queries:

1. SELECT st_id,sname,tname

   FROM student_info,teacher_info

   WHERE student_info.t_id=teacher_info.t_id

   ORDER BY st_id;

```
SELECT st_id,sname,tname
FROM student_info,teacher_info
WHERE student_info.t_id=teacher_info.t_id
ORDER BY st_id
```

Results Explain Describe Saved SQL History

ST_ID	SNAME	TNAME
10001	ALICE	MASUM
10002	NAYEM	PRODIP
10003	NADIA	TANJIL
10004	ARIF	SHAKIB
10005	JANNAT	MASUM
10006	SOHID	HASIB
10007	RAHIM	PRODIP
10008	ASHIK	BILLAH
10009	OLIVA	RAKIB
10010	SOJIB	TANJIL

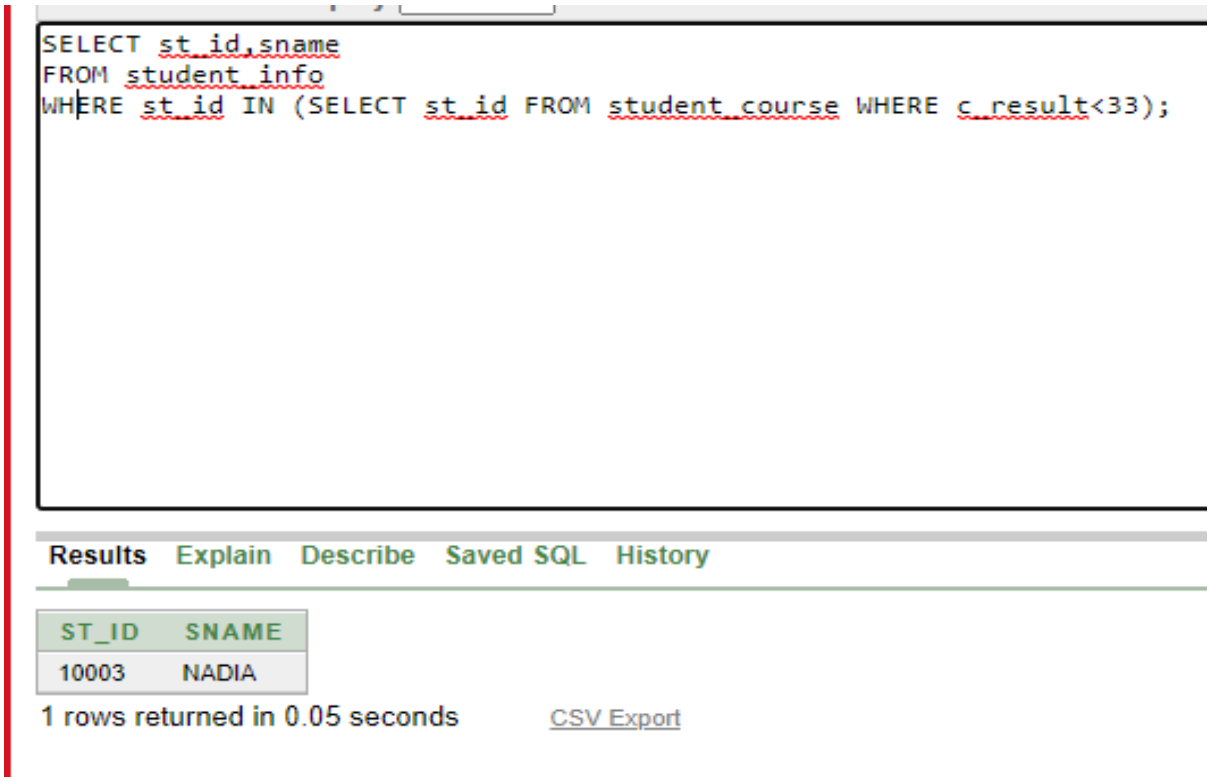
10 rows returned in 0.00 seconds CSV Export

Waiting for 127.0.0.1...

2.SELECT st_id,sname

FROM student_info

WHERE st_id IN (SELECT st_id FROM student_course WHERE c_result<33);



3.

SELECT ROUND(avg(gpa),2) as AVG_GPA

FROM student_info,student_course,grade

WHERE c_result between low_number and hi_number

AND student_info.st_id=student_course.st_id

AND sname='NAYEM';

```
SELECT ROUND(avg(gpa),2) as AVG_GPA
FROM student_info,student_course,grade
WHERE c_result between low_number and hi_number
AND student_info.st_id=student_course.st_id
AND sname='NAYEM';
```

Results Explain Describe Saved SQL History

AVG_GPA
4.67

1 rows returned in 0.02 seconds CSV Export

4.

SELECT user_id, password

FROM login,student_info

WHERE st_id=user_id and sname='NAYEM';

```
SELECT user_id, password
FROM login,student_info
WHERE st_id=user_id and sname='NAYEM';
```

Results Explain Describe Saved SQL History

USER_ID	PASSWORD
10002	PS002

1 rows returned in 0.06 seconds CSV Export

5.

SELECT student_info.st_id, sname, cname,grade

FROM student_info, student_course, grade

WHERE student_info.st_id= student_course.st_id

AND c_result between low_number and hi_number;

ST_ID	SNAME	CNAME	GRADE
10003	NADIA	BANGLA	F
10004	ARIF	ENGLISH	D
10010	SOJIB	MATH	D
10006	SOHID	MATH	C
10003	NADIA	ENGLISH	C
10007	RAHIM	MATH	C
10004	ARIF	MATH	C
10008	ASHIK	MATH	B
10001	ALICE	ENGLISH	A-
10009	OLIVA	MATH	A
10002	NAYEM	MATH	A
10003	NADIA	MATH	A+
10006	SOHID	BANGLA	A+
10005	JANNAT	BANGLA	A+
10009	OLIVA	ENGLISH	A+
10009	OLIVA	ENGLISH	A+
10008	ASHIK	ENGLISH	A+
10010	SOJIB	BANGLA	A+
10008	ASHIK	BANGLA	A+
10006	SOHID	ENGLISH	A+
10010	SOJIB	ENGLISH	A+
10001	ALICE	BANGLA	A+
10005	JANNAT	ENGLISH	A+
10009	OLIVA	BANGLA	A+
10002	NAYEM	BANGLA	A+
10004	ARIF	BANGLA	A+
10005	JANNAT	MATH	A+
10001	ALICE	MATH	A+
10002	NAYEM	ENGLISH	A+
10007	RAHIM	BANGLA	A+

Waiting for 127.0.0.1...

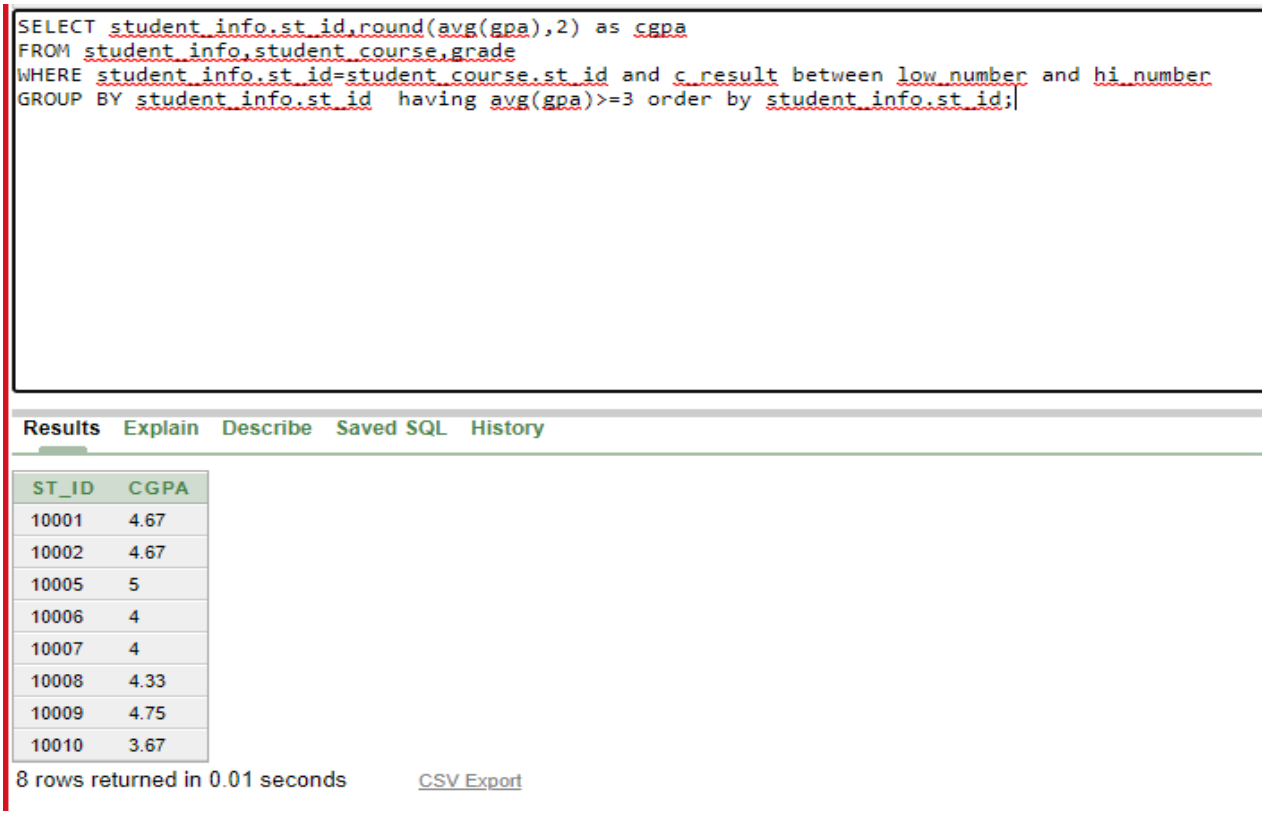
6.

SELECT student_info.st_id,round(avg(gpa),2) as cgpa

FROM student_info,student_course,grade

WHERE student_info.st_id=student_course.st_id and c_result between low_number and hi_number

GROUP BY student_info.st_id having avg(gpa)>=3 order by student_info.st_id;



```
SELECT student_info.st_id,round(avg(gpa),2) as cgpa
FROM student_info,student_course,grade
WHERE student_info.st_id=student_course.st_id and c_result between low_number and hi_number
GROUP BY student_info.st_id  having avg(gpa)>=3 order by student_info.st_id;
```

Results Explain Describe Saved SQL History

ST_ID	CGPA
10001	4.67
10002	4.67
10005	5
10006	4
10007	4
10008	4.33
10009	4.75
10010	3.67

8 rows returned in 0.01 seconds CSV Export

7.

SELECT student_info.st_id,round(avg(gpa),2) as cgpa

FROM student_info,student_course,grade

WHERE student_info.st_id=student_course.st_id and c_result between low_number and hi_number

GROUP BY student_info.st_id order by student_info.st_id;

```
SELECT student_info.st_id,round(avg(gpa),2) as cgpa
FROM student_info,student_course,grade
WHERE student_info.st_id=student_course.st_id and c_result between low_number and hi_number
GROUP BY student_info.st_id order by student_info.st_id;
```

Results Explain Describe Saved SQL History

ST_ID	CGPA
10001	4.67
10002	4.67
10003	2.33
10004	2.67
10005	5
10006	4
10007	4
10008	4.33
10009	4.75
10010	3.67

10 rows returned in 0.01 seconds CSV Export

Waiting for 127.0.0.1...

8.

UPDATE login set password='NAYEM1234'

WHERE user_id=(select st_id from student_info where sname='NAYEM');

```
UPDATE login set password='NAYEM1234'
WHERE user_id=(select st_id from student_info where sname='NAYEM');
```

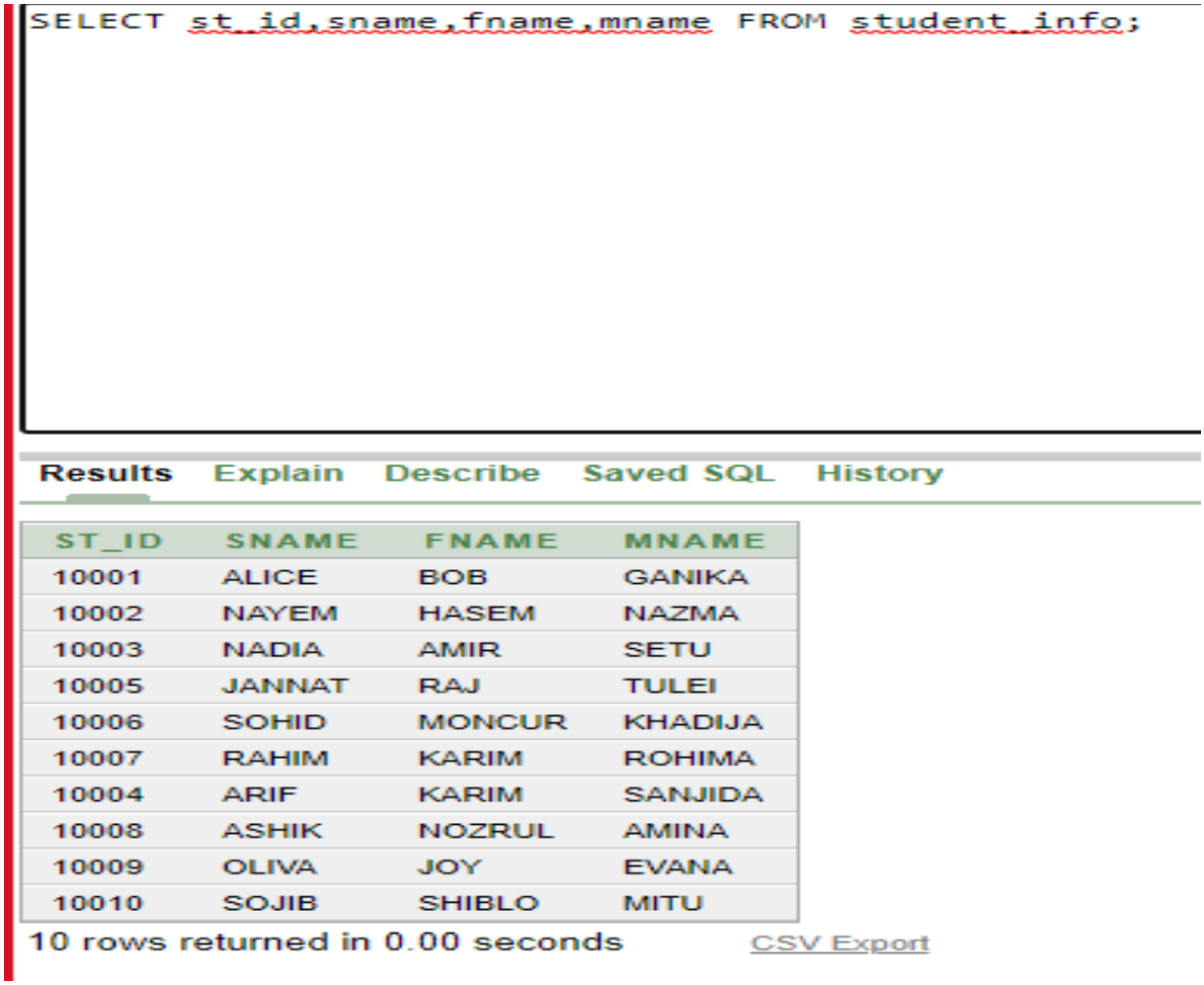
Results Explain Describe Saved SQL History

```
1 row(s) updated.
```

0.01 seconds

9.

SELECT st_id,sname,fname,mname FROM student_info;



```
SELECT st_id,sname,fname,mname FROM student_info;
```

Results | Explain | Describe | Saved SQL | History

ST_ID	SNAME	FNAME	MNAME
10001	ALICE	BOB	GANIKA
10002	NAYEM	HASEM	NAZMA
10003	NADIA	AMIR	SETU
10005	JANNAT	RAJ	TULEI
10006	SOHID	MONCUR	KHADIJA
10007	RAHIM	KARIM	ROHIMA
10004	ARIF	KARIM	SANJIDA
10008	ASHIK	NOZRUL	AMINA
10009	OLIVA	JOY	EVANA
10010	SOJIB	SHIBLO	MITU

10 rows returned in 0.00 seconds CSV Export

10.

UPDATE login set status='DEACTIVE'

WHERE user_id in (SELECT student_info.st_id FROM student_info,student_course WHERE student_info.st_id=student_course.st_id and c_result<40);

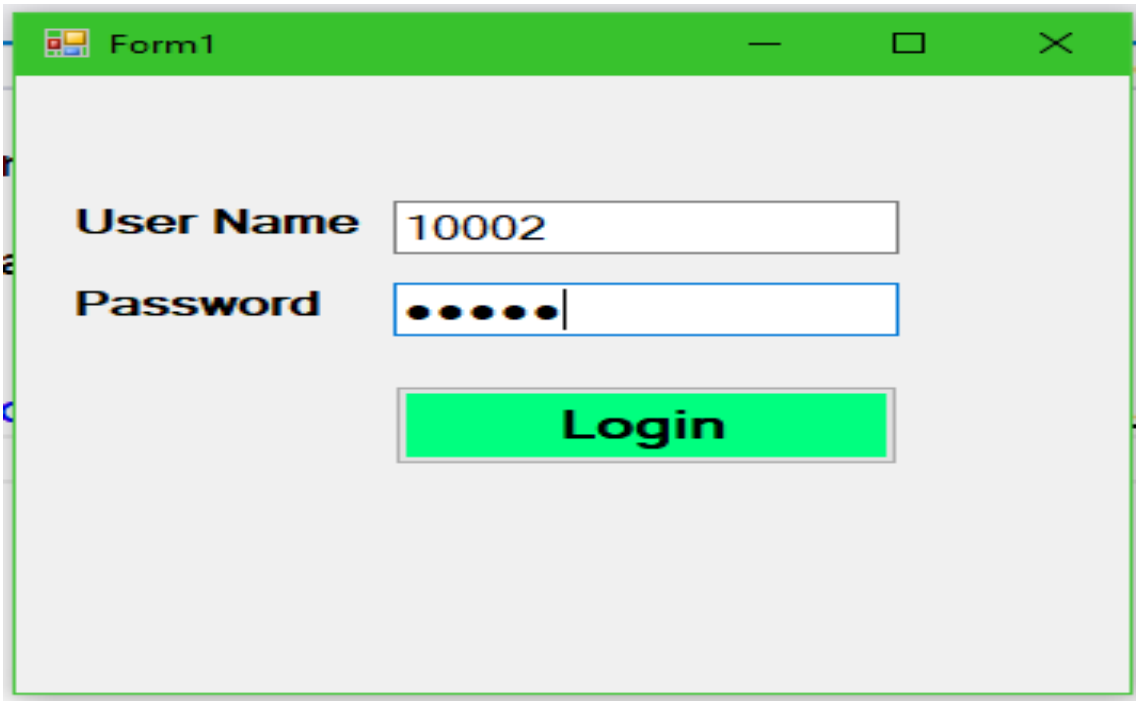
```
UPDATE login set status='DEACTIVE'
WHERE user_id in (SELECT student_info.st_id FROM student_info,student_course WHERE student_info.st_id=student_course.st_id and c_result<40);
```

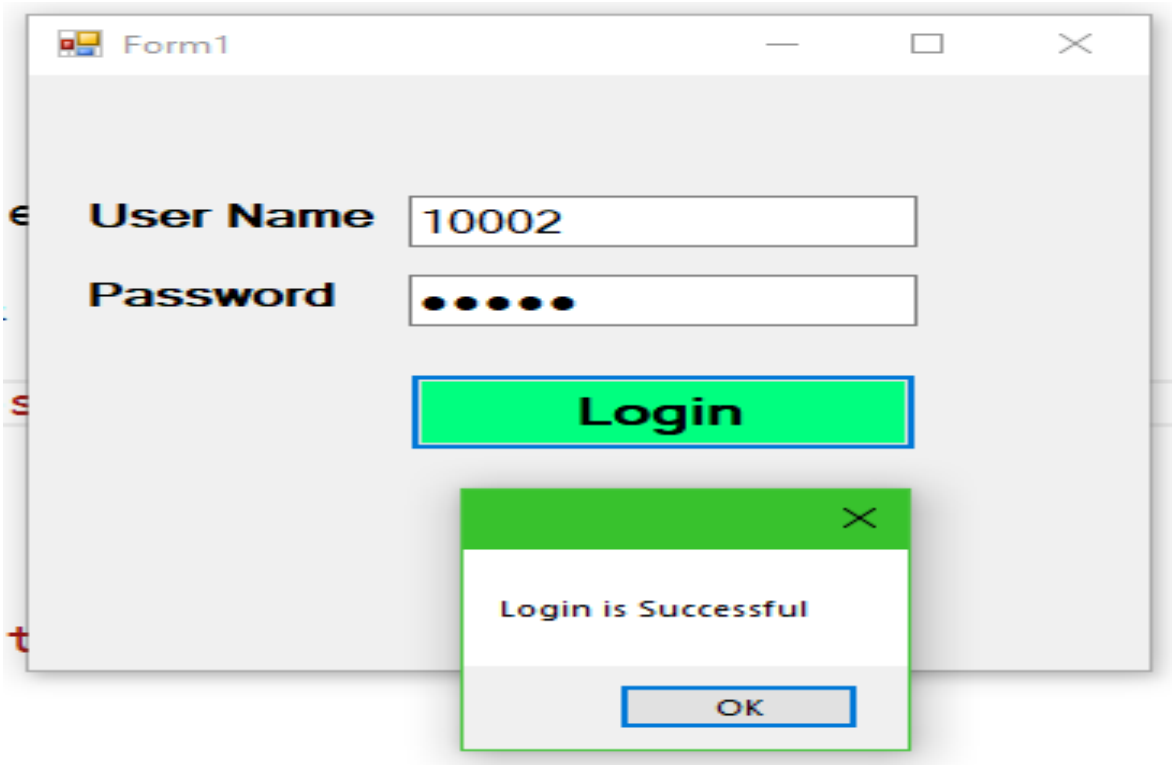
Results Explain Describe Saved SQL History

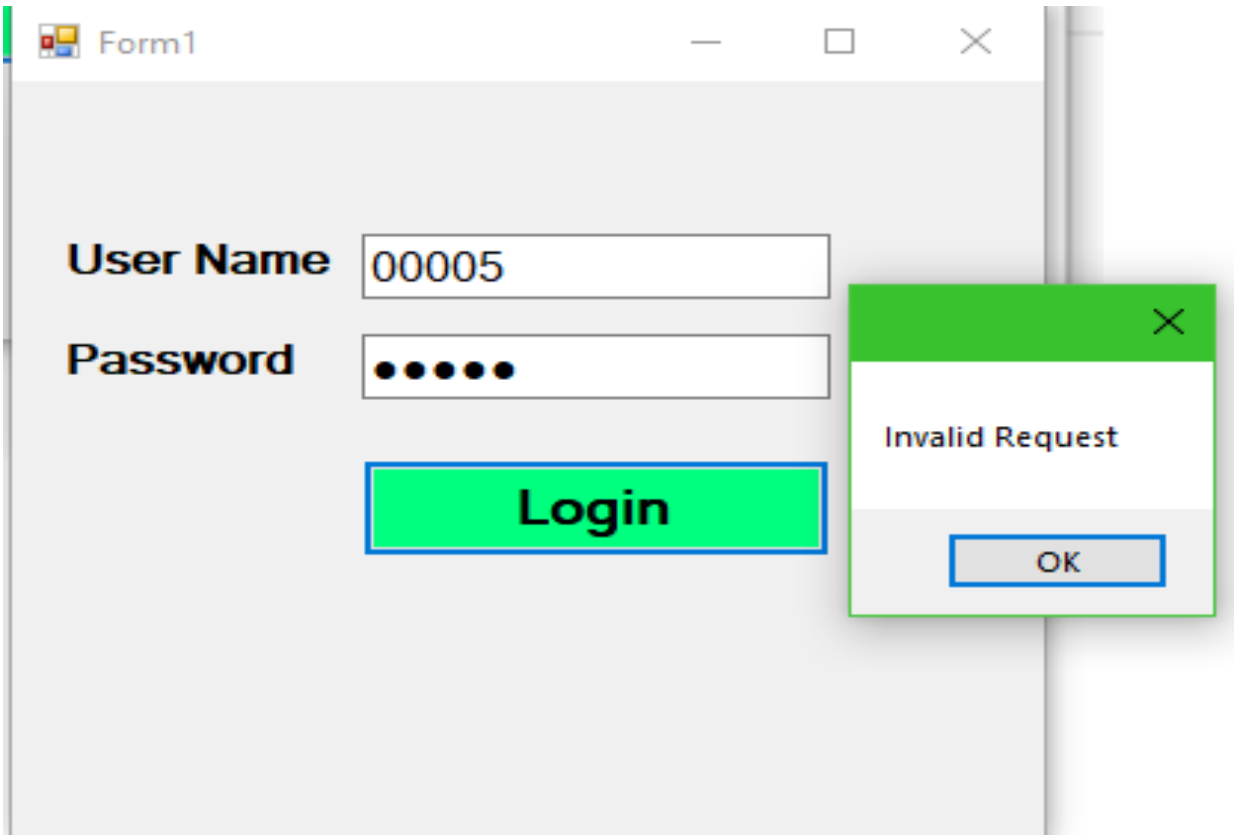
3 row(s) updated.

0.06 seconds

User Interface




Form1
User Name
10002
Password
Login
Login is Successful
OK


Form1
User Name
00005
Password
Login
Invalid Request
OK

6. View

1 . Student Information

```
CREATE VIEW stview1
AS SELECT *
FROM student_info
WHERE st_id = '10002';
```

2. Teacher Information

```
CREATE VIEW tview1
AS SELECT *
FROM teacher_info
WHERE t_id = '20001';
```

3. Result View

```
CREATE VIEW stcview1
AS SELECT *
FROM STUDENT_COURSE
WHERE st_id = '10004';
```

4. GPA Calculate

```
CREATE VIEW gpaview1
AS SELECT ROUND(avg(gpa),2) as AVG_GPA
FROM student_info,student_course,grade
WHERE c_result between low_number and hi_number
AND student_info.st_id=student_course.st_id
AND sname='NAYEM';
```

5. All Student's Gpa

```
CREATE VIEW gpaview2
AS SELECT student_info.st_id,round(avg(gpa),2) as cgpa
FROM student_info,student_course,grade
WHERE student_info.st_id=student_course.st_id and c_result between
low_number and hi_number
GROUP BY student_info.st_id order by student_info.st_id;
```

7. Procedures and Functions

PROCEDURE

1.Teacher Registration

```
create or replace procedure teacher_reg(name teacher_info.tname%type, cname
teacher_info.cname%type, pass login.password%type)
is
num teacher_info.t_id%type;
begin
Insert into teacher_info values (t_sq.nextval,name,cname);
select max(t_id) into num from teacher_info;
insert into login values(num,pass,'ACTIVE');
end;
```

2.Update Result

```
create or replace procedure Update_result (student_id
student_course.st_id%type, result student_course.c_result%type)
is
begin
update student_course set c_result=result where st_id=student_id;
end;
```

3.Student Registration

```
create or replace procedure student_reg(name student_info.sname%type, fname
student_info.fname%type, mname student_info.mname%type, tname
student_info.t_id%type,passing student_info.passing_year%type, pass
login.password%type)
is
num student_info.st_id%type;
t1 teacher_info.t_id%type;
t2 teacher_info.t_id%type;
t3 teacher_info.t_id%type;

begin
Insert into student_info values
(st_sq.nextval,name,fname,mname,tname,passing);
select max(st_id) into num from student_info;
insert into login values(num,pass,'ACTIVE');
```

```
select t_id into t1 from  (select t_id from teacher_info where cname='MATH'
Order by dbms_random.value)  where rownum =1;
select t_id into t2 from  (select t_id from teacher_info where cname='BANGLA'
Order by dbms_random.value)  where rownum =1;
select t_id into t3 from  (select t_id from teacher_info where cname='ENGLISH'
Order by dbms_random.value)  where rownum =1;

insert into student_course values(num,'MATH',t1,'');
insert into student_course values(num,'BANGLA',t2,'');
insert into student_course values(num,'ENGLISH',t3,'');
end;
```

4.Get bonus

```
create or replace procedure Bonus(teacher_id student_course.t_id%type)
is
i number(4);
result student_course.c_result%type;
Cursor c Is select st_id from student_course where t_id=teacher_id;
begin
for i in c loop
select c_result into result from student_course where st_id=i.st_id and
t_id=teacher_id;
if(result>70) then
   result:=result+5;
else
   result:=result+10;
end if;
update student_course set c_result=result where st_id=i.st_id and
t_id=teacher_id;
end loop;
end;
```

Function

1. Total Mark Calculator

```
create or replace function total_number(id student_info.st_id%type)
return number
is
```

```
total number(5);
begin
select sum(c_result) into total from student_course where st_id=id;
return total;
end;
```

2. Grade Calculator

```
create or replace function grade_check(num student_course.c_result%type)
return float
is
rgrade float(5);
begin
select grade into rgrade from Grade where num between low_number and
hi_number;
return rgrade;
end;
```

3. Check Password

```
create or replace function CheckPassword(uname login.user_id%type,pass
login.password%type)
return boolean
is
c number(2);
begin
c:=0;
select count(*) into c from login where user_id=uname and password=pass;
if c!=0 then
return true;
else
return false;
end if;
end;
```

8. Triggers

TRIGGER

1. Validate Info to add a new Teacher.

```
create or replace trigger t_id_tigger
before insert on teacher_info
for each row
declare
c number(2):=0;
begin
select count(*) into c from teacher_info where :old.t_id=:new.t_id;
if c>0 then
Raise_application_error(-20111, 'Duplicate Id');
end if;
end;
```

2. Check Activity Time

```
create or replace trigger time_check
before insert or delete or update on login
begin
if ( (to_char(SYSDATE,'D') not between '1' and '5') )
```

```
then
Raise_application_error(-20754,'Not working Day');
end if;
end;
```

3. Validate Info to add a new Student.

```
create or replace trigger st_id_tigger
before insert on student_info
for each row
declare
c number(2):=0;
begin
select count(*) into c from student_info where :old.st_id=:new.st_id;
if c>0 then
Raise_application_error(-20111, 'Duplicate Id');
end if;
end;
```

4. Result insert check

```
create or replace trigger result_check
before insert or update on student_course
for each row
Begin
if (:new.c_result <0) then
```

```
 Raise_application_error(-20115,'Marks can not be negetive');

else

 dbms_output.put_line('insert Successfully');

end if;

end;
```

9. Package and exception handling

1 . Package

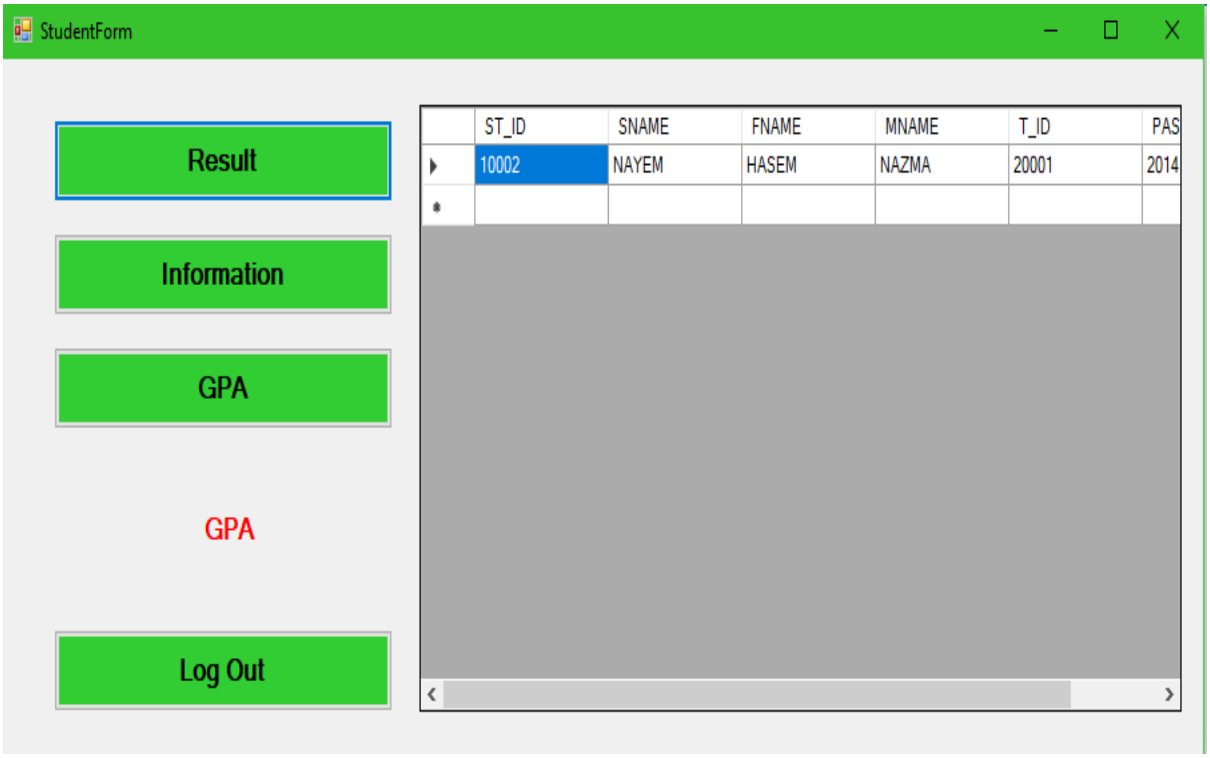
```
 CREATE PACKAGE st_password AS
    PROCEDURE find_password(password login.password%type);
    END st_password;

   CREATE OR REPLACE PACKAGE BODY st_password AS
   PROCEDURE find_password(password login.password%type) IS
    st_user login.user_id%type;
    BEGIN
     SELECT user_id INTO  st_user
     FROM login
     WHERE password = password;
     dbms_output.put_line(user_id);
    END find_password;
  END st_password;
```

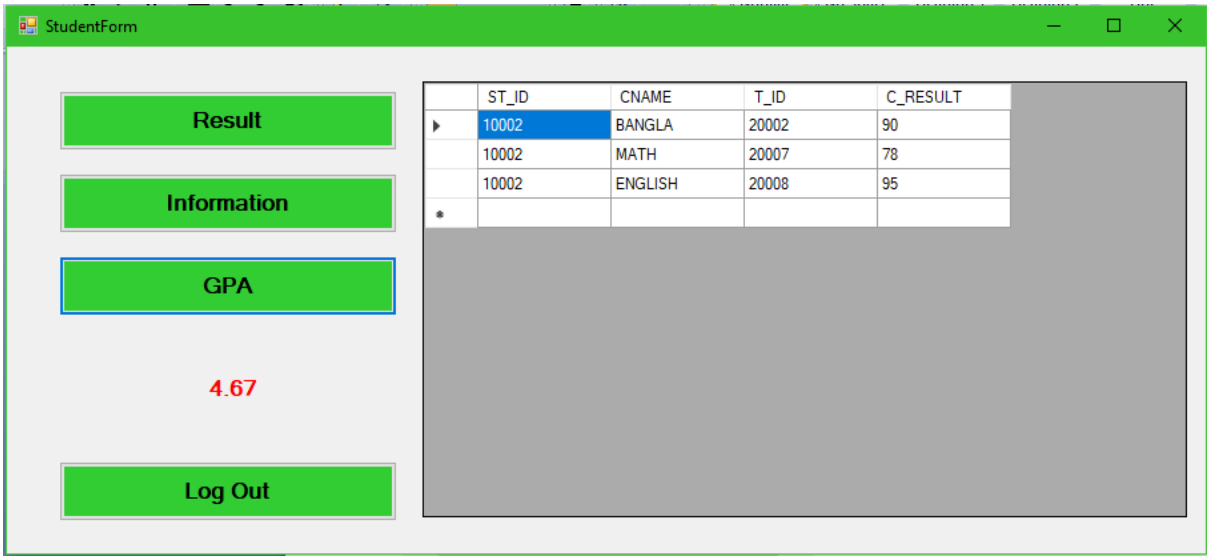
2. Exception handling

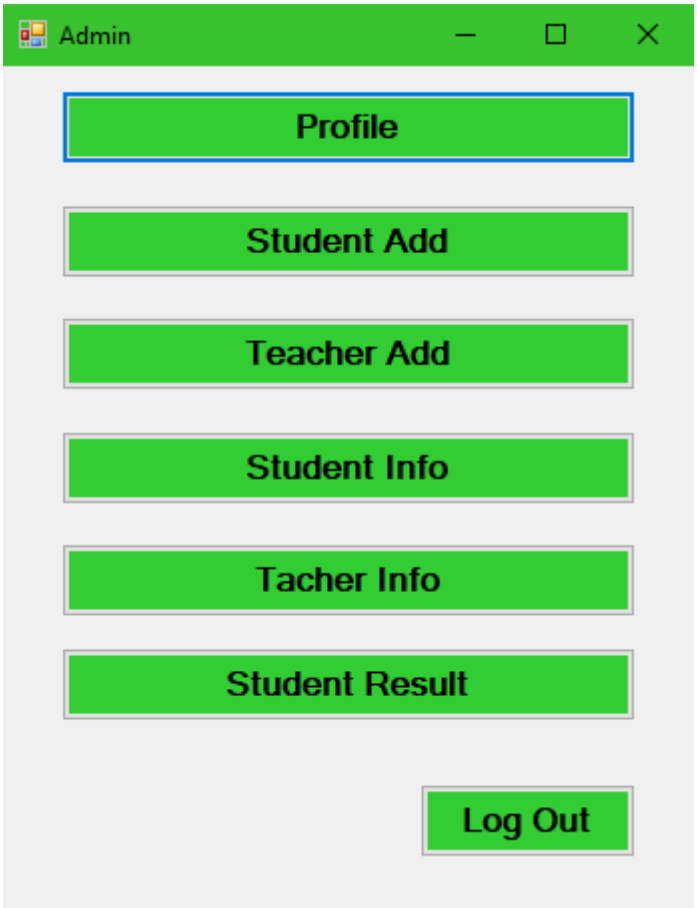
```
DECLARE
  s_id student_info.st_id%type := 10002;
  st_name student_info.SName%type;
  st_passingyear student_info.passing_year%type;
BEGIN
  SELECT  sname, passing_year INTO  st_name , st_passingyear
  FROM student_info
```

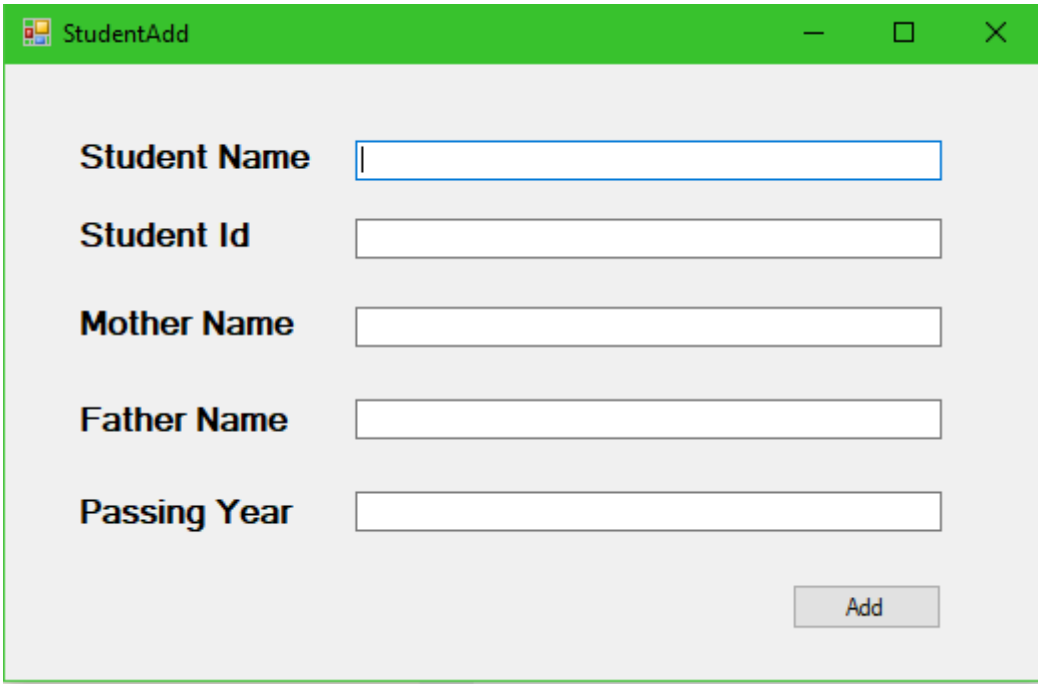
```
  WHERE st_id = s_id;
  DBMS_OUTPUT.PUT_LINE ('Name: '||  st_name);
  DBMS_OUTPUT.PUT_LINE ('Passing Year : ' || st_passingyear);

EXCEPTION
  WHEN no_data_found THEN
    dbms_output.put_line('No such Student!');
  WHEN others THEN
    dbms_output.put_line('Error!');
END;
```

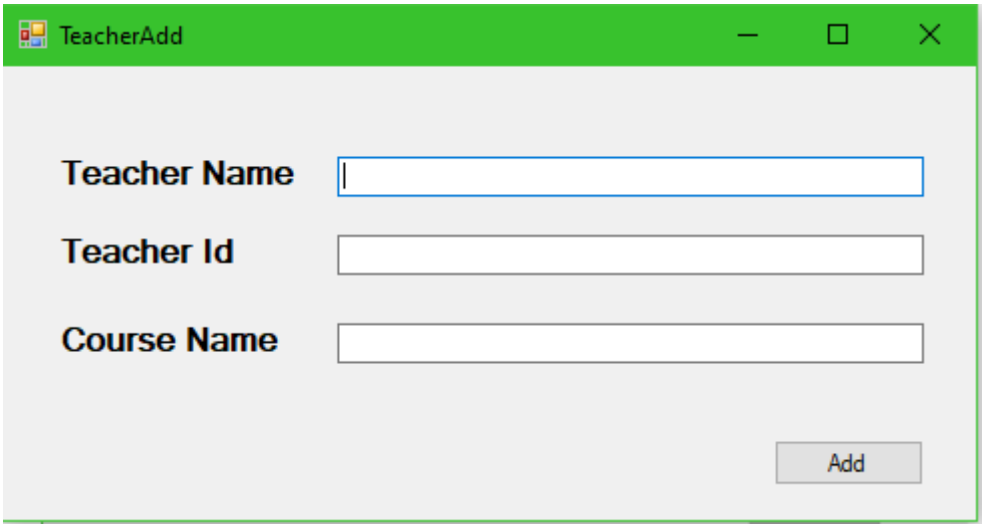
Interface

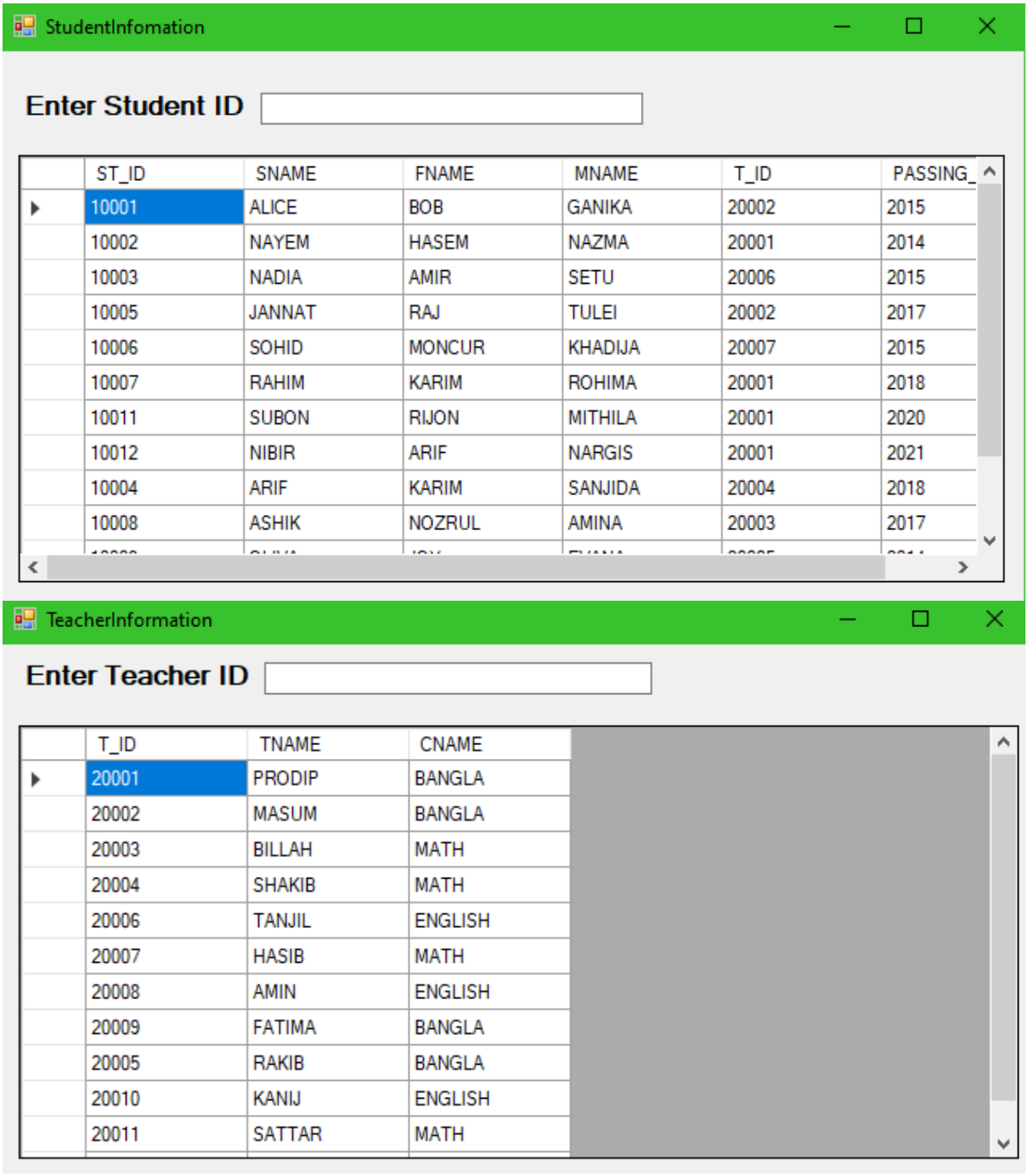


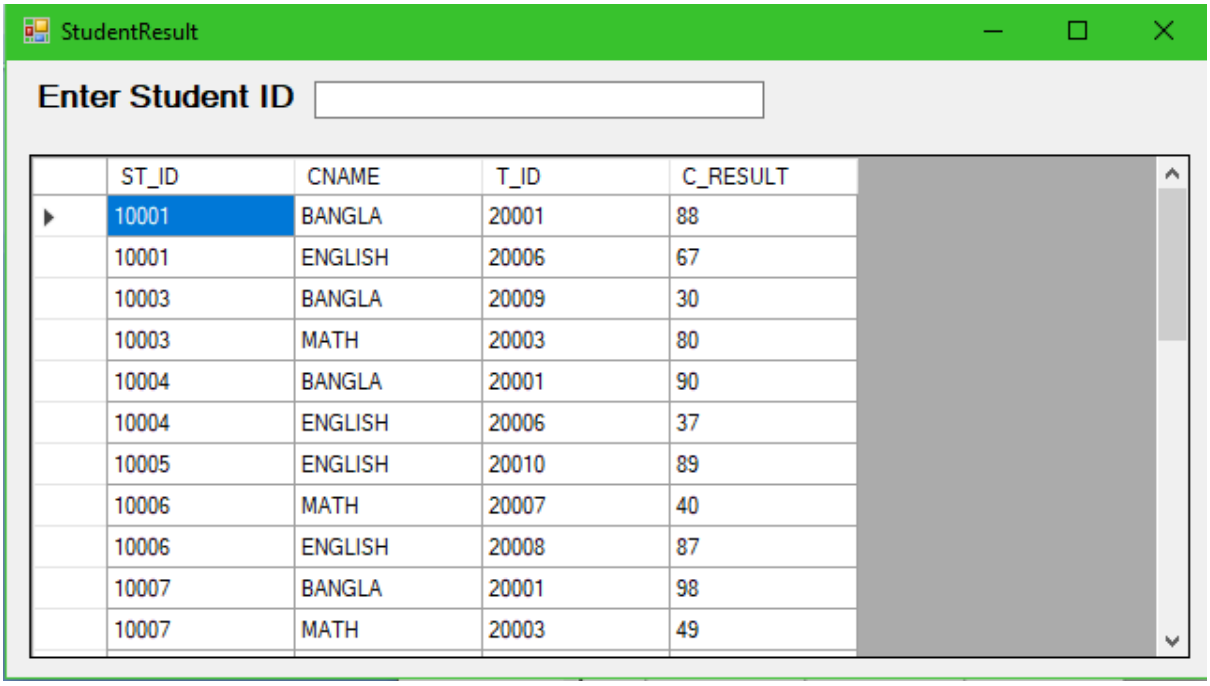

StudentForm
Result
Information
GPA
4.67
Log Out
ST_ID
CNAME
T_ID
C_RESULT
10002
BANGLA
20002
90
10002
MATH
20007
78
10002
ENGLISH
20008
95


Admin
Profile
Student Add
Teacher Add
Student Info
Tacher Info
Student Result
Log Out


StudentAdd
Student Name
Student Id
Mother Name
Father Name
Passing Year
Add


TeacherAdd
Teacher Name
Teacher Id
Course Name
Add


StudentInfomation
Enter Student ID
ST_ID SNAME FNAME MNAME T_ID PASSING_
10001 ALICE BOB GANIKA 20002 2015
10002 NAYEM HASEM NAZMA 20001 2014
10003 NADIA AMIR SETU 20006 2015
10005 JANNAT RAJ TULEI 20002 2017
10006 SOHID MONCUR KHADIJA 20007 2015
10007 RAHIM KARIM ROHIMA 20001 2018
10011 SUBON RIJON MITHILA 20001 2020
10012 NIBIR ARIF NARGIS 20001 2021
10004 ARIF KARIM SANJIDA 20004 2018
10008 ASHIK NOZRUL AMINA 20003 2017
TeacherInformation
Enter Teacher ID
T_ID TNAME CNAME
20001 PRODIP BANGLA
20002 MASUM BANGLA
20003 BILLAH MATH
20004 SHAKIB MATH
20006 TANJIL ENGLISH
20007 HASIB MATH
20008 AMIN ENGLISH
20009 FATIMA BANGLA
20005 RAKIB BANGLA
20010 KANIJ ENGLISH
20011 SATTAR MATH



ST_ID	CNAME	T_ID	C_RESULT
10001	BANGLA	20001	88
10001	ENGLISH	20006	67
10003	BANGLA	20009	30
10003	MATH	20003	80
10004	BANGLA	20001	90
10004	ENGLISH	20006	37
10005	ENGLISH	20010	89
10006	MATH	20007	40
10006	ENGLISH	20008	87
10007	BANGLA	20001	98
10007	MATH	20003	49