

**Task 1:**

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.sql.*;

public class MysqlConnect
{
    public static void main(String[] args)
    {
        System.out.println("MySQL Connect");
        Connection conn = null;
        String url = "jdbc:mysql://localhost:3306/";
        String dbName = "test";
        String driver = "com.mysql.jdbc.Driver";
        String userName = "Harshita";
        String password = "";
        try {
            Class.forName(driver).newInstance();
            conn = DriverManager.getConnection(url+dbName, userName,
            password);
            System.out.println("Connected to the database");
            conn.close();
            System.out.println("Disconnected from database");
        }
        catch (Exception e)
        {
            e.printStackTrace();
        }
        try {
            Statement stmt = conn.createStatement();
            String query = "SELECT S.snum, S.sname FROM Student S , Enrolled E
            WHERE S.snum = E.snum AND E.cname = 'CSCI 4707' ";
            ResultSet rs = stmt.executeQuery(query);
```

```

while (rs.next())
{
String snum = rs.getObject(1).toString();
String sname = rs.getObject(2).toString();
System.out.println("Student Number is: " + snum + " and his/her name is " + sname);
}
}
catch (SQLException e)
{
e.printStackTrace();
for(Throwable ex : e)
{
System.err.println("Error occurred " + ex);
}
System.out.println("Error in fetching data");
}

try {
Statement stmtstu = conn.createStatement();
String querystu = "SELECT COUNT(S.snum) as stusum, E.cname FROM Student S, Enrolled E WHERE S.snum=E.snum GROUP BY E.cname;";
ResultSet rsstu = stmtstu.executeQuery(querystu);
while (rsstu.next())
{
String stusum = rsstu.getObject(1).toString();
String cname = rsstu.getObject(2).toString();
System.out.println("Student Sum is: " + stusum + " and his/her class is " + cname);
}
} catch (SQLException e)
{
e.printStackTrace();
for(Throwable ex : e)
{
System.err.println("Error occurred " + ex);
}
System.out.println("Error in fetching data");
}

```

```
}  
}
```

### **OUTPUT FROM ECLIPSE:**

MySQL Connect  
Connected to the database

```
Student Number is: 1 and his/her name is Nathen  
Student Number is: 3 and his/her name is Victor  
Student Number is: 5 and his/her name is Kevin Ray  
Student Number is: 6 and his/her name is Kyle  
Student Number is: 7 and his/her name is Stefan  
Student Number is: 8 and his/her name is Riley  
Student Number is: 12 and his/her name is Deukyeol  
Student Number is: 15 and his/her name is Joseph  
Student Number is: 16 and his/her name is Paul  
Student Number is: 17 and his/her name is Brent  
Student Number is: 20 and his/her name is David  
Student Number is: 21 and his/her name is Neha  
Student Number is: 22 and his/her name is Heesun  
Student Number is: 24 and his/her name is Albert  
Student Number is: 25 and his/her name is Jack  
Student Number is: 26 and his/her name is Colton  
Student Number is: 28 and his/her name is Thomas  
Student Number is: 30 and his/her name is Sam  
Student Number is: 31 and his/her name is David  
Student Number is: 35 and his/her name is Christopher  
Student Number is: 41 and his/her name is Chunxi  
Student Number is: 45 and his/her name is Dale  
Student Number is: 48 and his/her name is Will  
Student Number is: 50 and his/her name is Minh  
Student Number is: 51 and his/her name is Jacob  
Student Number is: 53 and his/her name is Shraddha  
Student Number is: 56 and his/her name is Ashok  
Student Number is: 57 and his/her name is Thomas  
Student Number is: 65 and his/her name is Michael  
Student Number is: 67 and his/her name is Efe  
Student Number is: 68 and his/her name is Patrick  
Student Number is: 70 and his/her name is Harshita  
Student Number is: 73 and his/her name is Qikai  
Student Number is: 75 and his/her name is Alec  
Student Number is: 77 and his/her name is Shakil  
Student Number is: 78 and his/her name is Jeremiah  
Student Number is: 81 and his/her name is Pamela-Rose  
Student Number is: 86 and his/her name is Samuel  
Student Number is: 87 and his/her name is Kyle  
Student Number is: 92 and his/her name is Muhan  
Student Number is: 93 and his/her name is Yameng  
Student Number is: 94 and his/her name is Zhen
```

```
Student Snum is: 42 and his/her class is CSCI 4707
```

```
Student Snum is: 49 and his/her class is CSCI 5523
Student Snum is: 41 and his/her class is CSCI 5707
Student Snum is: 36 and his/her class is CSCI 8715
```

Disconnected from database

## **Task 2:**

(1) Trigger Code:

```
mysql> CREATE TRIGGER stunum_trigger BEFORE UPDATE ON Student
-> FOR EACH ROW
-> BEGIN
-> IF (NEW.snum <> OLD.snum) THEN
-> SET new.age = old.age+1;
-> END IF
-> END;
```

Query OK, 0 rows affected (0.06 sec)

```
mysql> select * from Student;
```

snum	sname	major	level	age
1111	Patrick	Math	null	17

1 rows in set (0.00 sec)

(2) Programming Code:

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import java.sql.Statement;
import java.sql.*;

public class MysqlConnect
{
    public static void main(String[] args)
    {
```

```

System.out.println("MySQL Connect");
Connection conn = null;
String url = "jdbc:mysql://localhost:3306/";
String dbName = "test";
String driver = "com.mysql.jdbc.Driver";
String userName = " Harshita";
String password = "";
try {
    Class.forName(driver).newInstance();
    conn = DriverManager.getConnection(url+dbName, userName,
    password);
    System.out.println("Connected to the database");
    conn.close();
    System.out.println("Disconnected from database");
} catch (Exception e)
{
    e.printStackTrace();
}
try {
    Statement stmt = conn.createStatement();
    String query = "UPDATE Student set snum=1111 where
    sname="Patrick";";
    int deletedRows = stmt.executeUpdate(query);
    System.out.println(sRows + " Student's new snum is:" + snum + "and
    his/her age is updated to" + age);
}
catch (SQLException e)
{
    e.printStackTrace();
    for(Throwable ex : e)
    {
        System.err.println("Error occurred " + ex);
    }
    System.out.println("Error in fetching data");
}
}
}
}

```

```

MySQL Connect
Connected to the database

```

Student's new snum is 1111 and his/her age is updated  
to 17

Disconnected from database