Computing and Data Science

1th Year

G2

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ABSTRACT

Student Registration System for Universities (SRSU) as a kind of management information system can not only record the information for student registration each term quickly and efficiently, but also do statistics on the students' basic information, registration information, payment information and contact information. This application help us to calculate GPA of our students and gives results of the analysis. Our result is shown on the console.

Users of the system:

- ✓ **Student** is the user of the system

When the user open the application, the app ask him to enter his personal information , his grades , his courses , his payments and calculate his GPA.

What does our system do?

- **Take student information:**
  - Our app take the name of student
  - let him choose the company of communication company to enter the phone number
  - choose nationality
  - choose his gender
  - enter home number
  - enter his date of birth
  - calculate his age
  - enter his place where he was born
  - enter his ID
  - choose his department
  - generate the student registration number
  - print the student details
  - enter number of subjects that he wants to register
  - enter the id and name of subject and store these subject and IDs in arraylist
  - enter the grade of each subject and the credit hours and store these information into arraylist
  - calculate the GPA of the student

The Implementation:

- **Our app consists of 5 classes:**
  - Courses_GPA that inherits from student class and contains 5 methods:
    - Get subject that take subjects from students
    - getDoctorName that take the names of university-doctors
    - getGrades that takes grades from students
    - getHours that takes the credits hours

```
99  public void getHours(){
100     Scanner input = new Scanner(System.in);
101     for(int i = 0;i<subjects.size();i++){
102     System.out.println("What is the credit hours for subjcect "+subjects.get(i));
    int hours=input.nextInt();
104 ghours.add(i, hours);}
105     System.out.println("The credit hours for"+subjects);
106     System.out.println(ghours);}
107 public void calc_gpa(){
108 int i;
    double total_h=0;
110 Scanner input=new Scanner(System.in);
111 System.out.println("How many courses did you take this term ?");
112 int t=input.nextInt();
113 for(i=0;i<t;i++){
114 System.out.println("what is the name of course "+(i+1));
115 System.out.println(subjects);
116 System.out.println(subjects_grades);
117 String course=input.next();
118 if(subjects.contains(course)){
119 int x=subjects.indexOf(course);
120 total_h+=ghours.get(x);
121 sum+=(subjects_grades.get(x)*ghours.get(x));
122 }}
123   GPA=(sum)/(total_h);
124   System.out.println("GPA is :"+GPA);
```

    - calc_gpa that calculate the GPA of student

    -

- data_strucures that contains the main methods to call the

```
1   package data_strucures;
2   import java.util.*;
3   public class Data_strucures {
4   public static void main(String[] args) {
5   ArrayList<Students> s =new ArrayList(3);
6   ArrayList<Courses_GPA> g=new ArrayList(3);
7   ArrayList<StudentPayments> p =new ArrayList(3);
8   ArrayList<css> c =new ArrayList(3);
9   Courses_GPA g1=new Courses_GPA();
10  Courses_GPA g2=new Courses_GPA();
11  Courses_GPA g3=new Courses_GPA();
12  Students s1=new Students();
13  Students s2=new Students();
14  Students s3=new Students();
15  StudentPayments p1 = new StudentPayments();
16  StudentPayments p2 = new StudentPayments();
17  StudentPayments p3 = new StudentPayments();
18  css c1=new css();
19  css c2=new css();
20  css c3=new css();
21  s.add(s1);
22  g.add(g1);
23  p.add(p1);
24  c.add(c1);
```

other methods and run program

- StudentPayments that inherit from student class and contains methods of payments.

```
13  import java.util.Date;
    public class StudentPayments extends Students {

        Scanner in = new Scanner(System.in);
       protected String TypeOfFunding;
        protected int NumberOfPaymentsDone;
        int TotalAmountPaidSoFar;
        protected Object[] PayDetails = new Object[4];
        int AmountPaid;
        int TransactionNumber;
        String BankOfTransaction;
        Date TransactionDate;

        public StudentPayments() {
        }

        public StudentPayments(String TypeOfFunding, int NumberOfPaymentsDone, int TotalAmountPaidSoFar, int AmountPaid, in
            this.TypeOfFunding = TypeOfFunding;
            this.NumberOfPaymentsDone = NumberOfPaymentsDone;
            this.TotalAmountPaidSoFar = TotalAmountPaidSoFar;
            this.AmountPaid = AmountPaid;
            this.TransactionNumber = TransactionNumber;
            this.BankOfTransaction = BankOfTransaction;
```

- Students

```
52  public String Studentcontact(){
53          Scanner n=new Scanner(System.in);
54      System.out.println("Enter your email");
55       email=n.next();
56      if(email.contains("@")){
57       System.out.println("Modify your home Phone Number(Y/N)");
58       char j=n.next().charAt(0);
59       if(j=='y' || j=='Y'){
60      System.out.println("Enter your home phone num");
61      System.out.print(homee);
62       home_num=n.next();
63       if(home_num.length()==7){
64       f_home=(homee)+(home_num);
65           System.out.println("Your home number is :"+home);
66       System.out.println("Modify your home Phone Number(Y/N)");
67          char m=n.next().charAt(0);
68        if(m=='y' || j=='Y'){
69      System.out.println("Enter your phone num");
70       getPhone();
71        }
72      else {
73          System.out.println("Please enter a correct e-mail.");
74          Studentcontact();}
```

The output:

```
Enter first name :
abdullah
Enter Middle name
hussien
Enter last name
gowely
Please choose  the Company  of your phone number
1-Vodafone
 2-Etisalat
 3-Orange
 4-We
2
01155511870
your number is :01155511870
What is you nationality ?
1-Egyptian
 2-Saudian
 3-Morocan
1
Press M for Male
 Press N for Female
m
Enter your email
abdullah.hussien@gmail.com
Modify your home Phone Number(Y/N)
N
Please enter year you were born
2001
Please enter Month you were born
4
Please enter day you were born
1
You were born :
1\4\2001
Your age is :21years old
Enter the flat number :
1
```

```
Enter the house number
3
Enter the street name
mortada
Enter the area name
janaklees
Enter the city name
alexandria
Enter Government name
idk
Enter the Country name
egypt
Enter the postal code
2211
Enter your id
13
Enter your term
2
Choose your Department
1-General
 2-Healthcare
 3-cyber security
 4-Media
 5-Buisness
1
The student id is :2022225010013
The students derails :
First name : abdullah
Middle name : hussien
Last name : gowely
Gender : null
Year : 2001
Month : 4
Day : 1
Gender : null
Age : 21
email : abdullah.hussien@gmail.com
Flat number name : 1
```

```
house number : 3
Street name : mortada
Distract name : janaklees
City name : alexandria
Governorate name : idk
Country name : egypt
Postal : 2211
How many subjects did you study ?
4
Enter the name for subject1
data
What is the course id of subject 1?
12223
Enter the name for subject2
linear
What is the course id of subject 2?
2332
Enter the name for subject3
science
What is the course id of subject 3?
3345
Enter the name for subject4
programming
What is the course id of subject 4?
33214
Your subjects are :
[data, linear, science, programming]
[12223, 2332, 3345, 33214]
what is  Your grade for data
Enter from A --> to F
A
what is  Your grade for linear
Enter from A --> to F
B+
what is  Your grade for science
Enter from A --> to F
B-
what is  Your grade for programming
Enter from A --> to F
```

```
what is  Your grade for programming
Enter from A --> to F
A+
[4.0, 3.33, 2.67, 4.0]
What is the credit hours for subjcect data
3
What is the credit hours for subjcect linear
3
What is the credit hours for subjcect science
3
What is the credit hours for subjcect programming
3
The credit hours for[data, linear, science, programming]
[3, 3, 3, 3]
How many courses did you take this term ?
4
what is the name of course 1
[data, linear, science, programming]
[4.0, 3.33, 2.67, 4.0]
data
what is the name of course 2
[data, linear, science, programming]
[4.0, 3.33, 2.67, 4.0]
linear
what is the name of course 3
[data, linear, science, programming]
[4.0, 3.33, 2.67, 4.0]
science
what is the name of course 4
[data, linear, science, programming]
[4.0, 3.33, 2.67, 4.0]
programming
GPA is :3.5
enter Type of funding self-funded or grant-funded
self
enter numper of payments done
400
enter Total amount paid so far
20000
```

```
Enter Amount paid
1000
Enter Transaction number
3
Enter Bank Of Transaction
masr
enter your year student
2
enter your Semester student
2
the finished courses
_____
Course1: programing1                                    -credit hours:3
Course1: programing2                                    -credit hours:3
Course1: Linear and integer programming                  -credit hours:3
Course2: math0                                           -credit hours:3
Course2: math1                                           -credit hours:2
Course2: electronics                                     -credit hours:2
Course3: English Language                                -credit hours:3
Course3: Linear Algebra                                  -credit hours:3
Course3: physics                                         -credit hours:3
Course4: Discrete Mathematics                            -credit hours:3
Course4: data scince                                     -credit hours:3
Course4: data structure                                  -credit hours:3
Course5: Database Systems                                -credit hours:3
Course5: Probability                                     -credit hours:3
Course5: Probability 2                                   -credit hours:3
Course6: Business Administration                         -credit hours:3
Course6: Digital Signal Processing                       -credit hours:3
Course6: computer animation                              -credit hours:3
total credit hours in the finished courses:51
the current courses
_____
Course1: Structure and organization of computers         -credit hours:3
Course2: Artificial intelligence                         -credit hours:3
Course3: translators                                     -credit hours:3
Course4: Algorithms                                      -credit hours:3
```

Course4: Algorithms -credit hours:3

Course5: processor in parallel -credit hours:2

Course6: Logical design -credit hours:3

total credit hours in the current courses:17

Enter first name :