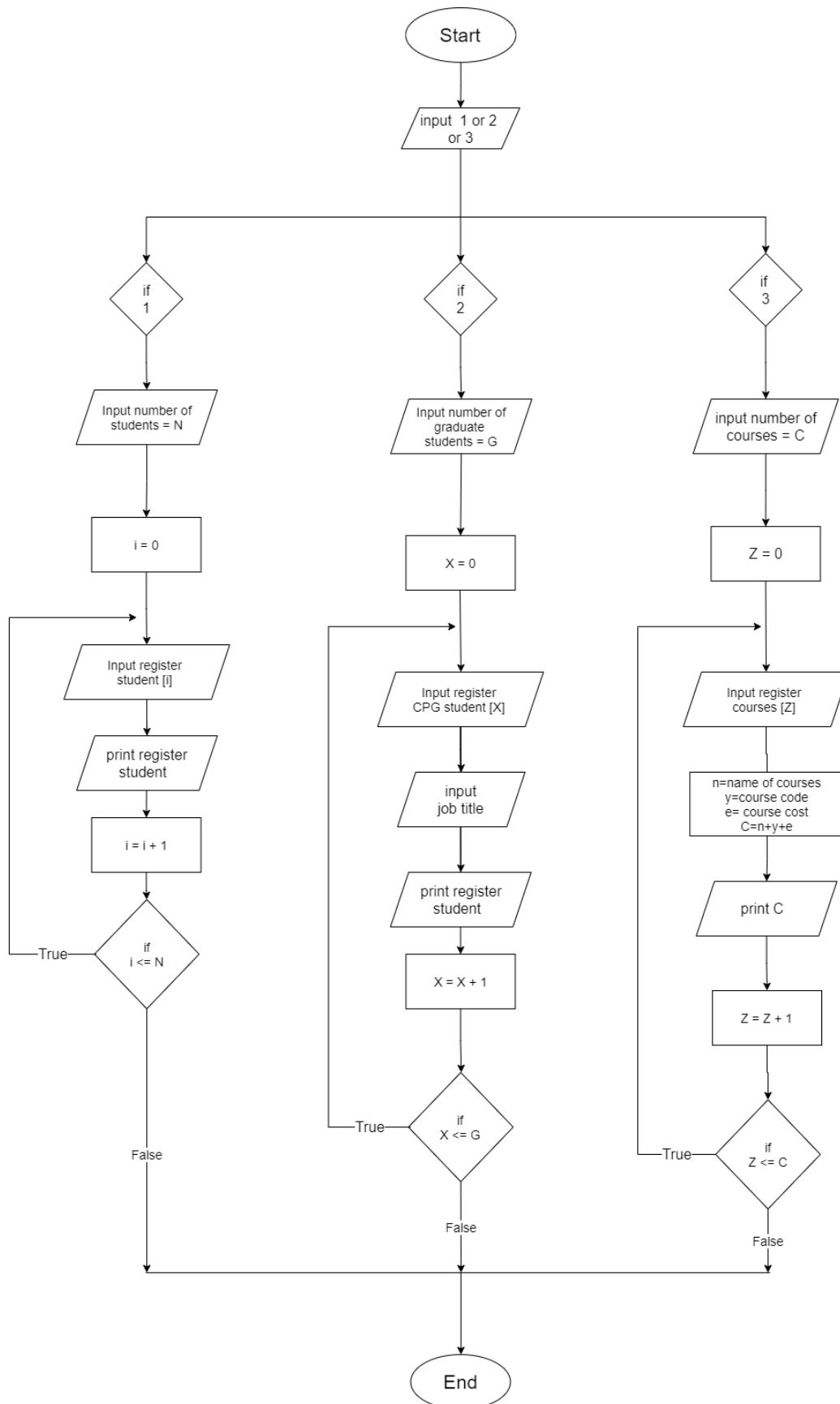479 Project 2:

Team Members:

1. Sama Ahmed Okasha – 202000452. (Team leader)
2. Nouran Hady Shaaban – 202001903.
3. Rodina Darwish – 202000814.
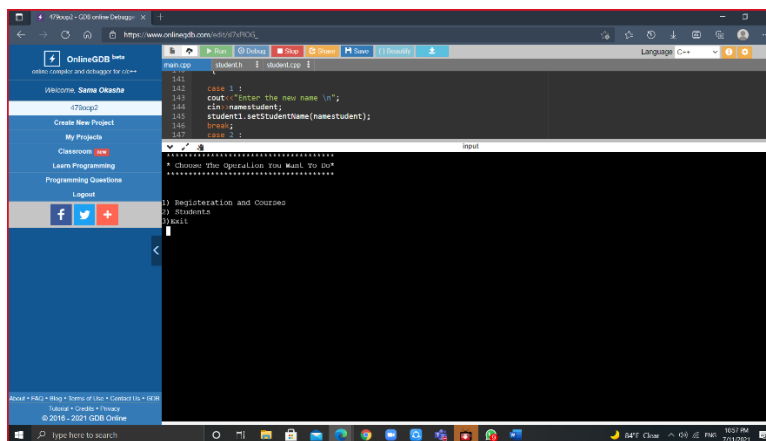4. Marwa Mohamad – 202001356.

Flow chart of the code:

```
                          ┌─────────┐
                          │  Start  │
                          └────┬────┘
                               │
                    ┌──────────────────────┐
                    │  input  1 or 2        │
                    │  or 3                 │
                    └──────────┬────────────┘
                               │
        ┌──────────────────────┼──────────────────────┐
        │                      │                      │
      ◇ if                   ◇ if                    ◇ if
        1                      2                      3
        │                      │                      │
  ┌───────────────┐     ┌───────────────┐      ┌───────────────┐
  │ Input number  │     │ Input number  │      │ input number  │
  │ of students=N │     │ of graduate   │      │ of courses=C  │
  └──────┬────────┘     │ students = G  │      └──────┬────────┘
         │              └──────┬────────┘             │
    ┌─────────┐           ┌─────────┐            ┌─────────┐
    │  i = 0  │           │  X = 0  │            │  Z = 0  │
    └────┬────┘           └────┬────┘            └────┬────┘
         │                     │                      │
  ┌──────────────┐      ┌──────────────┐       ┌──────────────┐
  │ Input register│     │ Input register│      │ Input register│
  │ student [i]   │     │ CPG student[X]│      │ courses [Z]   │
  └──────┬────────┘     └──────┬────────┘      └──────┬────────┘
         │                     │                      │
  ┌──────────────┐      ┌──────────────┐      ┌────────────────┐
  │ print register│     │ input         │     │ n=name of courses│
  │ student       │     │ job title     │     │ y=course code   │
  └──────┬────────┘     └──────┬────────┘     │ e= course cost  │
         │                     │              │ C=n+y+e         │
  ┌──────────────┐      ┌──────────────┐      └──────┬─────────┘
  │  i = i + 1   │      │ print register│            │
  └──────┬────────┘     │ student       │      ┌──────────────┐
         │              └──────┬────────┘      │  print C     │
      ◇ if                     │               └──────┬───────┘
        i <= N          ┌──────────────┐              │
   True / False         │  X = X + 1   │       ┌──────────────┐
                        └──────┬────────┘      │  Z = Z + 1   │
                               │               └──────┬───────┘
                            ◇ if                       │
                              X <= G                ◇ if
                         True / False                 Z <= C
                                                 True / False
```

                          ┌─────────┐
                          │   End   │
                          └─────────┘

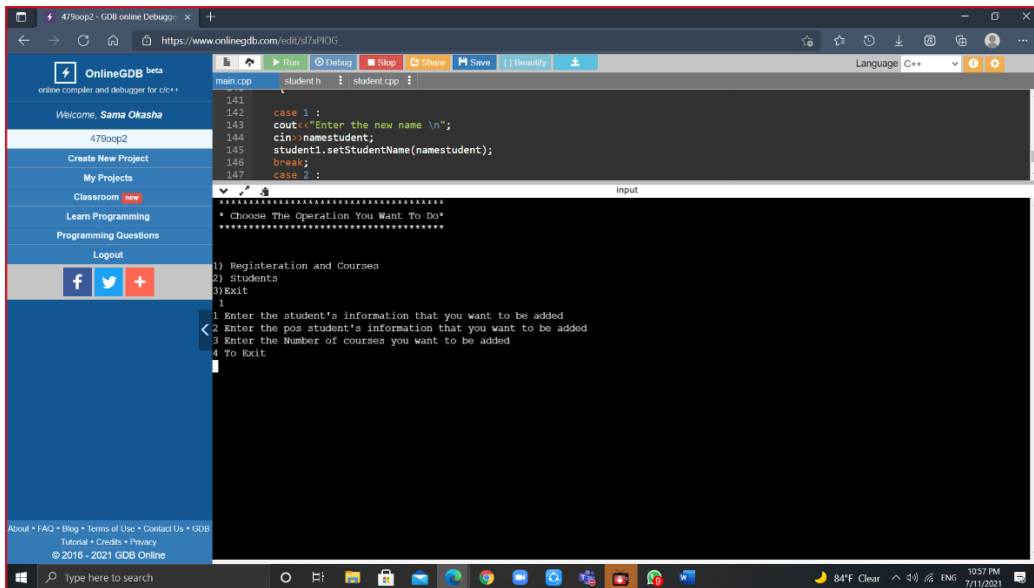Application Description (Moodle Simulator):

- The program aims to register undergraduate and postgraduate students through:
  1. It receives the student's information as name, id, email, major, etc.
  2. Then it saves it through the public member function in the private variables of **class CStudent** and **CPG_students.**
  3. The user can use class operations to calculate GPA, get the information he needs.
- It also registers the courses through:
  1. It receives the course's information as name, code, and cost.
  2. Then it saves it through the public member function in the private variables of **class ccourse.**
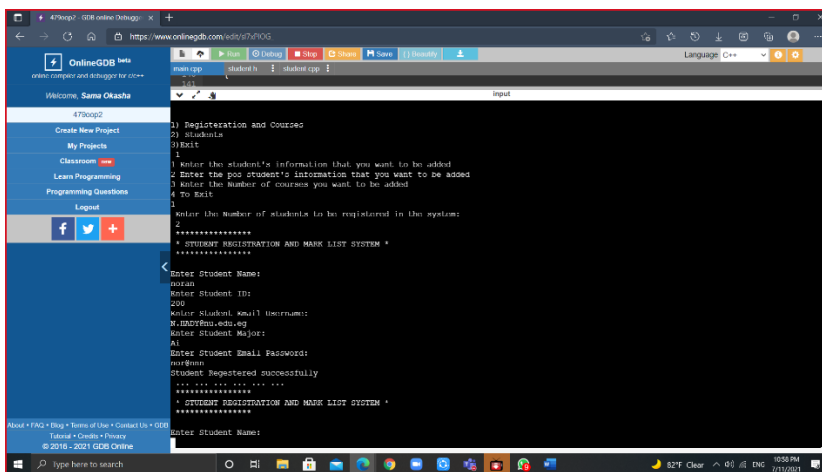 3. The user can use class operations to get the information he needs.
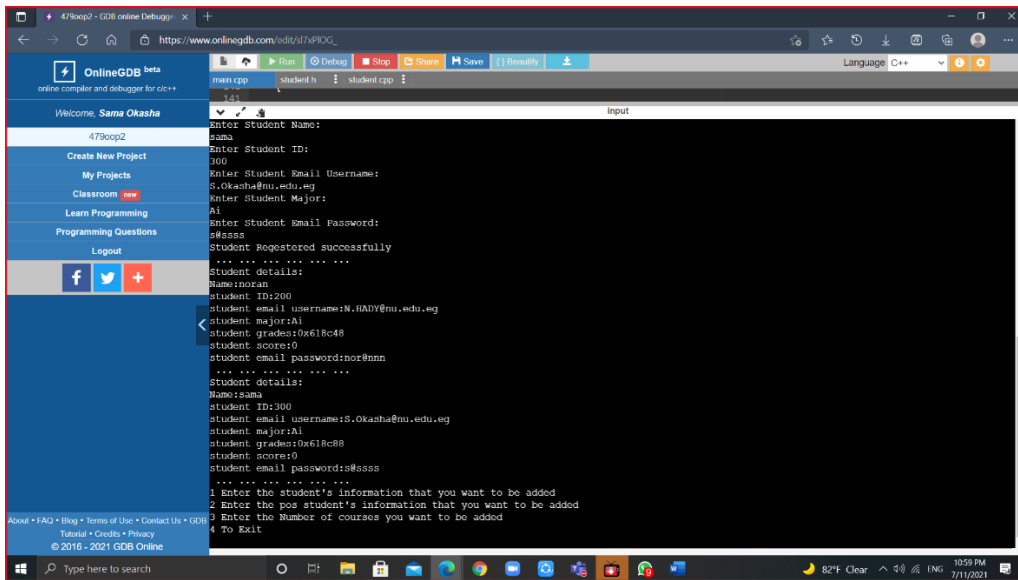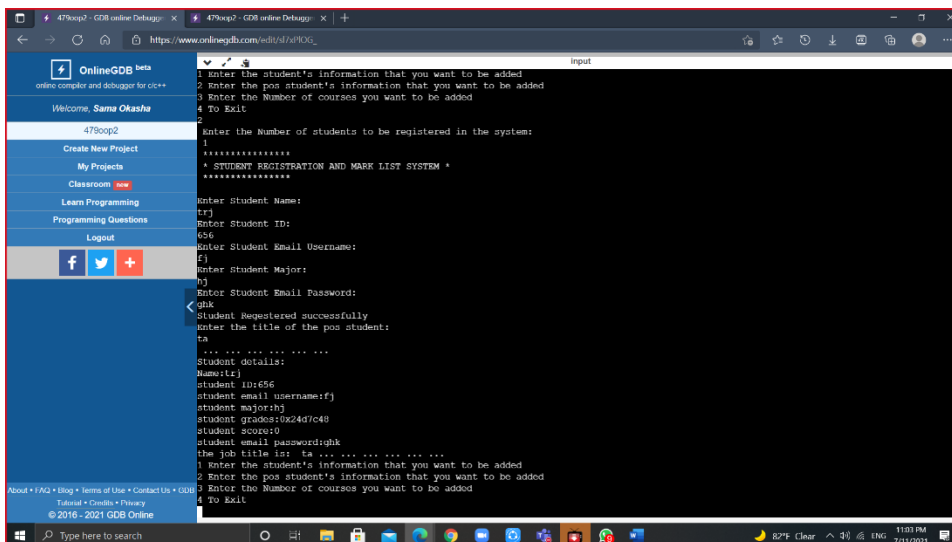
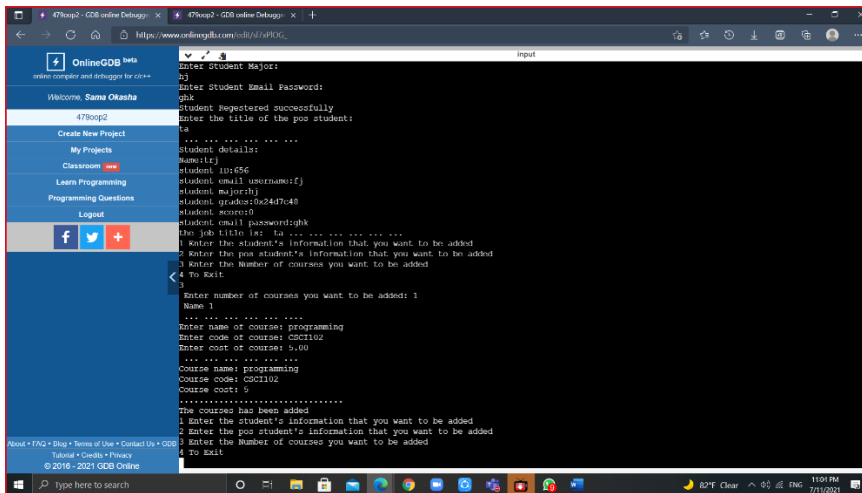Screens of input and output:
Picture 1:

Picture 2:

Picture 3:

Picture 4:

Enter Student Name:
sama
Enter Student ID:
300
Enter Student Email Username:
S.Okasha@nu.edu.eg
Enter Student Major:
Ai
Enter Student Email Password:
s#ssss
Student Regestered successfully
 ... ...
Student details:
Name:noran
student ID:200
student email username:N.HADY@nu.edu.eg
student major:Ai
student grades:0x618c48
student score:0
student email password:nor@nnn
 ... ...
Student details:
Name:sama
student ID:300
student email username:S.Okasha@nu.edu.eg
student major:Ai
student grades:0x618c88
student score:0
student email password:s#ssss
 ... ...
1 Enter the student's information that you want to be added
2 Enter the pos student's information that you want to be added
3 Enter the Number of courses you want to be added
4 To Exit

Picture 5:

1 Enter the student's information that you want to be added
2 Enter the pos student's information that you want to be added
3 Enter the Number of courses you want to be added
4 To Exit
2
Enter the Number of students to be registered in the system:
1
****
* STUDENT REGISTRATION AND MARK LIST SYSTEM *
****
Enter Student Name:
trj
Enter Student ID:
656
Enter Student Email Username:
fj
Enter Student Major:
hj
Enter Student Email Password:
ghk
Student Regestered successfully
Enter the title of the pos student:
ta
 ... ...
Student details:
Name:trj
student ID:656
student email username:fj
student major:hj
student grades:0x24d7c48
student score:0
student email password:ghk
the job title is: ta ... ...
1 Enter the student's information that you want to be added
2 Enter the pos student's information that you want to be added
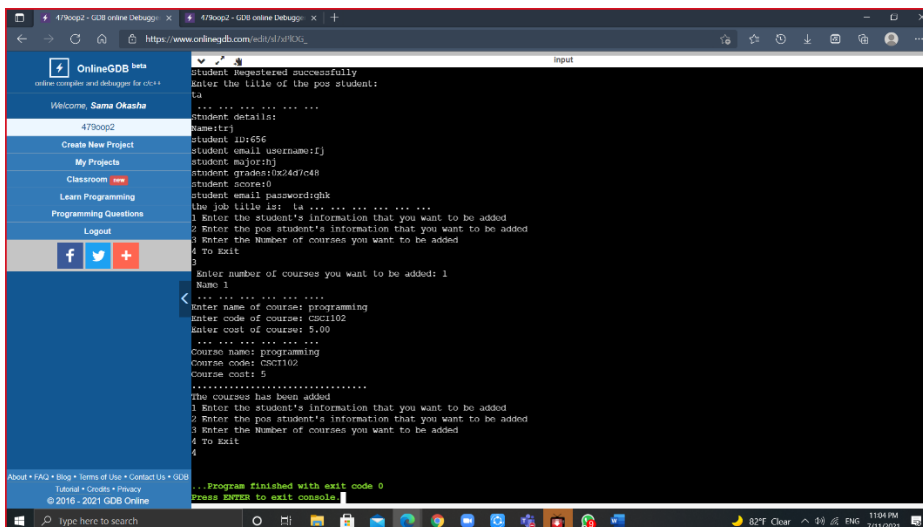3 Enter the Number of courses you want to be added
4 To Exit

Picture 6:

Picture 7:

Picture 8:

Picture 9:

Thank You