Java Full Stack Development

Skilling-1

ID NO: 190030677 **Name: K. Sravani**

1. Develop a JDBC application where KL University students will be able to choose their specialization. But there will be limited slots for each specialization which must be stored and queried from database. After successfully selecting a specialization, Specialization along with student details must be stored in the database.

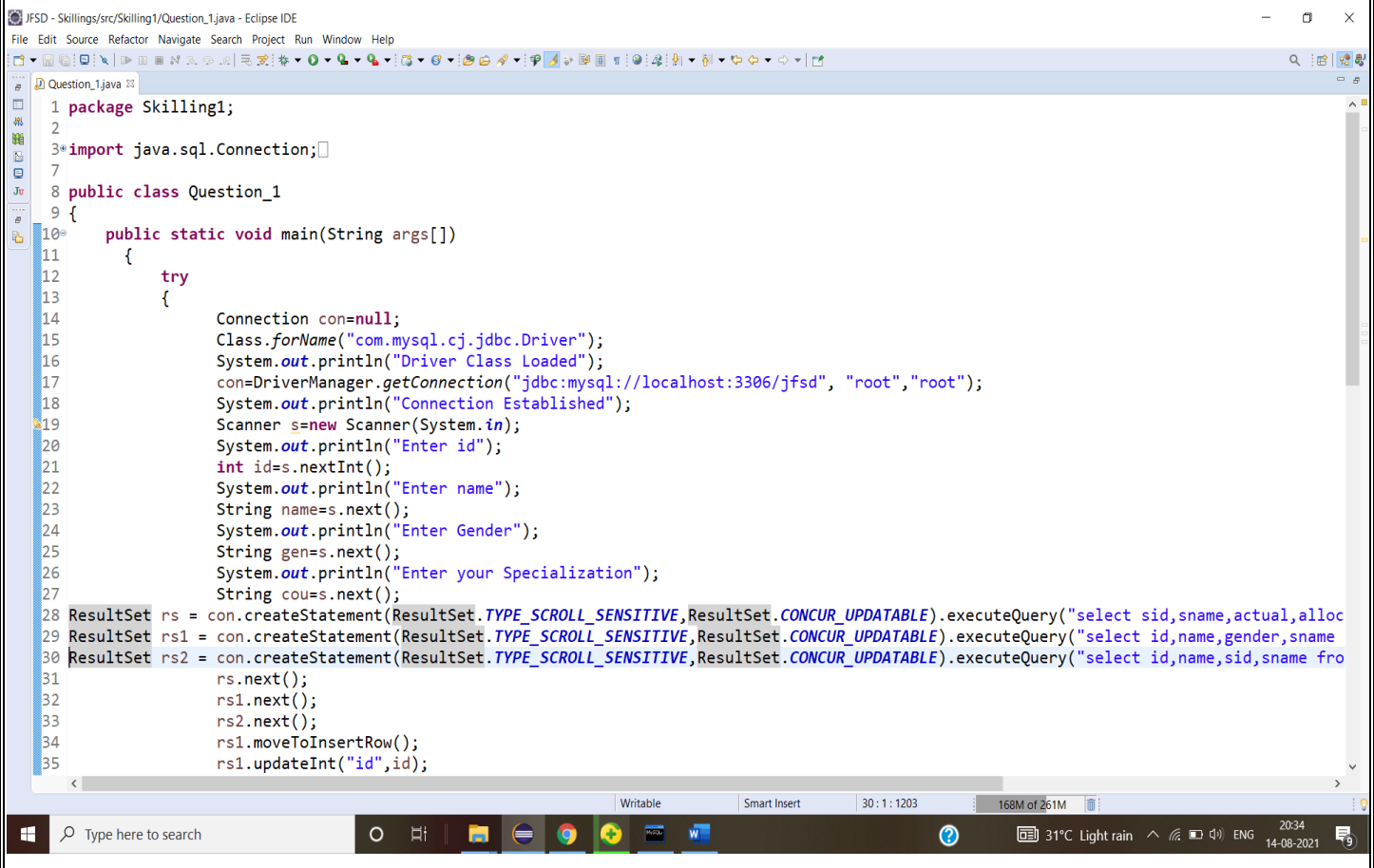
a) Limit the slots for specialization

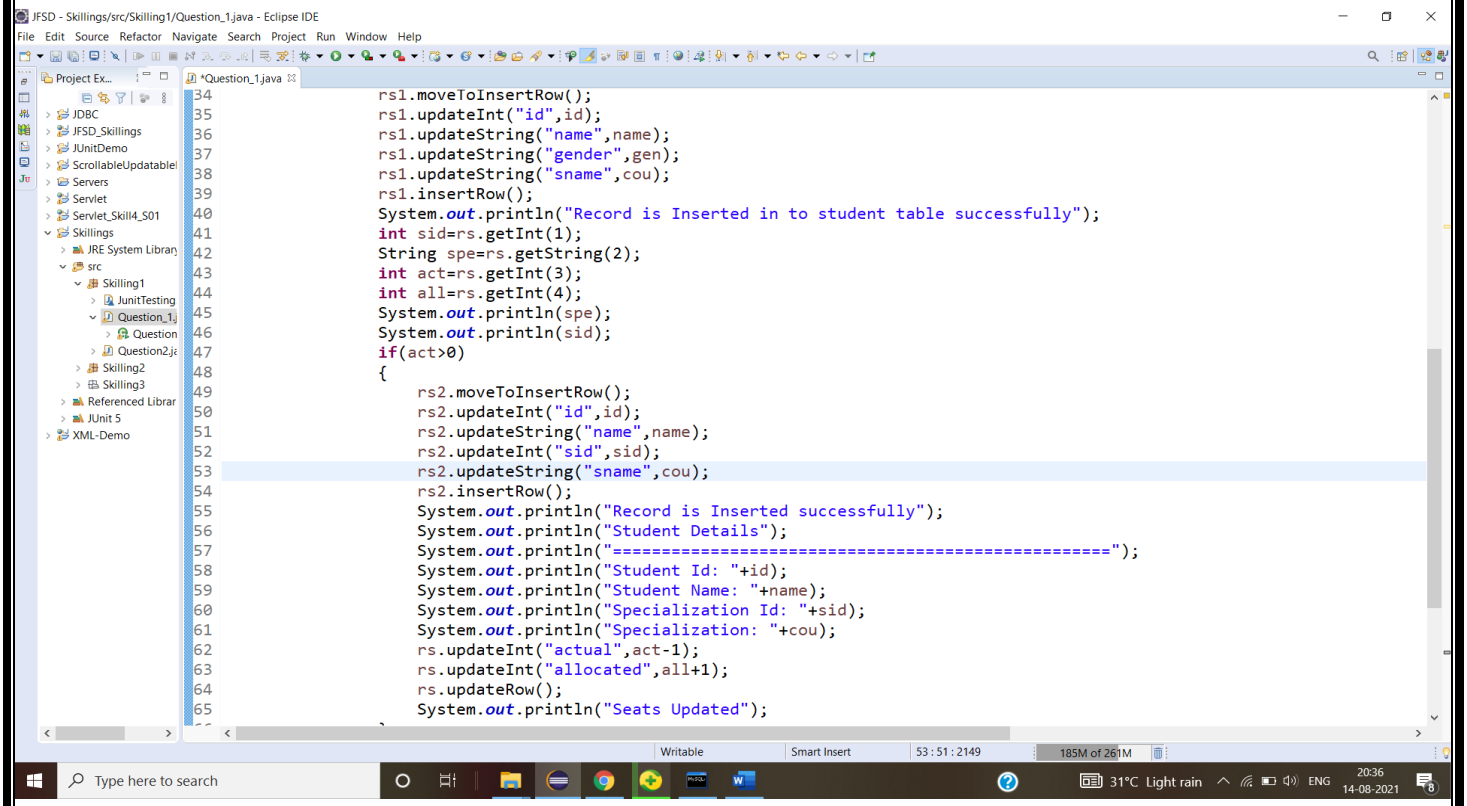
b) User should be able to choose a specialization

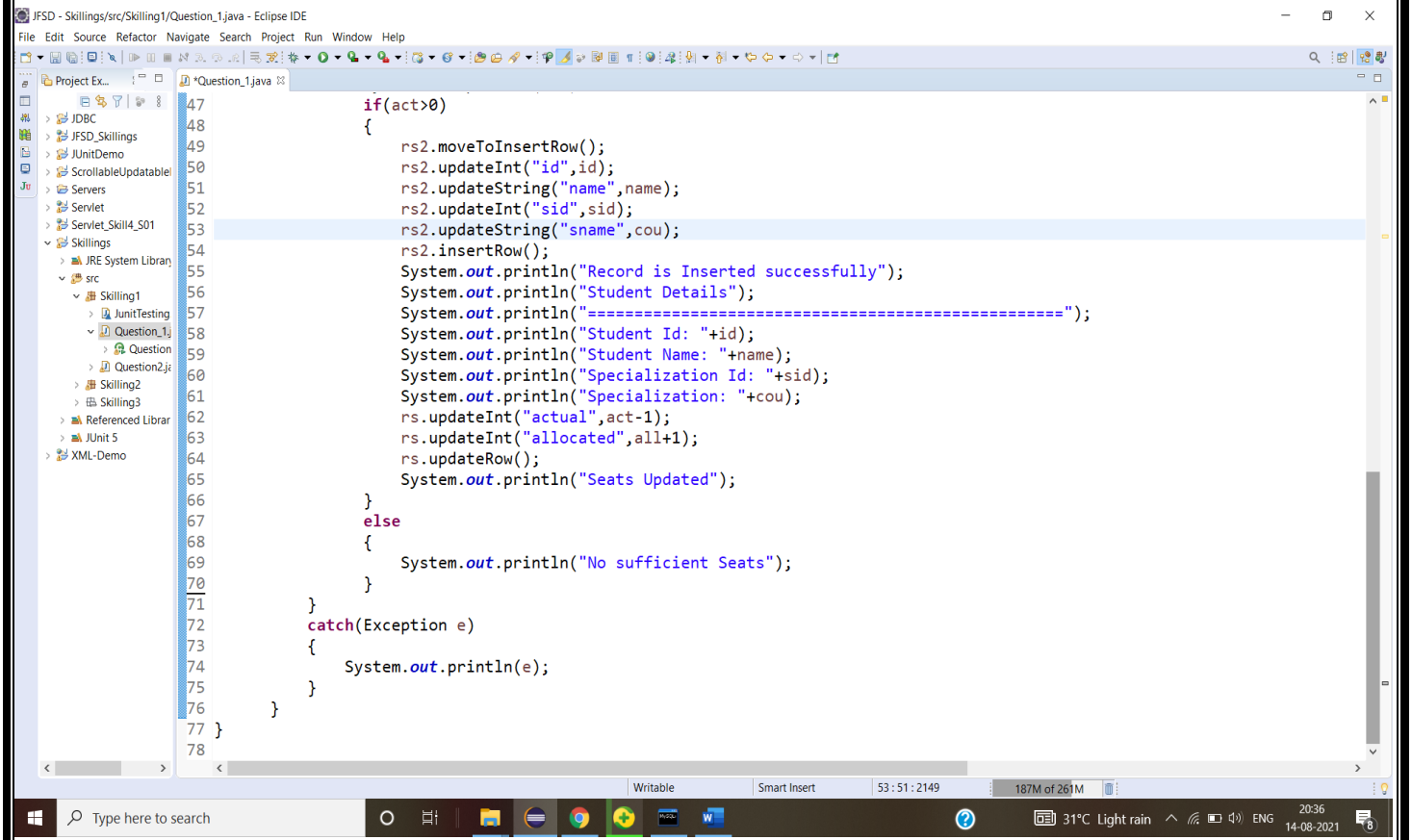
c) Once chose, Slots must be updated then student data must be saved in the database.

d) View the Students data.

Code Screenshots:



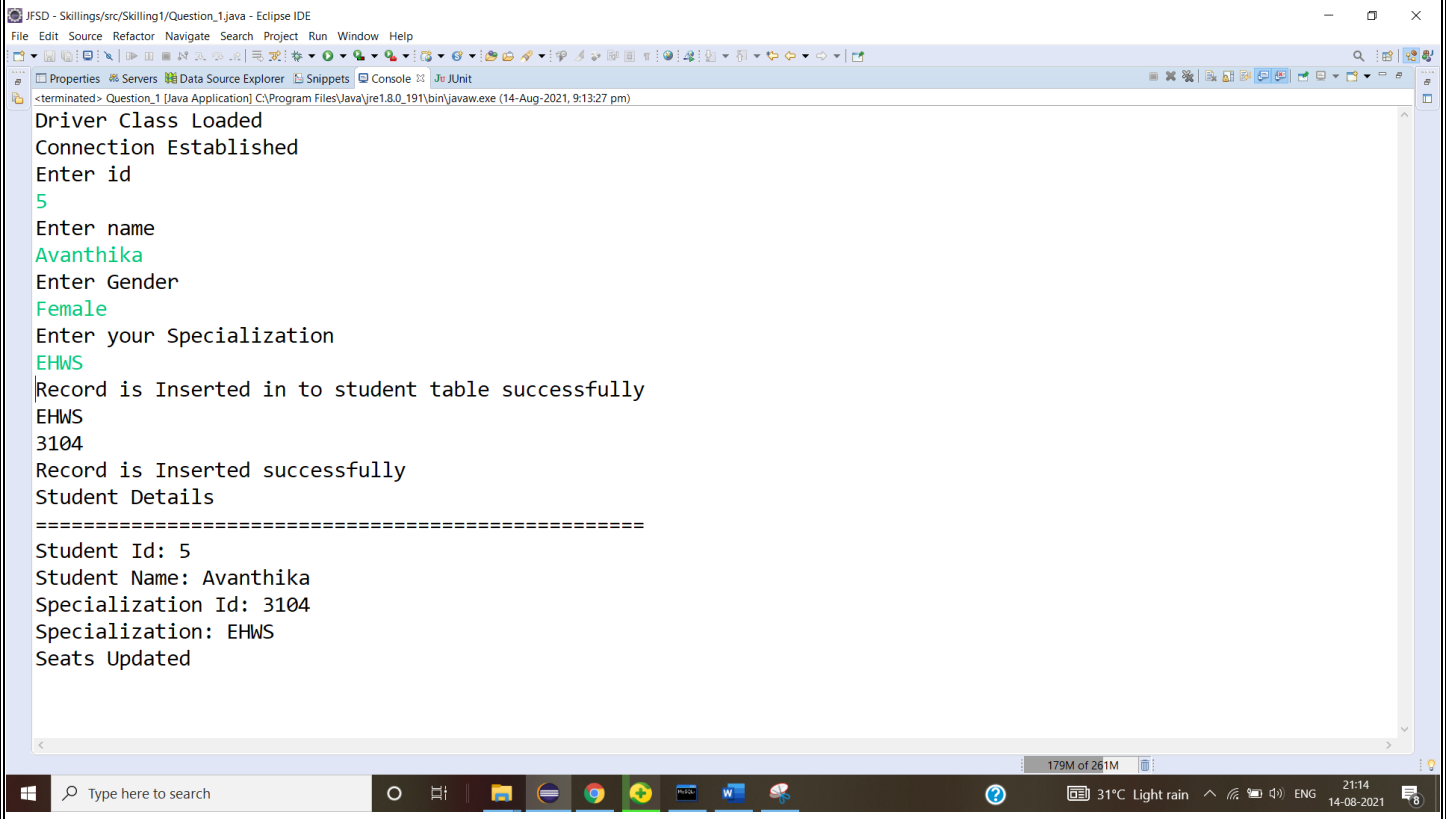

JFSD - Skillings/src/Skilling1/Question_1.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Project Ex...
*Question_1.java
JDBC
JFSD_Skillings
JUnitDemo
ScrollableUpdatable
Servers
Servlet
Servlet_Skill4_S01
Skillings
JRE System Library
src
Skilling1
JunitTesting
Question_1
Question
Question2.ja
Skilling2
Skilling3
Referenced Librar
JUnit 5
XML-Demo
rs1.moveToInsertRow();
rs1.updateInt("id",id);
rs1.updateString("name",name);
rs1.updateString("gender",gen);
rs1.updateString("sname",cou);
rs1.insertRow();
System.out.println("Record is Inserted in to student table successfully");
int sid=rs.getInt(1);
String spe=rs.getString(2);
int act=rs.getInt(3);
int all=rs.getInt(4);
System.out.println(spe);
System.out.println(sid);
if(act>0)
{
rs2.moveToInsertRow();
rs2.updateInt("id",id);
rs2.updateString("name",name);
rs2.updateInt("sid",sid);
rs2.updateString("sname",cou);
rs2.insertRow();
System.out.println("Record is Inserted successfully");
System.out.println("Student Details");
System.out.println("==========");
System.out.println("Student Id: "+id);
System.out.println("Student Name: "+name);
System.out.println("Specialization Id: "+sid);
System.out.println("Specialization: "+cou);
rs.updateInt("actual",act-1);
rs.updateInt("allocated",all+1);
rs.updateRow();
System.out.println("Seats Updated");
Writable
Smart Insert
53 : 51 : 2149
185M of 261M
Type here to search
31°C Light rain
ENG
20:36
14-08-2021


JFSD - Skillings/src/Skilling1/Question_1.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Project Ex...
*Question_1.java
if(act>0)
{
rs2.moveToInsertRow();
rs2.updateInt("id",id);
rs2.updateString("name",name);
rs2.updateInt("sid",sid);
rs2.updateString("sname",cou);
rs2.insertRow();
System.out.println("Record is Inserted successfully");
System.out.println("Student Details");
System.out.println("==========");
System.out.println("Student Id: "+id);
System.out.println("Student Name: "+name);
System.out.println("Specialization Id: "+sid);
System.out.println("Specialization: "+cou);
rs.updateInt("actual",act-1);
rs.updateInt("allocated",all+1);
rs.updateRow();
System.out.println("Seats Updated");
}
else
{
System.out.println("No sufficient Seats");
}
}
catch(Exception e)
{
System.out.println(e);
}
}
}
Writable
Smart Insert
53 : 51 : 2149
187M of 261M
Type here to search
31°C Light rain
ENG
20:36
14-08-2021

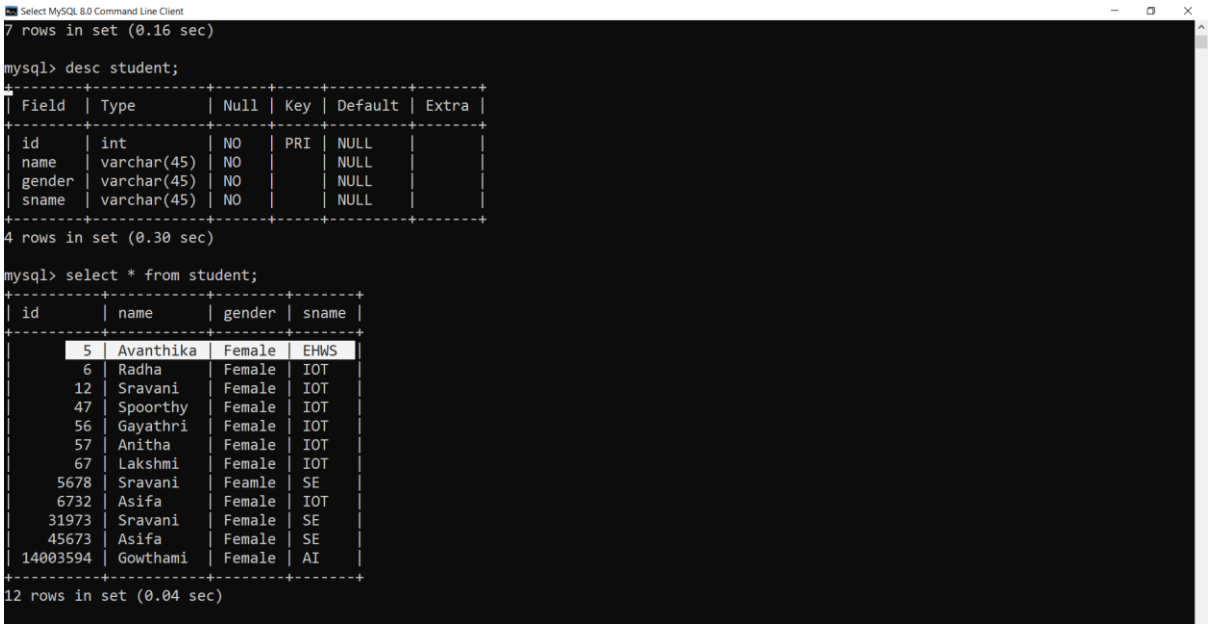
Output Screenshots:

Before entering details:

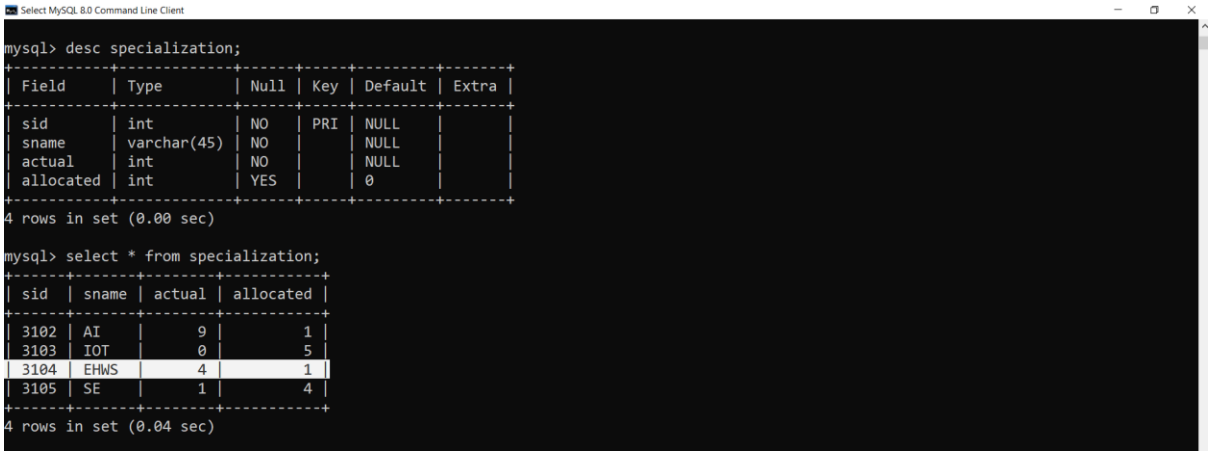
```
mysql> select * from specialization;
+------+-------+--------+-----------+
| sid  | sname | actual | allocated |
+------+-------+--------+-----------+
| 3102 | AI    |      9 |         1 |
| 3103 | IOT   |      0 |         5 |
| 3104 | EHWS  |      5 |         0 |
| 3105 | SE    |      1 |         4 |
+------+-------+--------+-----------+
4 rows in set (0.00 sec)
```



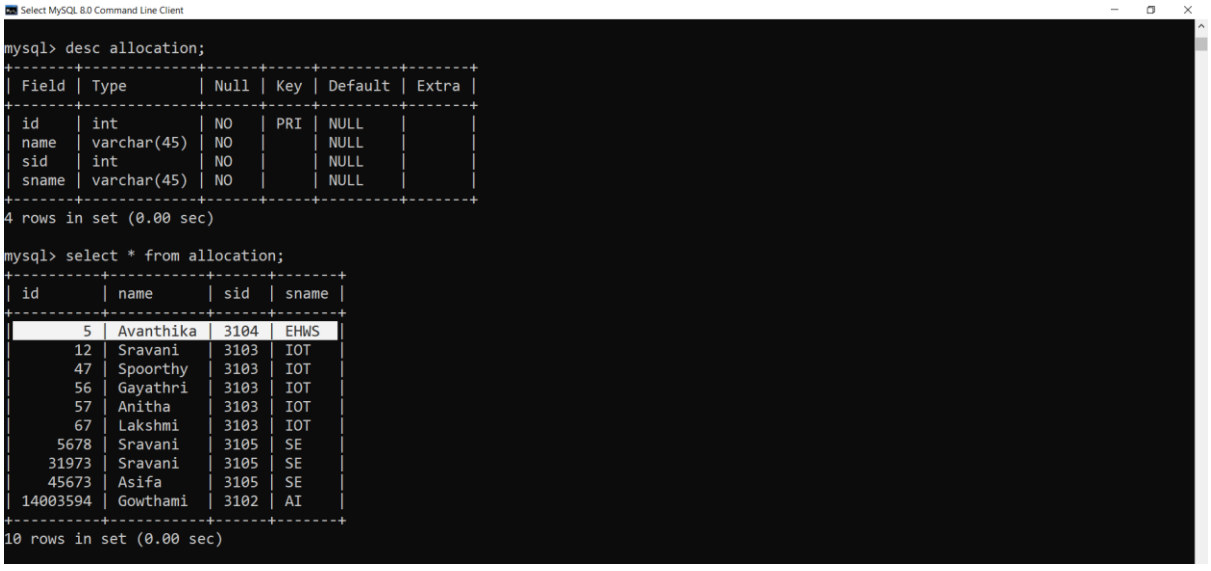
Database Screenshots:



```
Select MySQL 8.0 Command Line Client
7 rows in set (0.16 sec)

mysql> desc student;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| id     | int         | NO   | PRI | NULL    |       |
| name   | varchar(45) | NO   |     | NULL    |       |
| gender | varchar(45) | NO   |     | NULL    |       |
| sname  | varchar(45) | NO   |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
4 rows in set (0.30 sec)

mysql> select * from student;
+----------+-----------+--------+-------+
| id       | name      | gender | sname |
+----------+-----------+--------+-------+
|        5 | Avanthika | Female | EHWS  |
|        6 | Radha     | Female | IOT   |
|       12 | Sravani   | Female | IOT   |
|       47 | Spoorthy  | Female | IOT   |
|       56 | Gayathri  | Female | IOT   |
|       57 | Anitha    | Female | IOT   |
|       67 | Lakshmi   | Female | IOT   |
|     5678 | Sravani   | Feamle | SE    |
|     6732 | Asifa     | Female | IOT   |
|    31973 | Sravani   | Female | SE    |
|    45673 | Asifa     | Female | SE    |
| 14003594 | Gowthami  | Female | AI    |
+----------+-----------+--------+-------+
12 rows in set (0.04 sec)
```



```
Select MySQL 8.0 Command Line Client

mysql> desc specialization;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| sid       | int         | NO   | PRI | NULL    |       |
| sname     | varchar(45) | NO   |     | NULL    |       |
| actual    | int         | NO   |     | NULL    |       |
| allocated | int         | YES  |     | 0       |       |
+-----------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> select * from specialization;
+------+-------+--------+-----------+
| sid  | sname | actual | allocated |
+------+-------+--------+-----------+
| 3102 | AI    |      9 |         1 |
| 3103 | IOT   |      0 |         5 |
| 3104 | EHWS  |      4 |         1 |
| 3105 | SE    |      1 |         4 |
+------+-------+--------+-----------+
4 rows in set (0.04 sec)
```



```
Select MySQL 8.0 Command Line Client

mysql> desc allocation;
+-------+-------------+------+-----+---------+-------+
| Field | Type        | Null | Key | Default | Extra |
+-------+-------------+------+-----+---------+-------+
| id    | int         | NO   | PRI | NULL    |       |
| name  | varchar(45) | NO   |     | NULL    |       |
| sid   | int         | NO   |     | NULL    |       |
| sname | varchar(45) | NO   |     | NULL    |       |
+-------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> select * from allocation;
+----------+-----------+------+-------+
| id       | name      | sid  | sname |
+----------+-----------+------+-------+
|        5 | Avanthika | 3104 | EHWS  |
|       12 | Sravani   | 3103 | IOT   |
|       47 | Spoorthy  | 3103 | IOT   |
|       56 | Gayathri  | 3103 | IOT   |
|       57 | Anitha    | 3103 | IOT   |
|       67 | Lakshmi   | 3103 | IOT   |
|     5678 | Sravani   | 3105 | SE    |
|    31973 | Sravani   | 3105 | SE    |
|    45673 | Asifa     | 3105 | SE    |
| 14003594 | Gowthami  | 3102 | AI    |
+----------+-----------+------+-------+
10 rows in set (0.00 sec)
```

2. We are entering into the 3rd year of our B. Tech; we all are aware that CRT (Campus Recruitment Training) starts from the sixth semester. Students are instructed to clear all the backlogs and try to increase their CGPA (Cumulative Grade Point Average) to get selected in CRT Programming. For that our Management wants to maintain the data in a database. Our Management wants you to create a table containing the details of students (Student ID Number, Student name, Gender, Year of Study, Department, K L Mail, CGPA, No of Backlogs present). Store at least 5 records in the database.

As per the instructions, few students cleared their backlogs and increased their CGPA, so you are instructed to update their backlogs and CGPA

Based on CGPA, if the CGPA is greater than 7.5 they are eligible to CRT Program and remaining students are not eligible. Delete the list of students who are not eligible and print the eligible students in console.

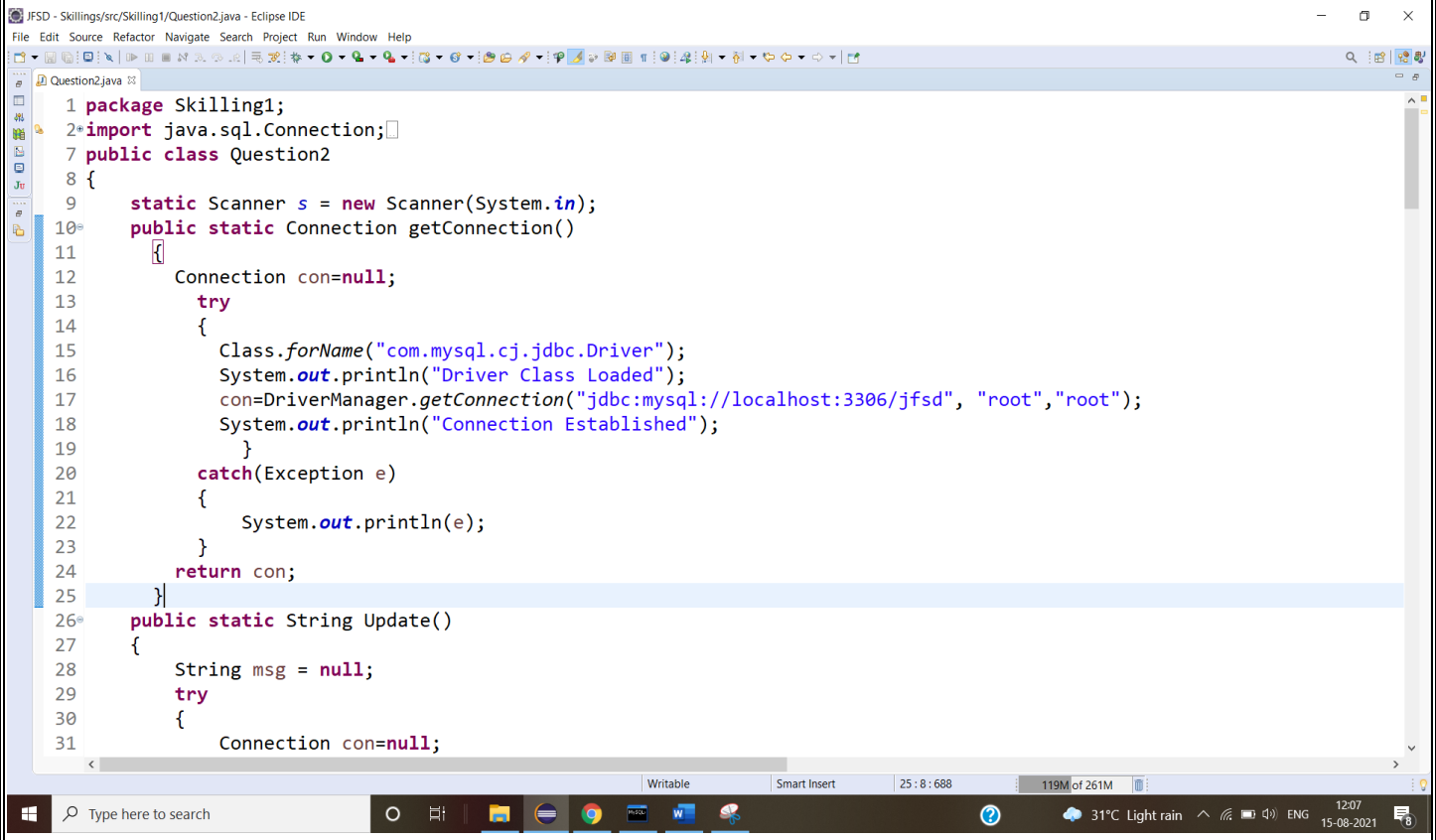
Apply Junit test cases for the above database.

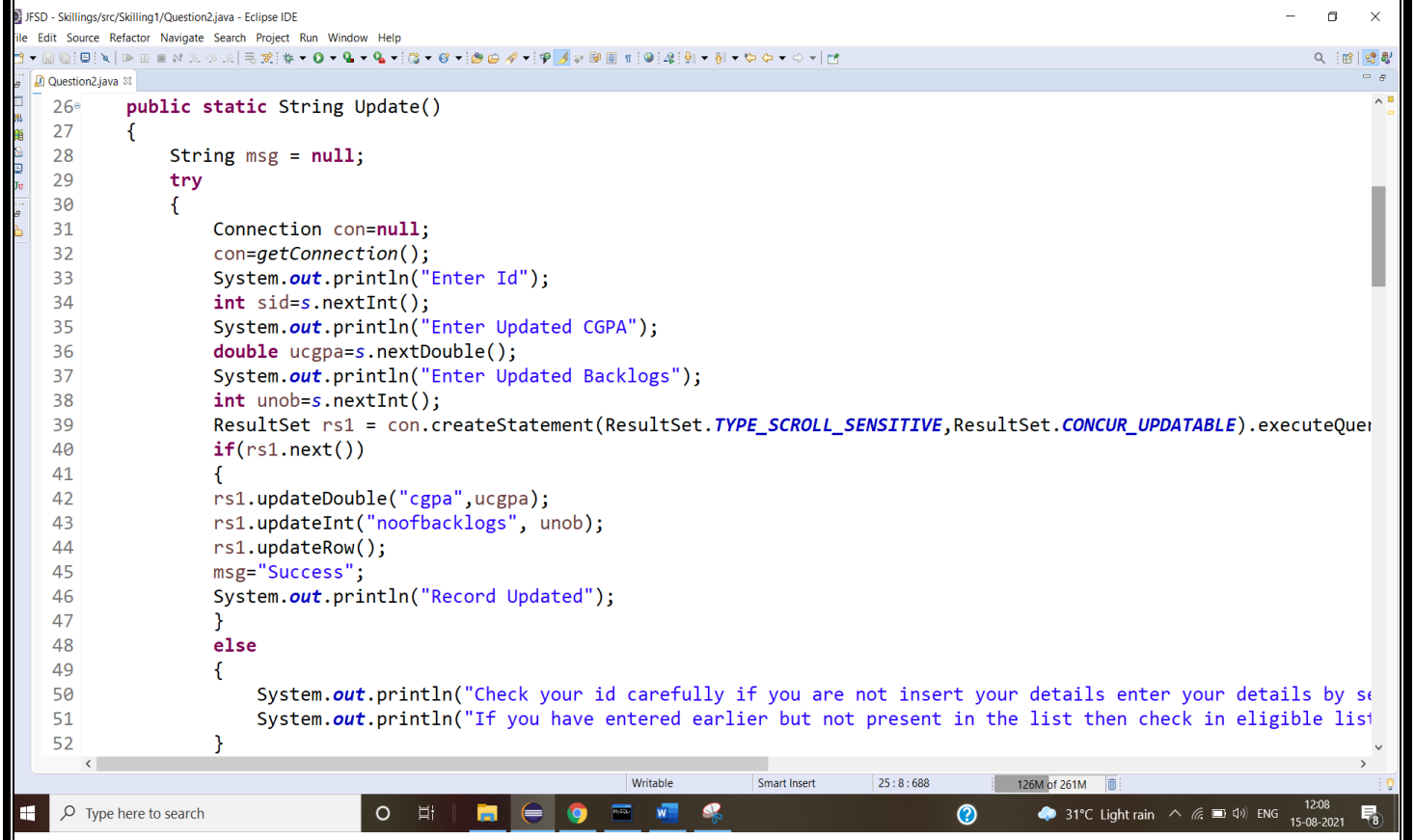
Test Cases will be on:

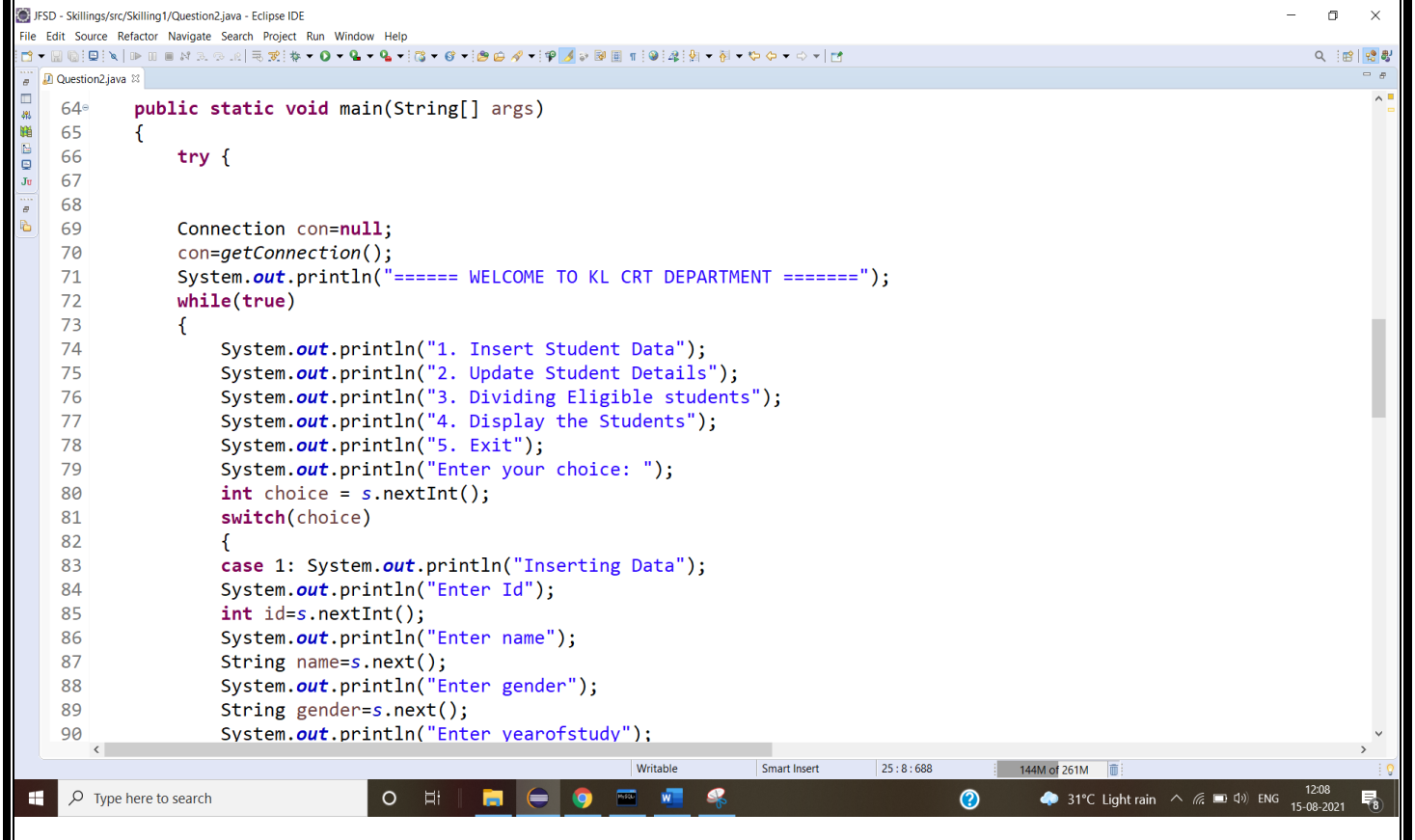
Connection Establishment.

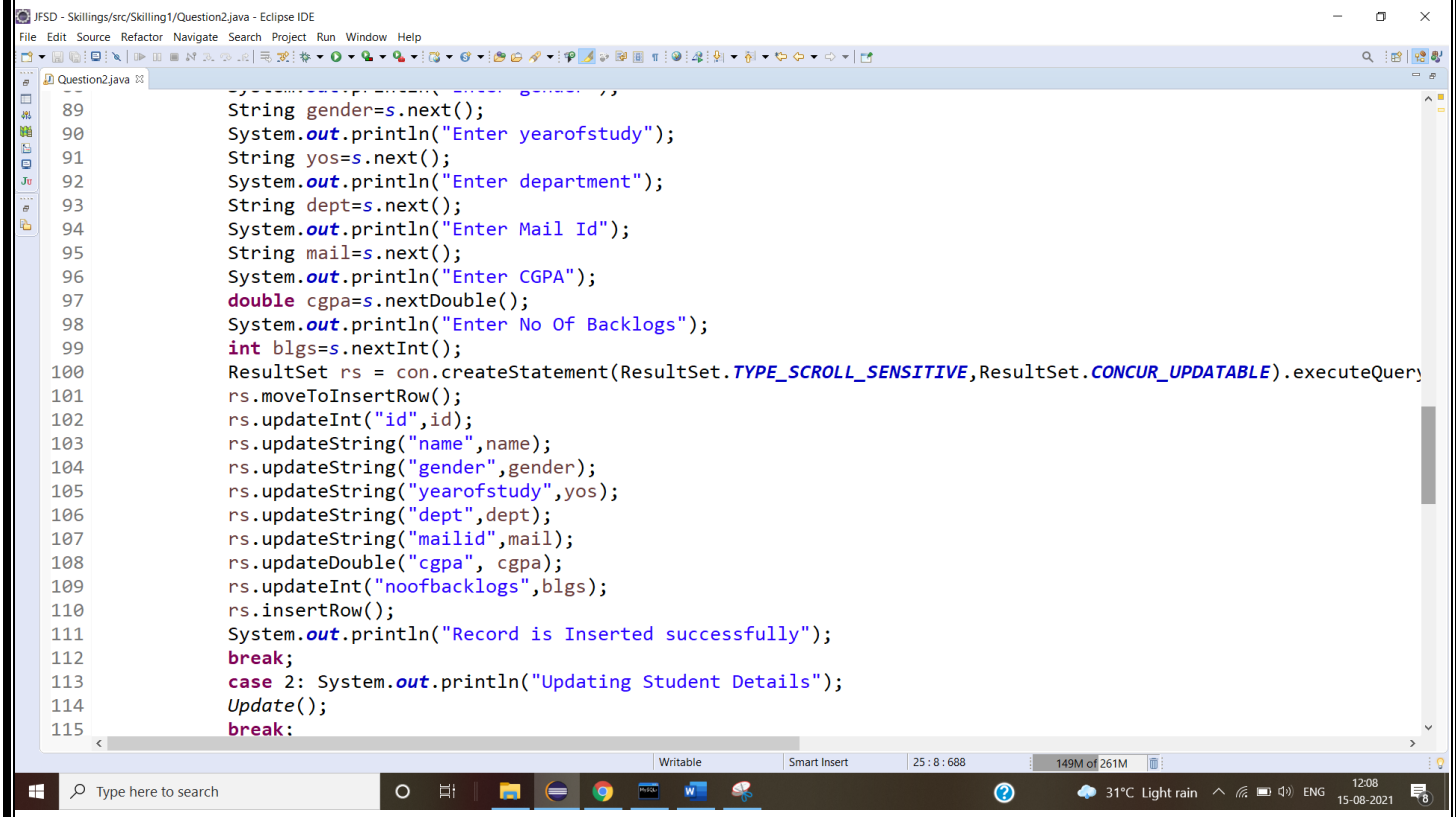
Check the backlogs are updated or not for those who cleared their backlogs.

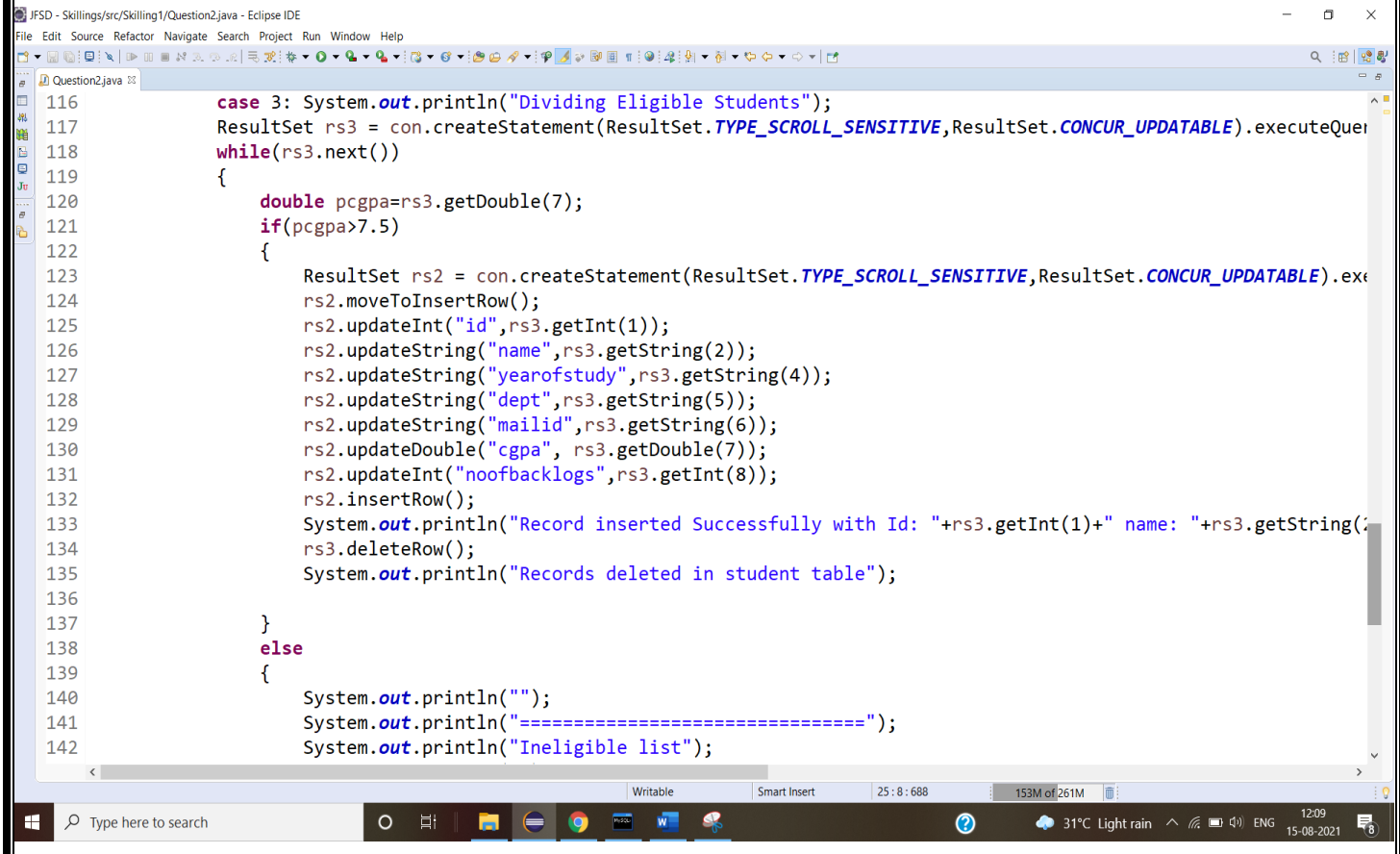
Code Screenshots:

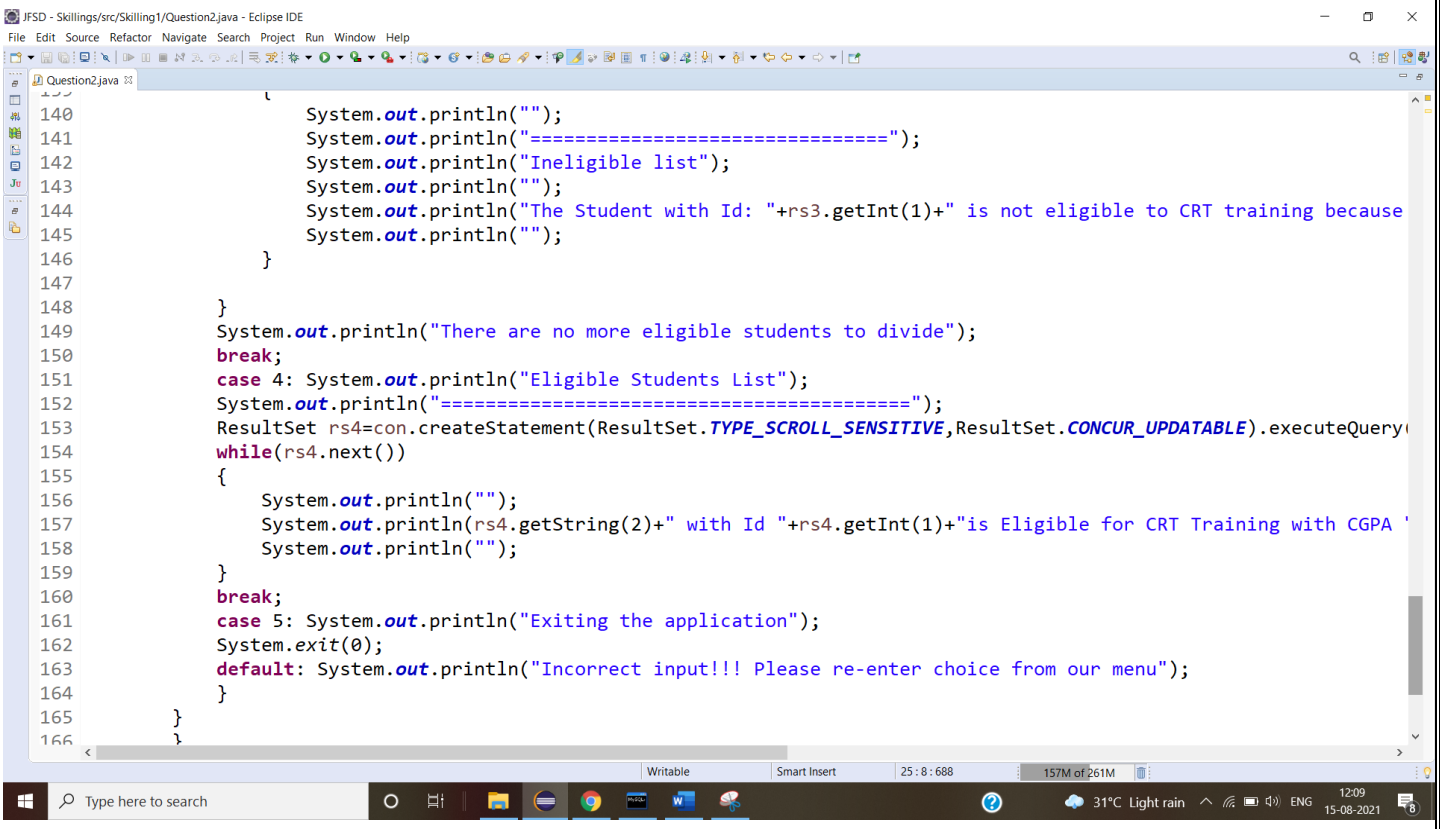



JFSD - Skillings/src/Skilling1/Question2.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Question2.java
26 public static String Update()
27 {
28 String msg = null;
29 try
30 {
31 Connection con=null;
32 con=getConnection();
33 System.out.println("Enter Id");
34 int sid=s.nextInt();
35 System.out.println("Enter Updated CGPA");
36 double ucgpa=s.nextDouble();
37 System.out.println("Enter Updated Backlogs");
38 int unob=s.nextInt();
39 ResultSet rs1 = con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,ResultSet.CONCUR_UPDATABLE).executeQue
40 if(rs1.next())
41 {
42 rs1.updateDouble("cgpa",ucgpa);
43 rs1.updateInt("noofbacklogs", unob);
44 rs1.updateRow();
45 msg="Success";
46 System.out.println("Record Updated");
47 }
48 else
49 {
50 System.out.println("Check your id carefully if you are not insert your details enter your details by s
51 System.out.println("If you have entered earlier but not present in the list then check in eligible lis
52 }
Writable
Smart Insert
25 : 8 : 688
126M of 261M
Type here to search
31°C Light rain
ENG
12:08
15-08-2021

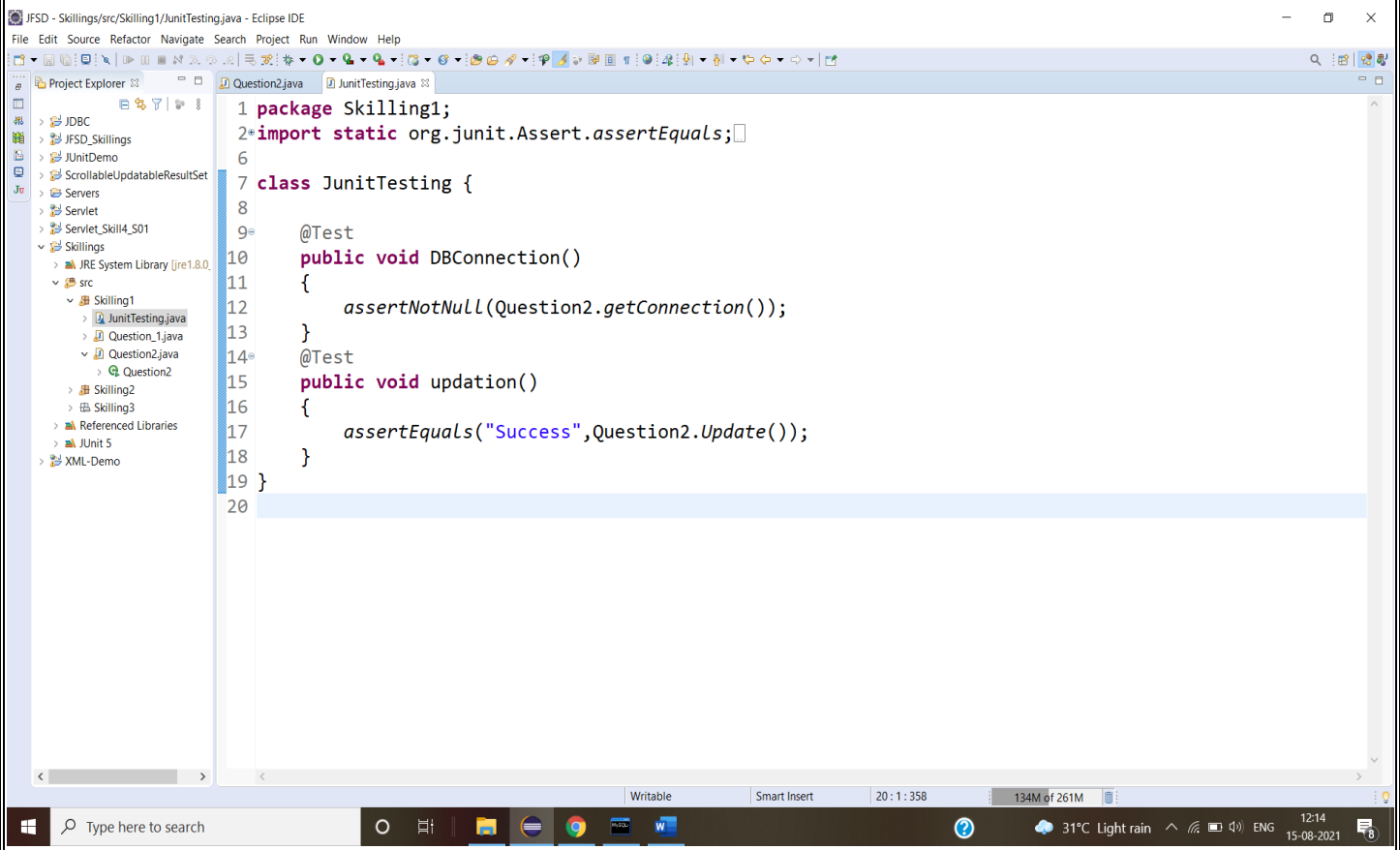

JFSD - Skillings/src/Skilling1/Question2.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Question2.java
64 public static void main(String[] args)
65 {
66 try {
67
68
69 Connection con=null;
70 con=getConnection();
71 System.out.println("====== WELCOME TO KL CRT DEPARTMENT =======");
72 while(true)
73 {
74 System.out.println("1. Insert Student Data");
75 System.out.println("2. Update Student Details");
76 System.out.println("3. Dividing Eligible students");
77 System.out.println("4. Display the Students");
78 System.out.println("5. Exit");
79 System.out.println("Enter your choice: ");
80 int choice = s.nextInt();
81 switch(choice)
82 {
83 case 1: System.out.println("Inserting Data");
84 System.out.println("Enter Id");
85 int id=s.nextInt();
86 System.out.println("Enter name");
87 String name=s.next();
88 System.out.println("Enter gender");
89 String gender=s.next();
90 System.out.println("Enter yearofstudy");
Writable
Smart Insert
25 : 8 : 688
144M of 261M
Type here to search
31°C Light rain
ENG
12:08
15-08-2021


JFSD - Skillings/src/Skilling1/Question2.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Question2.java
String gender=s.next();
System.out.println("Enter yearofstudy");
String yos=s.next();
System.out.println("Enter department");
String dept=s.next();
System.out.println("Enter Mail Id");
String mail=s.next();
System.out.println("Enter CGPA");
double cgpa=s.nextDouble();
System.out.println("Enter No Of Backlogs");
int blgs=s.nextInt();
ResultSet rs = con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,ResultSet.CONCUR_UPDATABLE).executeQuery
rs.moveToInsertRow();
rs.updateInt("id",id);
rs.updateString("name",name);
rs.updateString("gender",gender);
rs.updateString("yearofstudy",yos);
rs.updateString("dept",dept);
rs.updateString("mailid",mail);
rs.updateDouble("cgpa", cgpa);
rs.updateInt("noofbacklogs",blgs);
rs.insertRow();
System.out.println("Record is Inserted successfully");
break;
case 2: System.out.println("Updating Student Details");
Update();
break;
Writable
Smart Insert
25 : 8 : 688
149M of 261M
Type here to search
31°C Light rain
ENG
12:08
15-08-2021

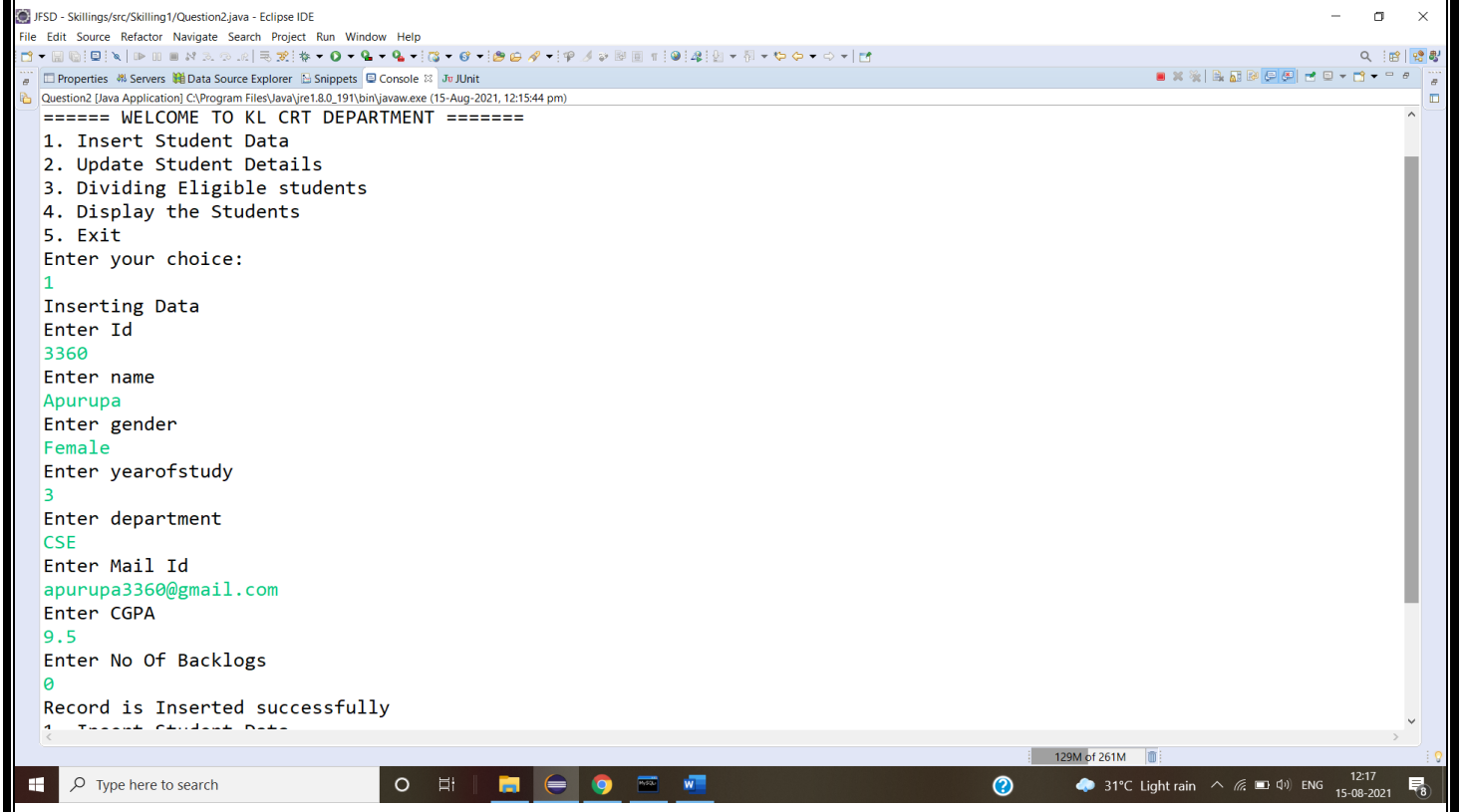

JFSD - Skillings/src/Skilling1/Question2.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Question2.java
case 3: System.out.println("Dividing Eligible Students");
ResultSet rs3 = con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,ResultSet.CONCUR_UPDATABLE).executeQuer
while(rs3.next())
{
double pcgpa=rs3.getDouble(7);
if(pcgpa>7.5)
{
ResultSet rs2 = con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,ResultSet.CONCUR_UPDATABLE).exe
rs2.moveToInsertRow();
rs2.updateInt("id",rs3.getInt(1));
rs2.updateString("name",rs3.getString(2));
rs2.updateString("yearofstudy",rs3.getString(4));
rs2.updateString("dept",rs3.getString(5));
rs2.updateString("mailid",rs3.getString(6));
rs2.updateDouble("cgpa", rs3.getDouble(7));
rs2.updateInt("noofbacklogs",rs3.getInt(8));
rs2.insertRow();
System.out.println("Record inserted Successfully with Id: "+rs3.getInt(1)+" name: "+rs3.getString(
rs3.deleteRow();
System.out.println("Records deleted in student table");
}
else
{
System.out.println("");
System.out.println("================================");
System.out.println("Ineligible list");
Writable
Smart Insert
25 : 8 : 688
153M of 261M
Type here to search
31°C Light rain
ENG
12:09
15-08-2021

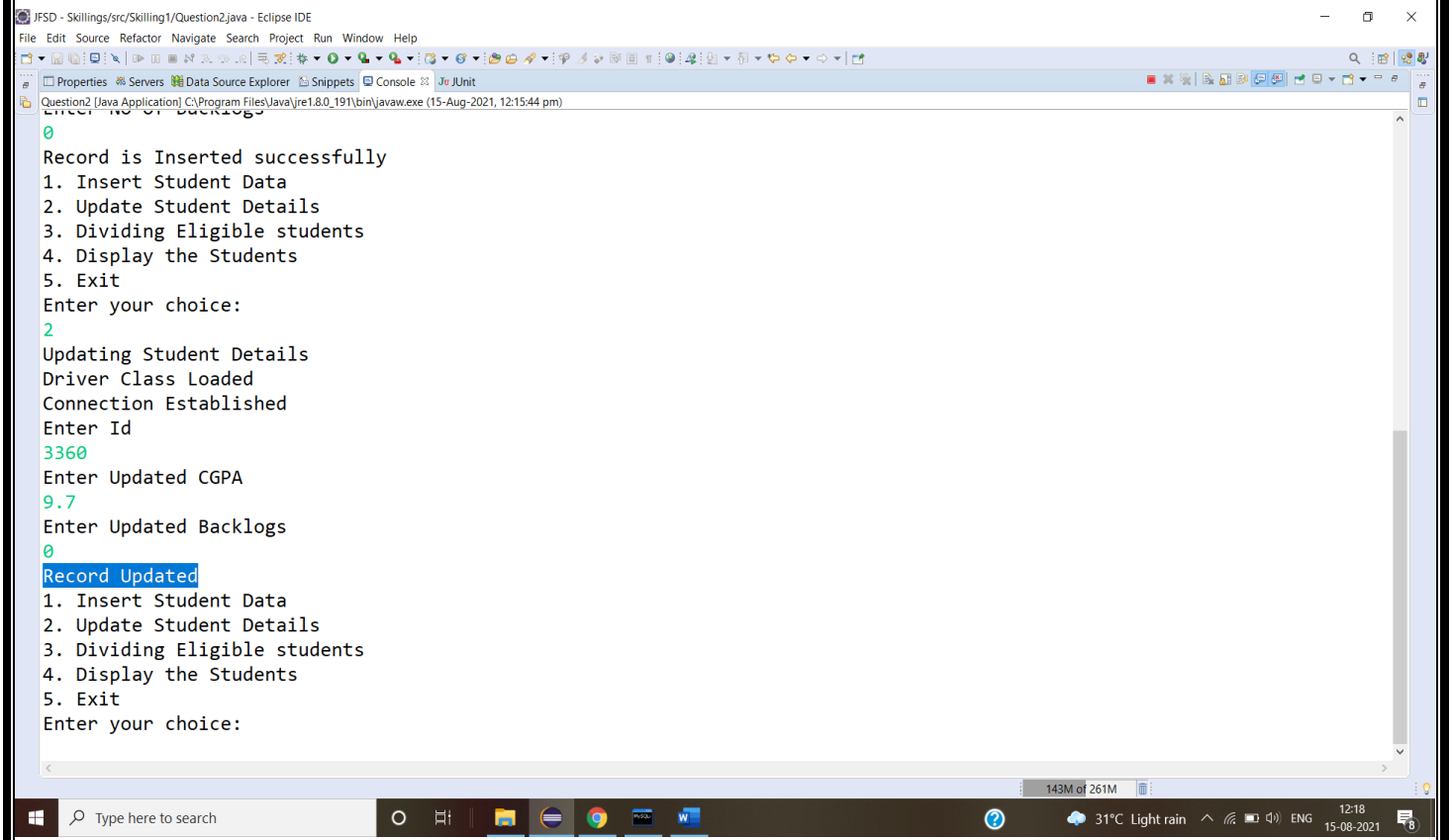


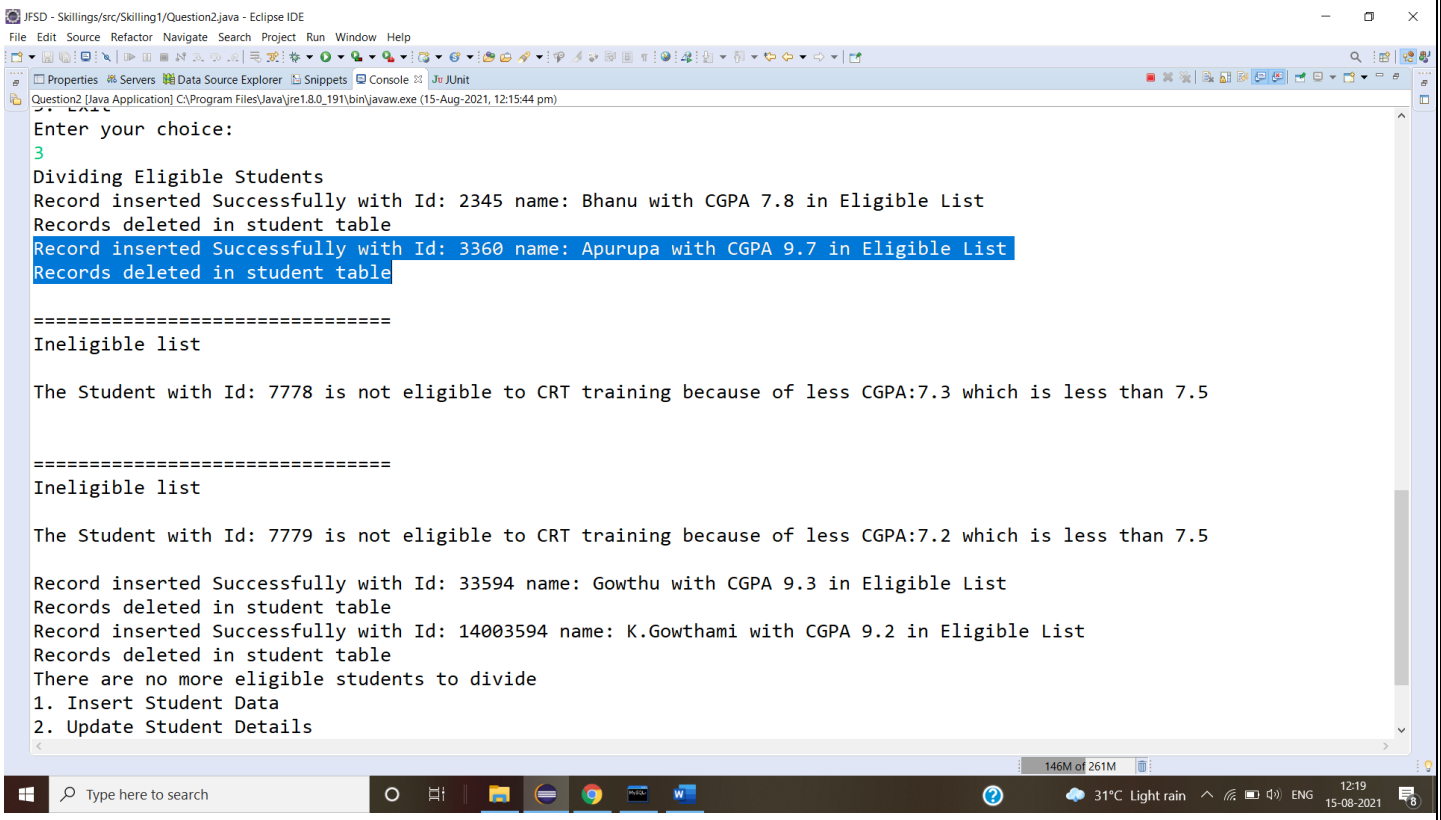
Junit Unit Testing:

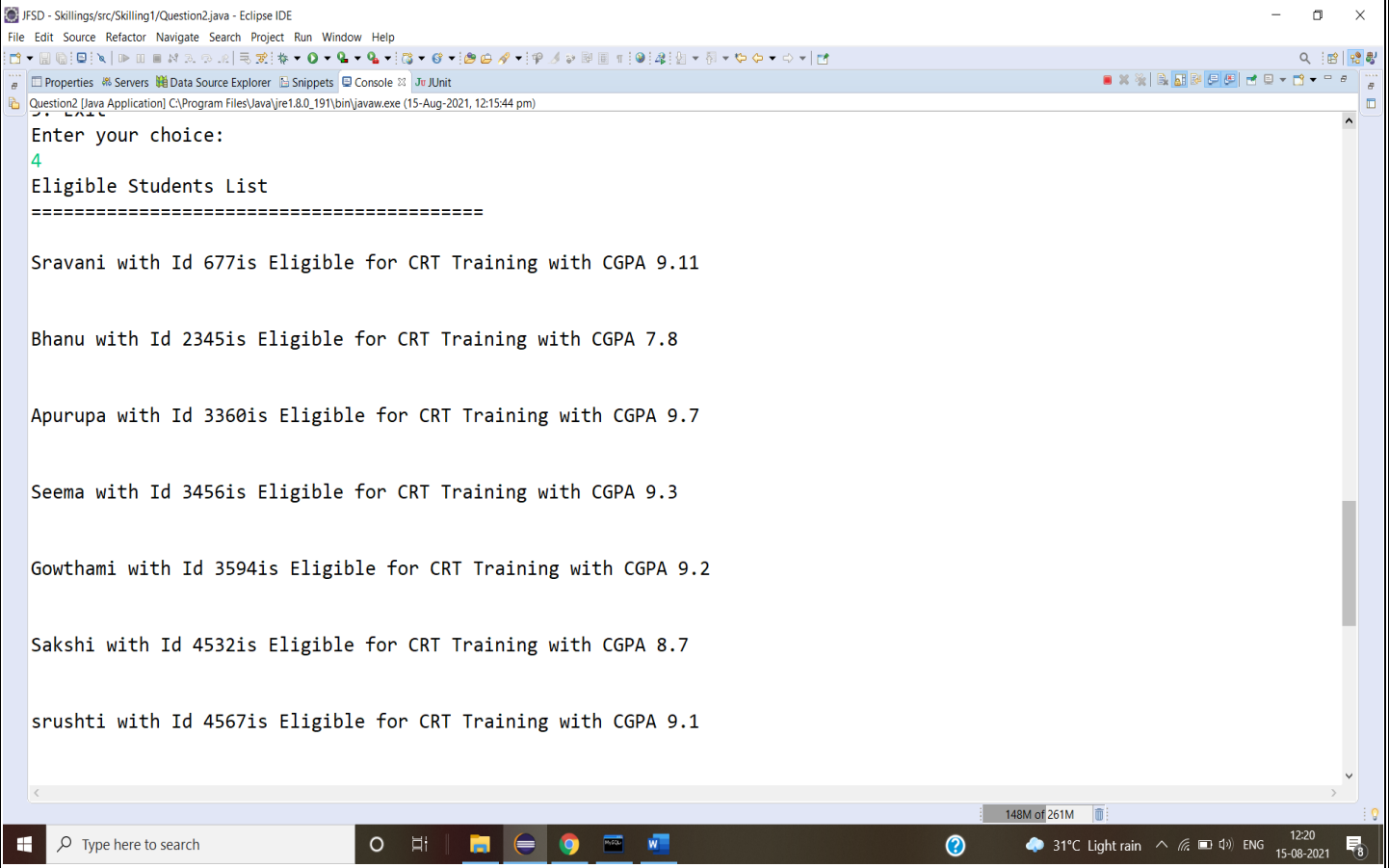


Output Screenshots:

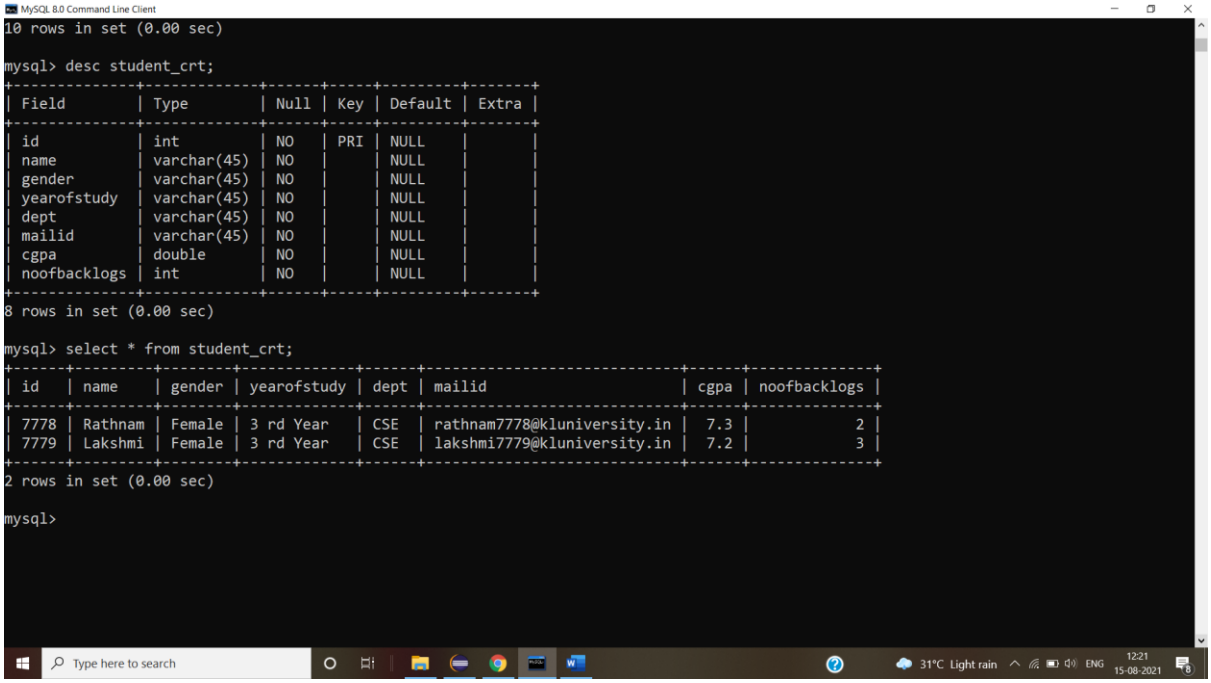




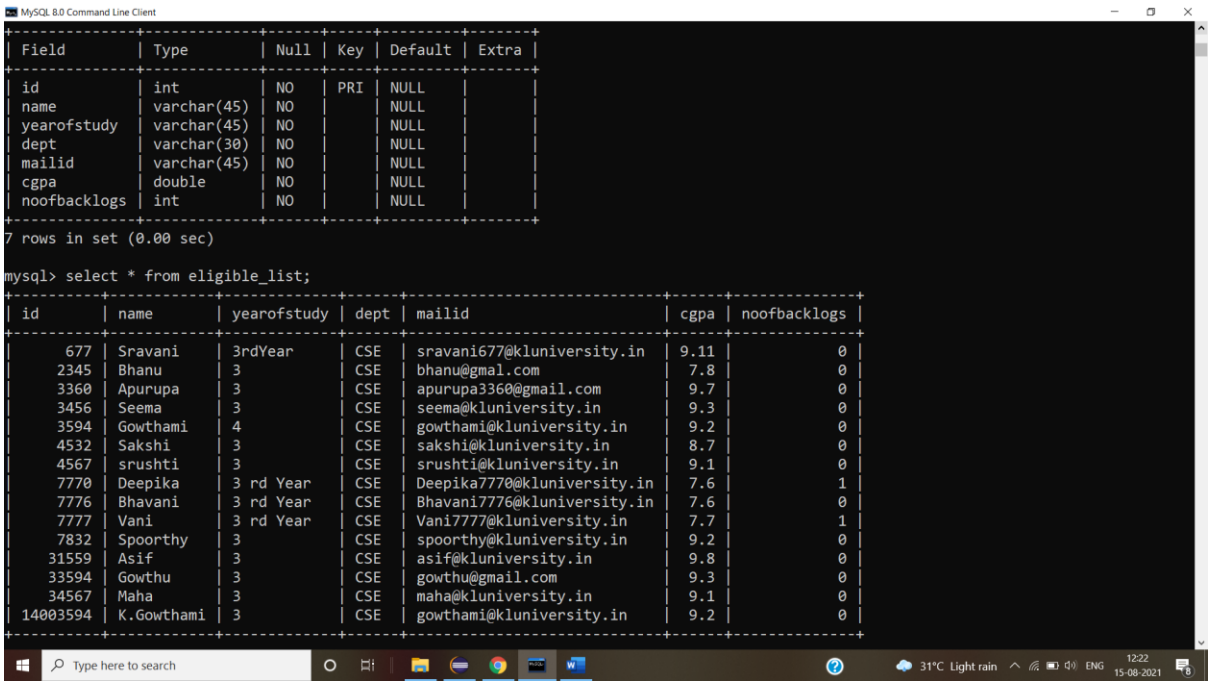

JFSD - Skillings/src/Skilling1/Question2.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Properties Servers Data Source Explorer Snippets Console JUnit
Question2 [Java Application] C:\Program Files\Java\jre1.8.0_191\bin\javaw.exe (15-Aug-2021, 12:15:44 pm)
Enter your choice:
3
Dividing Eligible Students
Record inserted Successfully with Id: 2345 name: Bhanu with CGPA 7.8 in Eligible List
Records deleted in student table
Record inserted Successfully with Id: 3360 name: Apurupa with CGPA 9.7 in Eligible List
Records deleted in student table
==========
Ineligible list
The Student with Id: 7778 is not eligible to CRT training because of less CGPA:7.3 which is less than 7.5
==========
Ineligible list
The Student with Id: 7779 is not eligible to CRT training because of less CGPA:7.2 which is less than 7.5
Record inserted Successfully with Id: 33594 name: Gowthu with CGPA 9.3 in Eligible List
Records deleted in student table
Record inserted Successfully with Id: 14003594 name: K.Gowthami with CGPA 9.2 in Eligible List
Records deleted in student table
There are no more eligible students to divide
1. Insert Student Data
2. Update Student Details
146M of 261M
Type here to search
31°C Light rain
ENG
12:19
15-08-2021

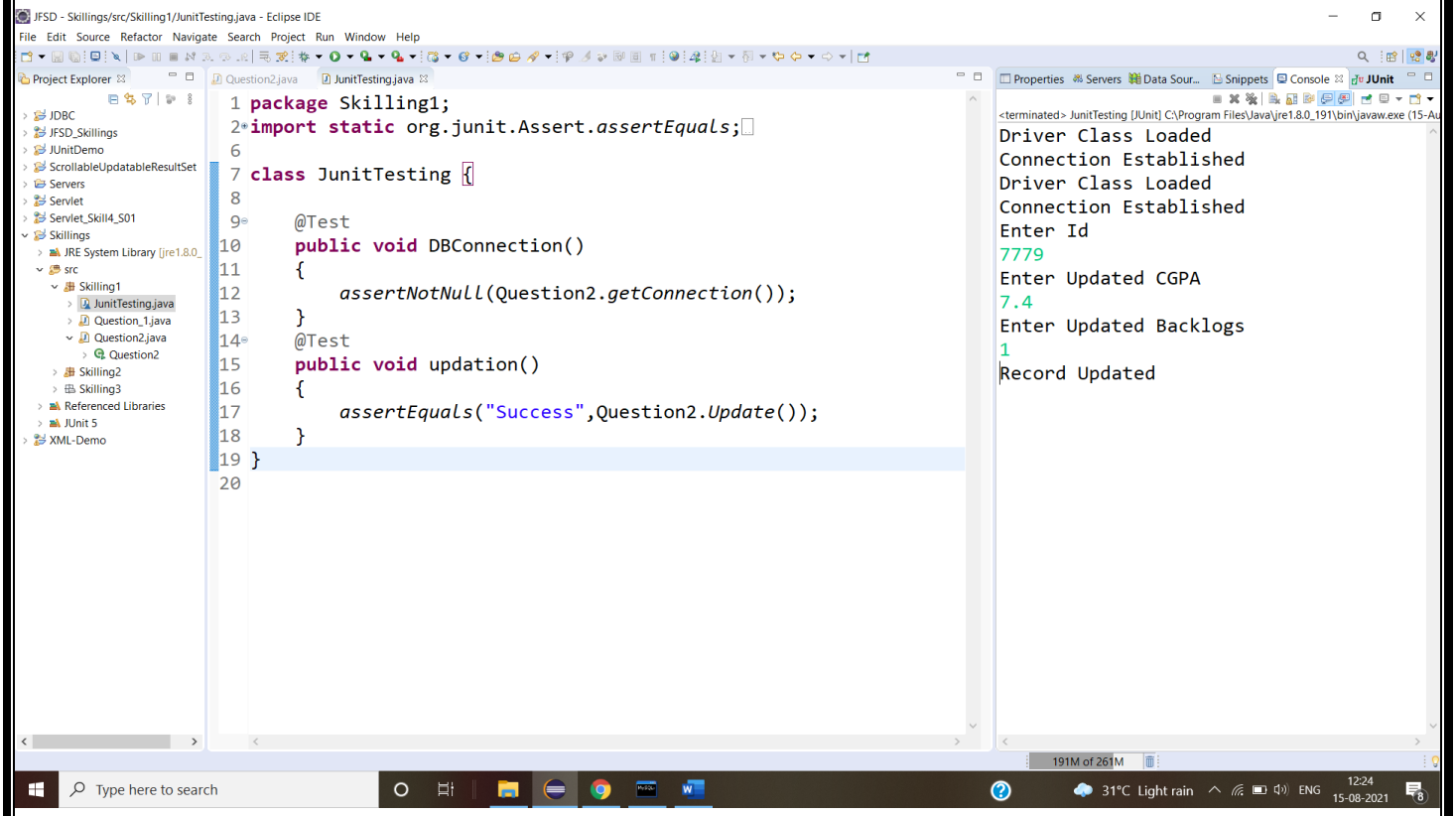
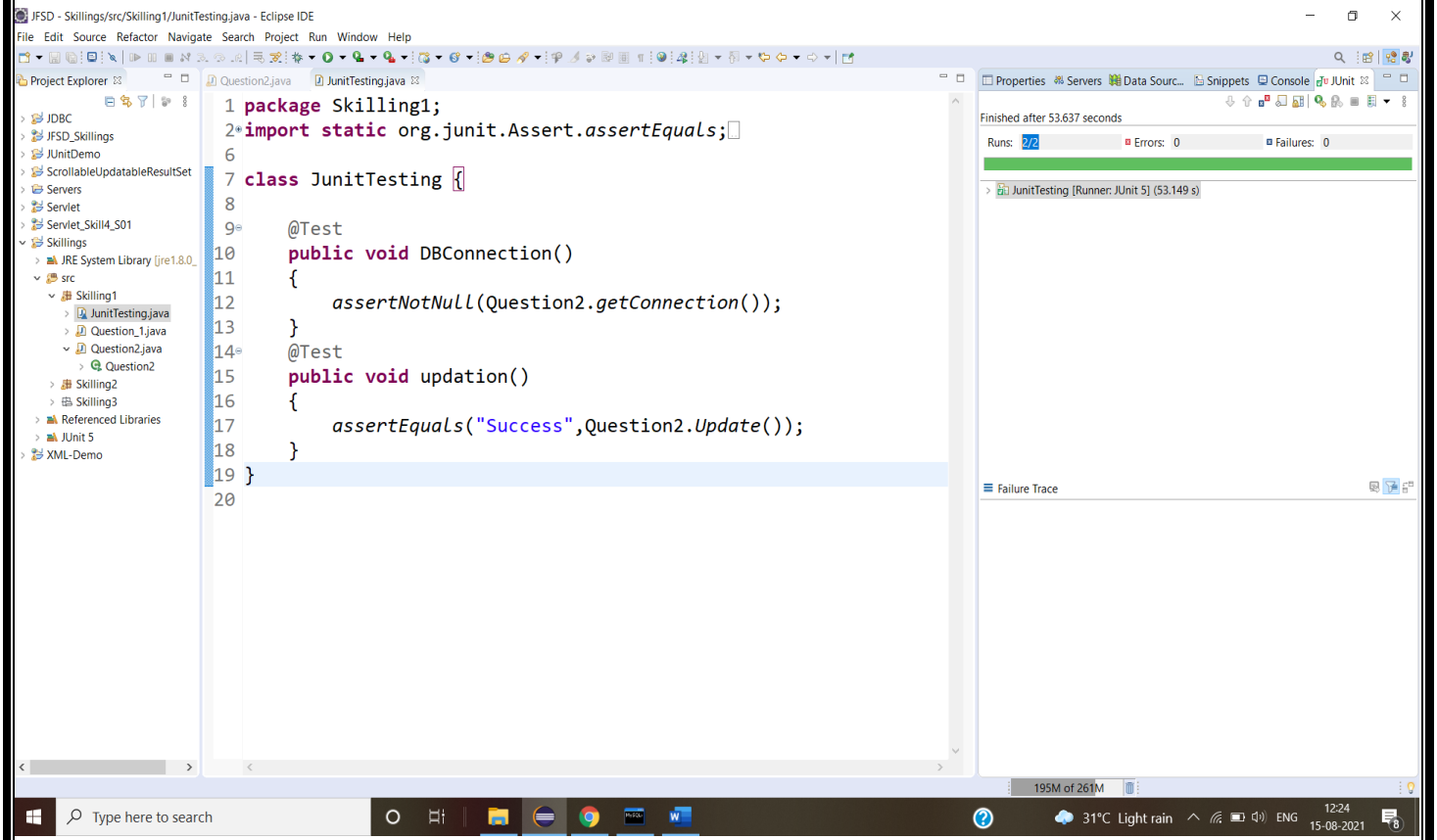

JFSD - Skillings/src/Skilling1/Question2.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Properties Servers Data Source Explorer Snippets Console JUnit
Question2 [Java Application] C:\Program Files\Java\jre1.8.0_191\bin\javaw.exe (15-Aug-2021, 12:15:44 pm)
Enter your choice:
4
Eligible Students List
==========
Sravani with Id 677is Eligible for CRT Training with CGPA 9.11
Bhanu with Id 2345is Eligible for CRT Training with CGPA 7.8
Apurupa with Id 3360is Eligible for CRT Training with CGPA 9.7
Seema with Id 3456is Eligible for CRT Training with CGPA 9.3
Gowthami with Id 3594is Eligible for CRT Training with CGPA 9.2
Sakshi with Id 4532is Eligible for CRT Training with CGPA 8.7
srushti with Id 4567is Eligible for CRT Training with CGPA 9.1
148M of 261M
Type here to search
31°C Light rain
ENG
12:20
15-08-2021

Database Screenshots:



```
MySQL 8.0 Command Line Client
10 rows in set (0.00 sec)

mysql> desc student_crt;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| id           | int         | NO   | PRI | NULL    |       |
| name         | varchar(45) | NO   |     | NULL    |       |
| gender       | varchar(45) | NO   |     | NULL    |       |
| yearofstudy  | varchar(45) | NO   |     | NULL    |       |
| dept         | varchar(45) | NO   |     | NULL    |       |
| mailid       | varchar(45) | NO   |     | NULL    |       |
| cgpa         | double      | NO   |     | NULL    |       |
| noofbacklogs | int         | NO   |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
8 rows in set (0.00 sec)

mysql> select * from student_crt;
+------+---------+--------+-------------+------+-----------------------------+------+--------------+
| id   | name    | gender | yearofstudy | dept | mailid                      | cgpa | noofbacklogs |
+------+---------+--------+-------------+------+-----------------------------+------+--------------+
| 7778 | Rathnam | Female | 3 rd Year   | CSE  | rathnam7778@kluniversity.in |  7.3 |            2 |
| 7779 | Lakshmi | Female | 3 rd Year   | CSE  | lakshmi7779@kluniversity.in |  7.2 |            3 |
+------+---------+--------+-------------+------+-----------------------------+------+--------------+
2 rows in set (0.00 sec)

mysql>
```



```
MySQL 8.0 Command Line Client
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| id           | int         | NO   | PRI | NULL    |       |
| name         | varchar(45) | NO   |     | NULL    |       |
| yearofstudy  | varchar(45) | NO   |     | NULL    |       |
| dept         | varchar(30) | NO   |     | NULL    |       |
| mailid       | varchar(45) | NO   |     | NULL    |       |
| cgpa         | double      | NO   |     | NULL    |       |
| noofbacklogs | int         | NO   |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
7 rows in set (0.00 sec)

mysql> select * from eligible_list;
+----------+-----------+-------------+------+-----------------------------+------+--------------+
| id       | name      | yearofstudy | dept | mailid                      | cgpa | noofbacklogs |
+----------+-----------+-------------+------+-----------------------------+------+--------------+
|      677 | Sravani   | 3rdYear     | CSE  | sravani677@kluniversity.in  | 9.11 |            0 |
|     2345 | Bhanu     | 3           | CSE  | bhanu@gmal.com              |  7.8 |            0 |
|     3360 | Apurupa   | 3           | CSE  | apurupa3360@gmail.com       |  9.7 |            0 |
|     3456 | Seema     | 3           | CSE  | seema@kluniversity.in       |  9.3 |            0 |
|     3594 | Gowthami  | 4           | CSE  | gowthami@kluniversity.in    |  9.2 |            0 |
|     4532 | Sakshi    | 3           | CSE  | sakshi@kluniversity.in      |  8.7 |            0 |
|     4567 | srushti   | 3           | CSE  | srushti@kluniversity.in     |  9.1 |            0 |
|     7770 | Deepika   | 3 rd Year   | CSE  | Deepika7770@kluniversity.in |  7.6 |            1 |
|     7776 | Bhavani   | 3 rd Year   | CSE  | Bhavani7776@kluniversity.in |  7.6 |            0 |
|     7777 | Vani      | 3 rd Year   | CSE  | Vani7777@kluniversity.in    |  7.7 |            1 |
|     7832 | Spoorthy  | 3           | CSE  | spoorthy@kluniversity.in    |  9.2 |            0 |
|    31559 | Asif      | 3           | CSE  | asif@kluniversity.in        |  9.8 |            0 |
|    33594 | Gowthu    | 3           | CSE  | gowthu@gmail.com            |  9.3 |            0 |
|    34567 | Maha      | 3           | CSE  | maha@kluniversity.in        |  9.1 |            0 |
| 14003594 | K.Gowthami | 3          | CSE  | gowthami@kluniversity.in    |  9.2 |            0 |
+----------+-----------+-------------+------+-----------------------------+------+--------------+
```

Junit Testing Output Screenshots: