Scope of the project:

The **Scholarship Management System (SMS)** was developed to automate the scholarship processes that are running in the college. This includes student details, details of the scholarship, eligible and non-eligible students.

The SMS will provide a way to keep track of the student details and scholarship details. This will also produce list of eligible and non-students.

User Characteristics:

Username (which will be the student id) and password are required to login into the system. SMS uses the same username and password every time.

General Requirements:

- A way in which login process can take place.
- A way in which student details can be added.
- A way in which all data can be stored electronically.

Login

- Username and password are required for login
- Both remain the same for a particular user every time.

Student

- All the details of a student should be present.
- Fields for adding all the relevant details for new registrations.
- Student ID, Name, Password, college ID, CGPA, and family income are added through these fields. The extracurricular activities can be updated by the administrator.

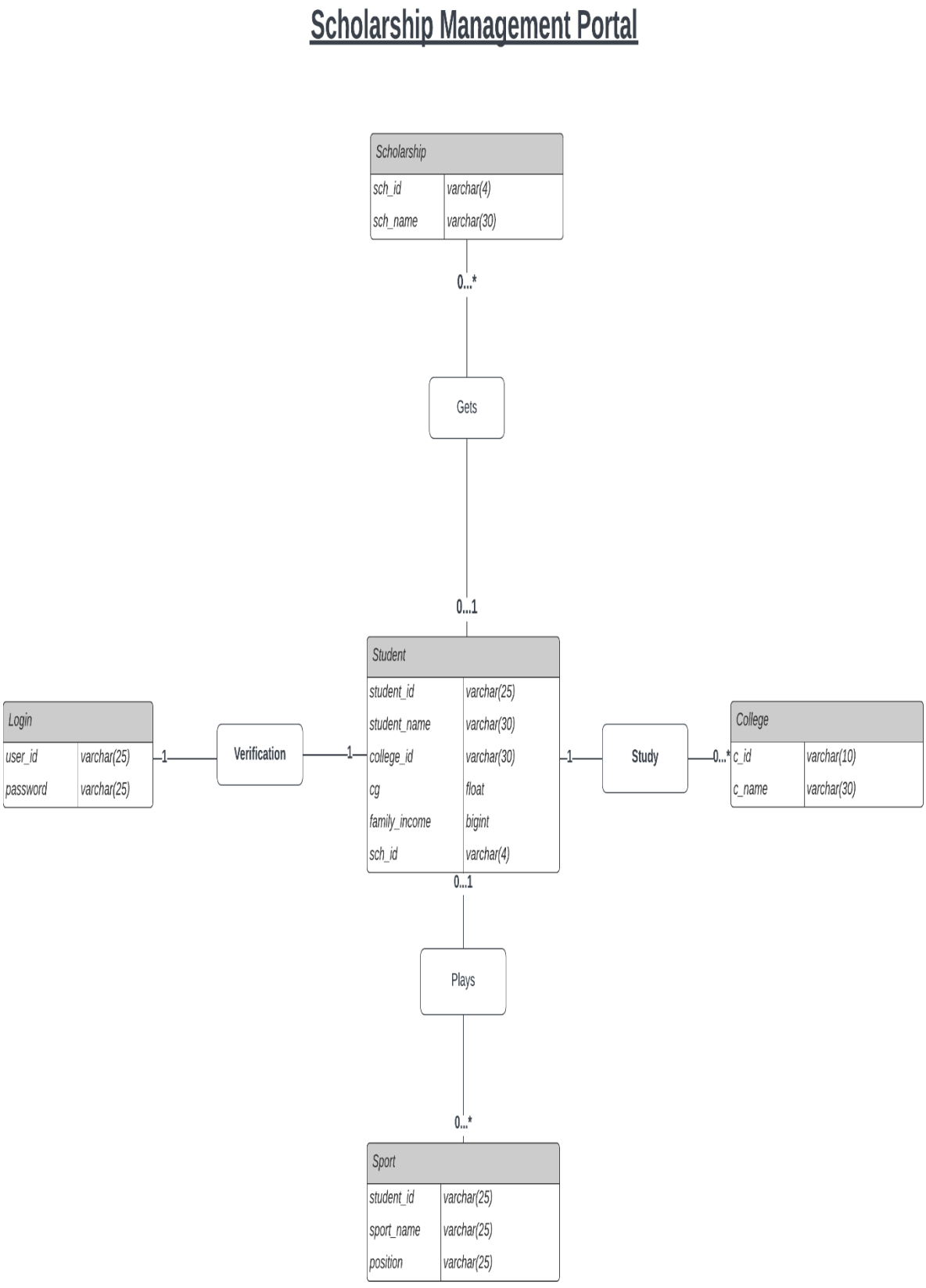
Inputs and Outputs:

The SMS will take a students Student ID as input. It will then run through predefined procedures to find out the best scholarship the student is eligible for. The student's name along with the Scholarship ID are generated as the output.

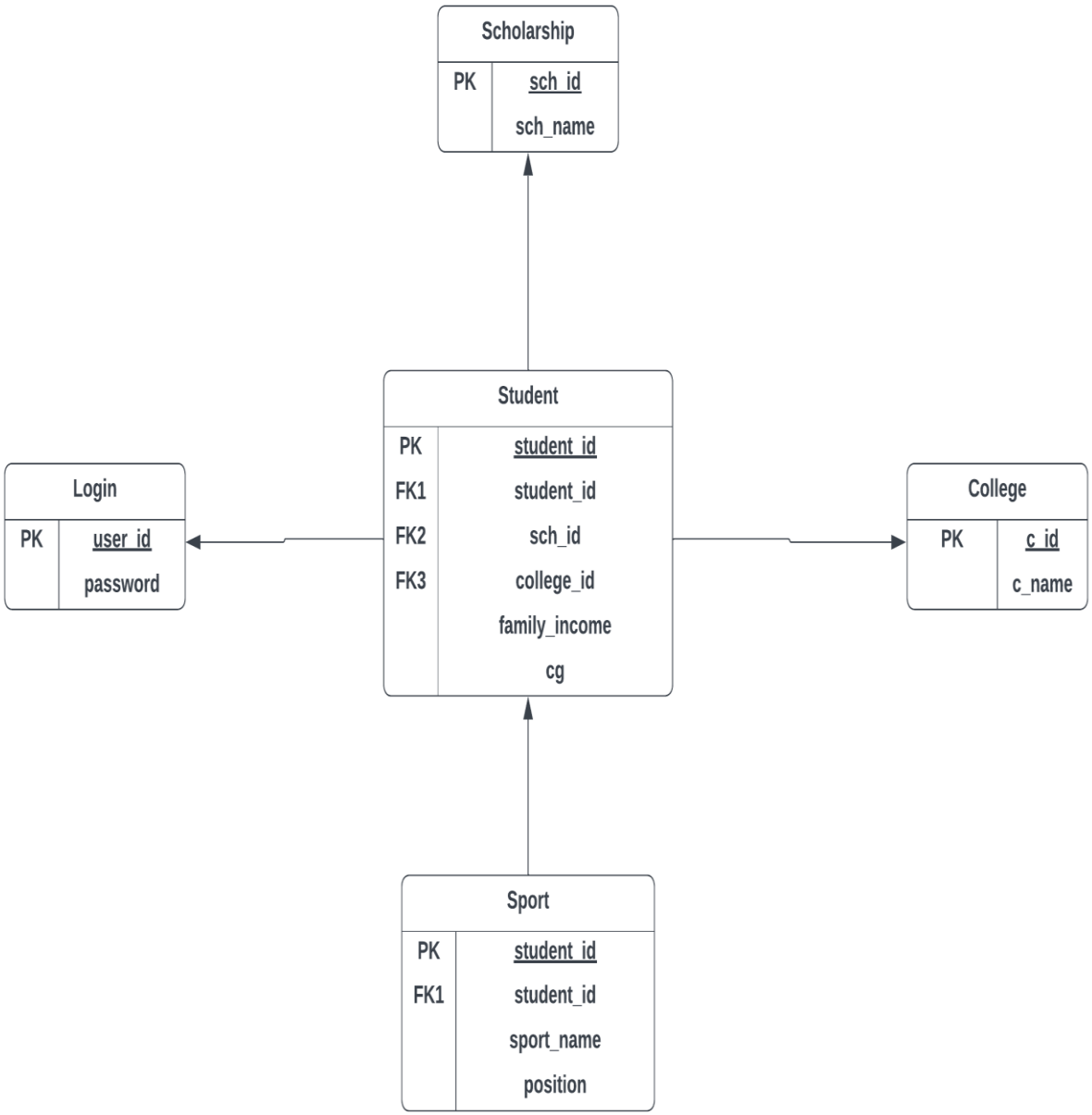
Software Interfaces Required:

- Operating System : Windows 10
- DBMS : MySQL
- Tools Used : Eclipse IDE, NetBeans IDE, Java Swing.

ER Diagram:-


Scholarship Management Portal
Scholarship
sch_id
varchar(4)
sch_name
varchar(30)
0...*
Gets
0...1
Student
student_id
varchar(25)
student_name
varchar(30)
college_id
varchar(30)
cg
float
family_income
bigint
sch_id
varchar(4)
Login
user_id
varchar(25)
password
varchar(25)
1
Verification
1
1
Study
0...*
College
c_id
varchar(10)
c_name
varchar(30)
0...1
Plays
0...*
Sport
student_id
varchar(25)
sport_name
varchar(25)
position
varchar(25)

Schema Design



Data normalization

The data is normalized in all tables as all tables have only one primary key. Since only one primary key is present in all tables hence there is only one prime attribute that will be the primary key. So all tables are in BCNF.

List of tables required

1. Login table:-

Field	Type	Null	Key	Default	Extra
user_id	varchar(25)	NO	PRI	NULL	
pwd	varchar(25)	NO		NULL	

2. Student table:-

Field	Type	Null	Key	Default	Extra
student_id	varchar(25)	NO	PRI	NULL	
student_name	varchar(30)	NO		NULL	
college_id	varchar(30)	NO	MUL	NULL	
cg	float	NO		NULL	
family_income	bigint	NO		NULL	
sch_id	varchar(4)	YES	MUL	NULL	

3. College Table:-

Field	Type	Null	Key	Default	Extra
c_id	varchar(10)	NO	PRI	NULL	
c_name	varchar(30)	NO		NULL	

4. Sport Table:-

Field	Type	Null	Key	Default	Extra
student_id	varchar(25)	NO	PRI	NULL	
sport_name	varchar(25)	YES		NULL	
position	varchar(25)	YES		NULL	

5. Scholarship Table:-

Field	Type	Null	Key	Default	Extra
sch_id	varchar(4)	NO	PRI	NULL	
sch_name	varchar(50)	YES		NULL	

Procedures Used

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` PROCEDURE
`scholarship`(IN std_id VARCHAR(25),out scholarship_name varchar(30))
 READS SQL DATA
 DETERMINISTIC
 SQL SECURITY INVOKER
BEGIN
select sch_name into scholarship_name
from scholarship_portal.student natural join scholarship_portal.scholarship
where student_id=std_id;
END$$
DELIMITER ;
```

The above procedure named “scholarship” is used in sql. This procedure takes input the student_id of the student and returns the available scholarship if any in a variable named scholarship_name. If no scholarship is available then it will return null.
Following are the screenshots of the mysql queries:-

```
call scholarship('f20200782h',@schname);
select @schname;
# merit cum need 40% is printed.
```

Result of above query:-

```
+--------------------+
| @schname           |
+--------------------+
| Merit Cum Need 40% |
+--------------------+
```