Student Mangment System

The main system to manage student details :-

CONTENTS OF THIS Project

1- In start of this project we have done about 90% or 85% of the project of it.

2- the members of the team are : mahmoud essam fathi gabr , Yara hatem Ibrahim Attia , Alaa okaly , Aya nabil

3- each member of the team has reached his maximum of energy to make this shape.

4- will call about details of each one's job in slides.

5- Will talk firstly about GUI , and it's connection with SQL.

6- the common operations used in Sql to make execution , (Connection , Insertion , Deletion And Updating)

7- will talk about , how it's execution totally from Compiler till it's destination as a Programme of jar

8- The connection between Object Oriented Programming and Sql

9- the methods of OOP used

10-Conclusion

TABLE OF Everyone's job

Mahmoud Essam

20221460231

GUI and SQL system with some methods

Yara Hatem

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Tasks of the project (from 1 to 5)

Alaa Okaly

20221441500

Tasks of the project (from 11 to part of 17)

Aya Nabil

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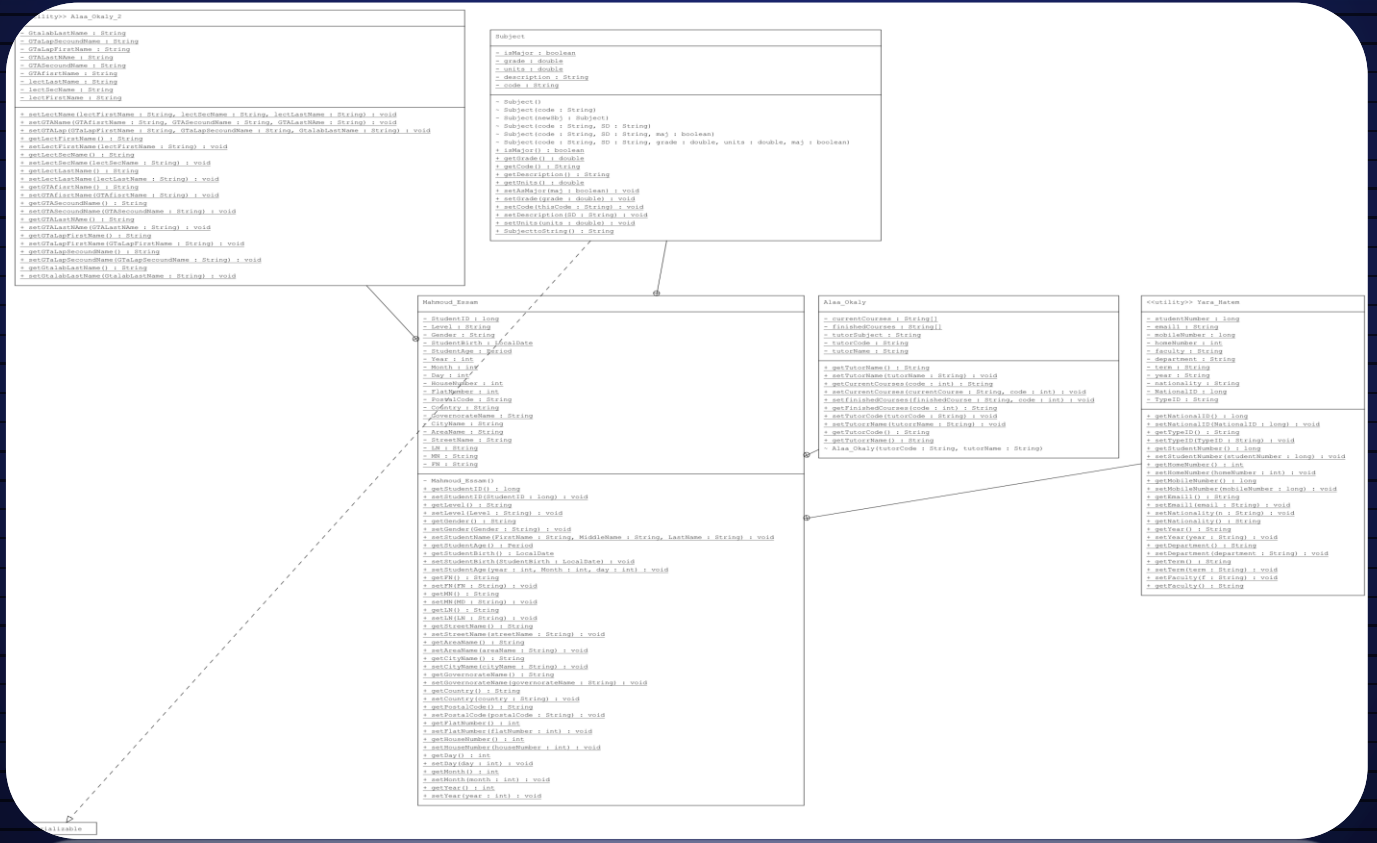
Tasks of the project (from 7 to 10 and part of 17)

Mission of student mangment System

You can descripe it as a system to organise your company whetever it’s job , and you have the permission to add student , Teachers , anything you may want to add to know your people in your institution

Here’s Uml for the Whole OOP data



Firstly , GUI

What's GUI ?

Definition of GUI :-

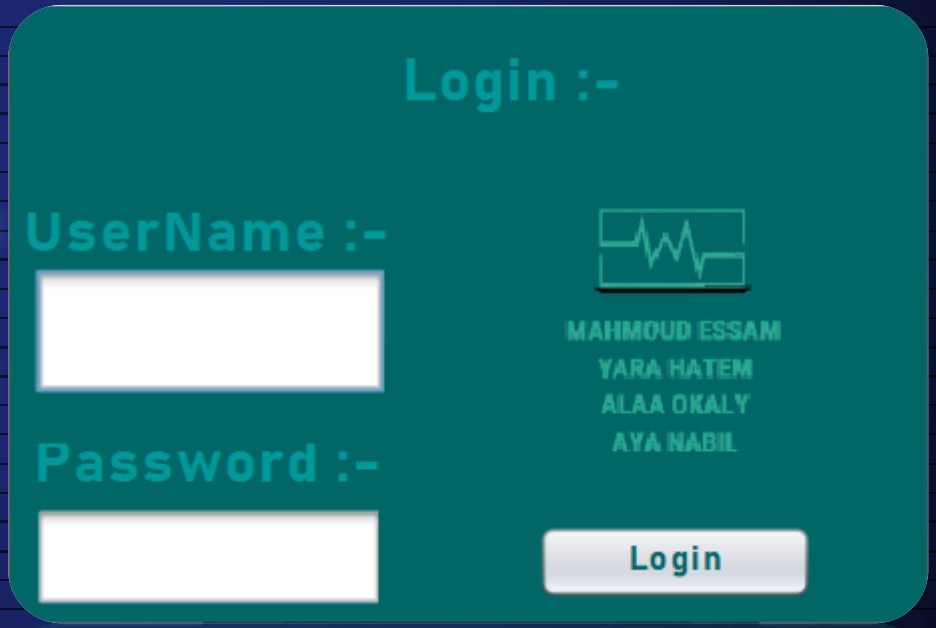
A graphical user interface (GUI) is an interface through which a user interacts with electronic devices such as computers and smartphones through the use of icons, menus and other visual indicators or representations (graphics)

Mahmoud Essam

The Gui Of the project

Log in form :

Login form used to Be the main controller to access the data of student or whatever it is , and the only one who know it is the manager of it

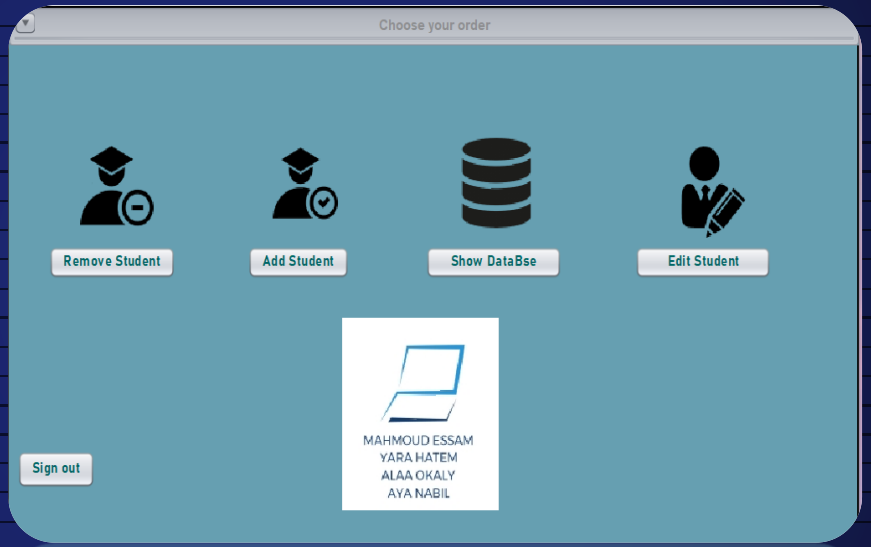


Mahmoud Essam

Choices Form

It enables you after *login to* to choose your order of

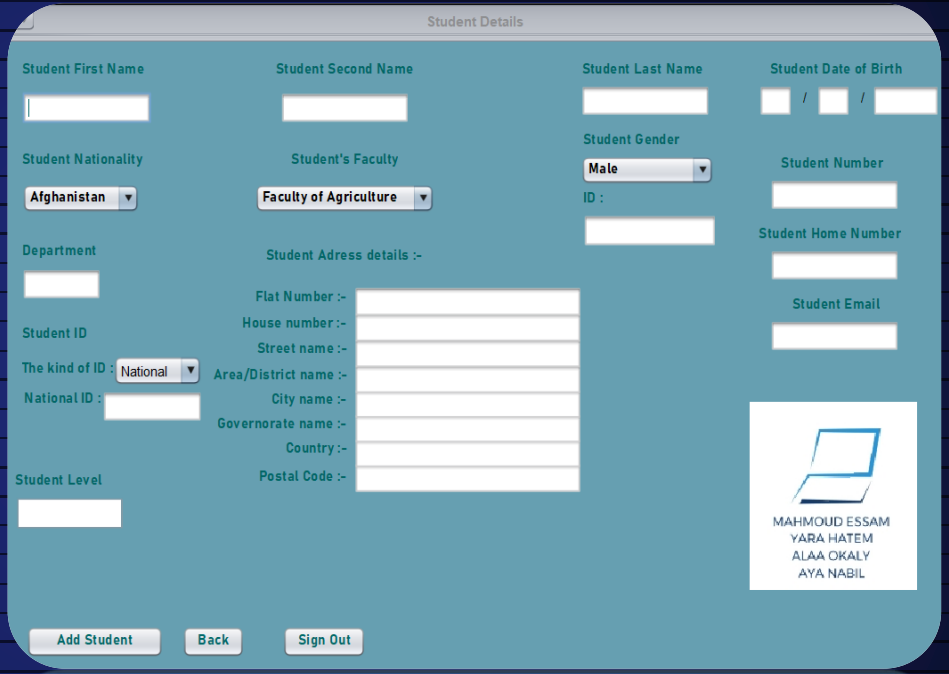
1- add student
2- remove student
3- edit student data
4- Show data details



Add Student Form

Mahmoud Essam

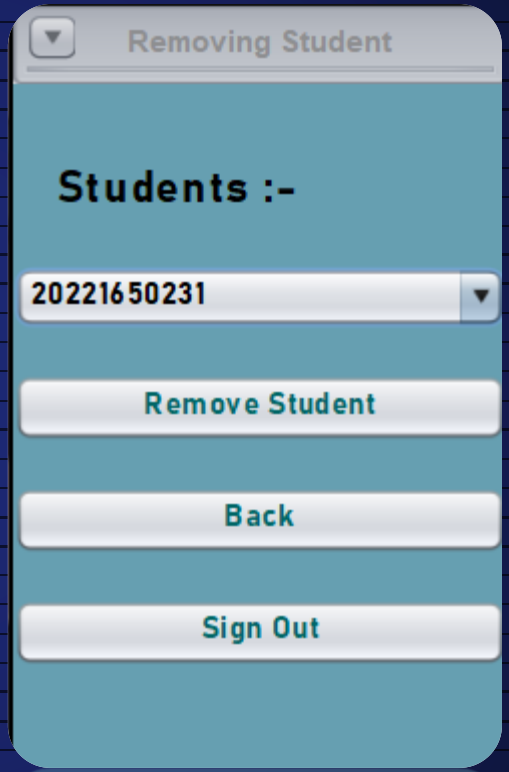
As all forms , this form has it's functions to enable the user *whoever this person is* to add his details of home and name and etc ...



Mahmoud Essam

Remove Student :-

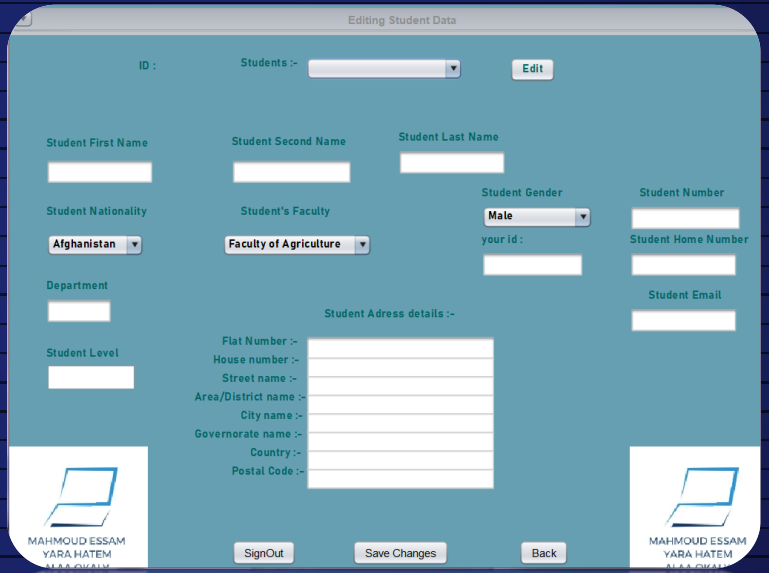
So easy form to delete someone from database , the all things you want is to choose his id , then it will get deleted



Mahmoud Essam

Editing Student :-

Editing student give you the full control of editing the student data from A to Z as you want



Mahmoud Essam

Last but not least ,,

Showing Database :-

Showing database is kinda impressive , it collects all data from your Localhost database and put it in this form one by one till it's last one

By this way , I have done the whole gui form , and the explanation of gui code with it's Sql I have put it in The report to save more time for my team to explain their job , will be after the starting of the video, with my pleasure , Mahmoud Essam

M.E
New folder
Disk Drill
Games
Microsoft Edge
Wampserve...
SQL
Telegram
GUI
Recycle Bin
µTorrent
Graph Exercises.pdf
Control Panel
Microsoft Teams
4_6089698...
Adobe Acrobat DC
Bandicam
Project.pptx
Firefox
Zoom
Data Strucure Projectrar
blocks.rar
RStudio
HandBrake
Assignment 8.pdf
Project_Rep... .docx
Student Mang.me...

2 – Yara Hatem

Tasks of OOP (1-5)

You can come here now to explain your job

Coding 1 :-

1) a. We used static methods to access the class without creating an object
b. The set method assigns a value to the name variable
c. The get method returns the value of the variable name

```
private static String FN, MN, LN;
 public static void setStudentName(String FirstName, String MiddleName, String LastName)
        Mahmoud_Essam.FN = FirstName;
        Mahmoud_Essam.MN = MiddleName;
        Mahmoud_Essam.LN = LastName;
    }

    public static String getFN() {
        return FN;
    }

    public static void setFN(String FN) {
        Mahmoud_Essam.FN = FN;
    }

    public static String getMN() {
        return MN;
    }

    public static void setMN(String MD) {
        Mahmoud_Essam.MN = MD;
    }

    public static String getLN() {
        return LN;
    }

    public static void setLN(String LN) {
        Mahmoud_Essam.LN = LN;
    }
```

Coding 2 :-

2) a. We used static methods to access the class without creating an object
b. The set method assigns a value to the name variable
c. The get method returns the value of the variable name

```
public static String getYear() {
        return year;
    }

    public static void setYear(String year) {
        Yara_Hatem.year = year;
    }

    public static String getDepartment() {
        return department;
    }

    public static void setDepartment(String department) {
        Yara_Hatem.department = department;
    }

    public static String getTerm() {
        return term;
    }

    public static void setTerm(String term) {
        Yara_Hatem.term = term;
    }
    public static void setFaculty(String f){
        Yara_Hatem.faculty=f;
    }
    public static String getFaculty(){
        return faculty;
    }
    }
```

Coding 3 :-

3) a. We used static methods to access the class without creating an object
b. The set method assigns a value to the name variable
c. The get method returns the value of the variable name

```
public class Yara_Hatem {
private static String nationality;
    public static void setNationality(String n){
        Yara_Hatem.nationality=n;
    }
    public static String getNationality(){
        return nationality;
    }
}
```

Coding 4 :-

4) a. We used static methods to access the class without creating an object
b. The set method assigns a value to the name variable
c. The get method returns the value of the variable name

```
public class Yara_Hatem {
private static String TypeID;
private static long NationalID;
        public static long getNationalID() {
            return NationalID;
        }

        public static void setNationalID(long NationalID) {
            Yara_Hatem.NationalID = NationalID;
        }


        public static String getTypeID() {
        return TypeID;
    }

    public static void setTypeID(String TypeID) {
        Yara_Hatem.TypeID = TypeID;
    }
```

Yara Hatem

Coding 5 :-

a. We used static methods to access the class without creating an object
b. The set method assigns a value to the name variable
c. The get method returns the value of the variable name

```
public class Mahmoud_Essam {
    private static String StreetName, AreaName, CityName, GovernorateName, Country, PostalCode;
    private static int FlatNumber, HouseNumber;
public static String getStreetName() {
        return StreetName;
    }

    public static void setStreetName(String streetName) {
        StreetName = streetName;
    }

    public static String getAreaName() {
        return AreaName;
    }

    public static void setAreaName(String areaName) {
        AreaName = areaName;
    }

    public static String getCityName() {
        return CityName;
    }

    public static void setCityName(String cityName) {
        CityName = cityName;
    }

    public static String getGovernorateName() {
        return GovernorateName;
    }

    public static void setGovernorateName(String governorateName) {
        GovernorateName = governorateName;
    }

    public static String getCountry() {
        return Country;
    }

    public static void setCountry(String country) {
        Country = country;
    }

    public static String getPostalCode() {
        return PostalCode;
    }

    public static void setPostalCode(String postalCode) {
        PostalCode = postalCode;
    }

    public static int getFlatNumber() {
        return FlatNumber;
    }

    public static void setFlatNumber(int flatNumber) {
        FlatNumber = flatNumber;
    }

    public static int getHouseNumber() {
        return HouseNumber;
    }

    public static void setHouseNumber(int houseNumber) {
        HouseNumber = houseNumber;
    }
```

Testing Main code 1 :-

```java
package test;
import java.lang.String;
import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Arrays;
import java.util.Comparator;
import java.util.Date;
import java.util.Scanner;
public class Test {

    public static void main(String[] args) {
        // TODO code application logic here
     long mobileNumber;
     long homeNumber;
     String email;
     String engineering ="24";
     String computerEngineering="05";
     String chemical="07";
     String civil="08";
     String cs ="25";
     String dataScience ="01";
     String ai ="02";
     String cyber ="03";
     String type;
     int number;
     float amount;
     long studentNumber;
     String typeID = null;
        S1 obj1= new S1();
        Scanner in = new Scanner(System.in);
        System.out.print("Enter your year: ");
        String year=in.nextLine();
        obj1.setYear(year);
        obj1.getYear();
        System.out.print("Enter your term: ");
        String term=in.nextLine();
        obj1.setTerm(term);
```

Testing Main code 2 :-

```java
obj1.getTerm();
System.out.print("Choose from the following (1 or 2):  1.Engineering  2.Computers & Data Science ");
int cfaculty = in.nextInt();
obj1.setFaculty(cfaculty);
obj1.getFaculty();
String nfaculty= null;
if (cfaculty == 1){
nfaculty = engineering;
}
else if (cfaculty == 2){
nfaculty = cs;
}
else{System.out.println("Wrong Choice");}
String ndepartment=null;
if (nfaculty.equals(engineering)){
System.out.println("Choose from the following (1 or 2 or 3):  1.Computer Engineering  2.Chemical Engineering  "
        + "3.Civil Engineering");
int cdepartment = in.nextInt() ;
obj1.setDepartment(cdepartment);
obj1.getDepartment();
if (cdepartment == 1){
ndepartment = computerEngineering;

}
else if (cdepartment == 2){
ndepartment = chemical;

}
else if (cdepartment == 3){
ndepartment = civil;

}
else {System.out.println("Wrong Choice");}
}
else if(nfaculty.equals(cs)){
System.out.println("Choose from the following (1 or 2 or 3):  1.Data science  2.Ai  3.Cyber Security");
```

Testing Main code 3 :-

```java
int cdepartment = in.nextInt() ;
obj1.setDepartment(cdepartment);
obj1.getDepartment();
if (cdepartment == 1){
ndepartment = dataScience;

}
else if (cdepartment == 2){
ndepartment = ai;

}
else if (cdepartment == 3){
ndepartment = cyber;

}
System.out.println("Enter you number in class list");
studentNumber=in.nextLong();
obj1.setStudentNumber(studentNumber);
obj1.getStudentNumber();
System.out.println("Student registration number is "+ year+term+nfaculty+ndepartment+ studentNumber);
System.out.println("Enter your nationality:");
String nationality = in.nextLine() ;
obj1.setNationality(nationality);
obj1.getNationality();
System.out.println("Enter you ID type");
typeID=in.nextLine();
StudentID obj2=new StudentID();
obj2.setTypeOfID(typeID);
obj2.getTypeOfID();
System.out.println("Enter you ID number");
long IDnum=in.nextLong();
obj2.setIDNumber(IDnum);
obj2.getIDNumber();

System.out.println("1.Add contact information  2.Edit contact information");
int contactInfo=in.nextInt();
if (contactInfo==1){
```

Testing Main Code 4 :-

```java
        if (contactInfo==1){
        System.out.println("Enter your e-mail:");
        String email1=in.nextLine();
        obj1.setEmail(email1);
        obj1.getEmail1();
        email=email1;
        System.out.println("Enter your mobile phone number:");
        long mobileNumber1=in.nextLong();
        obj1.setMobileNumber(mobileNumber1);
        obj1.getMobileNumber();
        mobileNumber=mobileNumber1;
        System.out.println("Enter your home phone number:");
        int homeNumber1=in.nextInt();
        obj1.setHomeNumber(homeNumber1);
        obj1.getHomeNumber();
        homeNumber=homeNumber1;}
        else if(contactInfo == 2){
        System.out.println("Do you want to edit: 1.e-mail 2.mobile phone 3.Home number");
        int e=in.nextInt();
        if(e==1){
          System.out.println("Enter new e-mail");
          String email2=in.nextLine();
          obj1.setEmail(email2);
          obj1.getEmail1();
          email=email2;
       }
       else if(e==2){
          System.out.println("Enter new mobile phone");
          long mobileNumber2=in.nextLong();
          obj1.setMobileNumber(mobileNumber2);
          obj1.getMobileNumber();
          mobileNumber=mobileNumber2;
       }
      else if (e==3){
         System.out.println("Enter new home number");
         int homeNumber2=in.nextInt();
```

Testing Main Code 5 :-

```
        obj1.setHomeNumber(homeNumber2);
        obj1.getHomeNumber();
        homeNumber=homeNumber2;
      }
      }

    }
    Payment obj3= new Payment();
    System.out.println("Your payment type (1 or 2) 1.self-funded 2.grant-funded");
        int t=in.nextInt();
        if(t==1){
            type="self-funde";
            obj3.setType(type);
            obj3.getType();
            System.out.println("Enter number of payments done");
            number=in.nextInt();
            obj3.setNumber(number);
            obj3.getNumber();
            System.out.println("Enter total amount paid so far");
            amount=in.nextInt();
            obj3.setAmount(amount);
            obj3.getAmount();
            String arr[][] = new String[3][2];
            System.out.println("Enter amount paid");
            String p=in.nextLine();
            arr[0][0]=p;
            arr[0][1]="Amount paid";
            System.out.println("Enter transaction number");
            String tn=in.nextLine();
            arr[1][0]=tn;
            arr[1][1]="transaction number";
            System.out.println("Enter bank of transaction");
            String bt=in.nextLine();
            arr[2][0]=bt;
```

Testing Main Code 6 :-

```
            String bt=in.nextLine();
            arr[2][0]=bt;
            arr[2][1]="Bank of transaction";
    }
        else if(t==2){
            type="grant-funde";
            obj3.setType(type);
            obj3.getType();
            System.out.println("Thank you"); }

        }
```

03- Alaa okaly

Tasks from (11-part of 17)

You can come here now to explain your job

Coding 1 :-

```java
package com.company;
import java.util.LinkedList;
import java.util.Scanner;
public class Student {
    static private   String tutorName ;
    static private  String tutorCode ;
static  LinkedList<String> currentCourses = new LinkedList<String>();
  static  LinkedList<LinkedList> finishedCourses = new LinkedList();
    public  static  String getCurrentCourses(int code) {
        String course = " courseTable";
        for (int index =0 ; index<currentCourses.size() ; index++ ){
course = course + "code" + (index) +":"+getCurrentCourses(index);
        }
        if (currentCourses.get(code) ==null){
            return " the course is not enrolled";
        } else {
        return  "the course is  "+currentCourses.get(code) ;}
    }

    public  void setCurrentCourses(LinkedList currentCourse , int code ){

       currentCourse =this.currentCourses;
    }
    public  void setfinishedCourses(LinkedList finishedCourse , int code)  {

      finishedCourse=this.finishedCourses;
        }
```

Coding 2 :-

```java
    public static String getFinishedCourses(int code) {
        String course = " courseTable";
        for (int index =0 ; index<currentCourses.size() ; index++ ){
            course = course + "code" + (index) +":"+getCurrentCourses(index);
        }
        if (currentCourses.get(code) ==null){
            return " the ciurse is not finished yet";
        } else {
            return String.valueOf(currentCourses.get(code));
    }}

    public void setTutorCode(String tutorCode) {
        this.tutorCode = tutorCode;
    }

    public  void setTutorrName(String tutorrName) {
        this.tutorName = tutorrName;
    }

    public static String getTutorCode() {
        return tutorCode;
    }

    public String getTutorrName() {
        return tutorName;
    }
```

Coding 3 :-

```java
    public String getTutorrName() {
        return tutorName;}
    Student(String tutorCode ,String tutorName ){
        this.tutorCode = tutorCode;
        this.tutorName= tutorName;}
         public void  calculateCurrentTerm(
             int cridits = finishedCourses.size() * 4;
             int term = cridits / 16;
             int year ;
             if (term == 1){
                 year = 1 ;}
                 else { year = term /2;}
             if (term >10){
             System.out.println(" the number of courses entered is incorrect \n the number of courses and cridit " +
                     "hours exceeds the limited amount ");
             }else {
            System.out.println(" the student is in term "+term+ " of year " + year );}}
public void criditHours (int year ){
        Scanner scan = new Scanner(System.in);
        System.out.println(" enter your total cridit hours required  :");
         int maxHours = scan.nextInt();
         int finishedHours = finishedCourses.size()*4;
         int currentHours = currentCourses.size()*4;
         int remainingHours = maxHours-(finishedHours+currentHours);}
public static void main (String[]args){
             Student st = new Student( tutorCode: " y789" ,  tutorName: "hhn");
             st.currentCourses.add(" linrear ");
             st.calculateCurrentTerm();

    }}
```

String tutorName
DataStructure

Alaa Okaly

Coding 4 :-

```java
public static void main(String[]args){
Payment obj3= new Payment();
System.out.println("Your payment type (1 or 2) 1.self-funded 2.grant-funded");
Scanner in = new Scanner(System.in);
int t=in.nextInt();
String type ;
        if(t==1){
    type="self-funde";
        obj3.setType(type);
        obj3.getType();
        System.out.println("Enter number of payments done");
       int number=in.nextInt();
        obj3.setNumber(number);
        obj3.getNumber();
        System.out.println("Enter total amount paid so far");
    int amount=in.nextInt();
        obj3.setAmount(amount);
        obj3.getAmount();
        String arr[][] = new String[3][2];
        System.out.println("Enter amount paid");
        String p=in.nextLine();
        arr[0][0]=p;
        arr[0][1]="Amount paid";
        System.out.println("Enter transaction number");
        String tn=in.nextLine();
        arr[1][0]=tn;
        arr[1][1]="transaction number";
        System.out.println("Enter bank of transaction");
        String bt=in.nextLine();
        arr[2][0]=bt;D
        arr[2][1]=
        }
```

Double java.lang
Deprecated java.lang

Coding 5 :-

```java
import java.util.Scanner;

public class newm {
private int homeNumber;
private long mobileNumber;
private String email;
private long studentNumber;
public long getStudentNumber() {
        return studentNumber;
        }

public void setStudentNumber(long studentNumber) {
        this.studentNumber = studentNumber;
        }

public int getHomeNumber() {
        return homeNumber;
        }

public void setHomeNumber(int homeNumber) {
        this.homeNumber = homeNumber;
        }

public long getMobileNumber() {
        return mobileNumber;
        }

public void setMobileNumber(long mobileNumber) {
        this.mobileNumber = mobileNumber;
        }

public String getEmail() {
```

Alaa Okaly

Coding 6 :-

```java
public String getEmail1() {
        return email;
        }

public void setEmail(String emai) {
        this.email = email;

        System.out.println("1.Add contact information  2.Edit contact information");
       Scanner in =  new Scanner (System.in);
       newm obj1 = new newm();
        int contactInfo=in.nextInt();
        if (contactInfo==1){
        System.out.println("Enter your e-mail:");
        String email1=in.nextLine();
        obj1.setEmail(email1);
        obj1.getEmail1();
        email=email1;
        System.out.println("Enter your mobile phone number:");
        long mobileNumber1=in.nextLong();
        obj1.setMobileNumber(mobileNumber1);
        obj1.getMobileNumber();
        mobileNumber=mobileNumber1;
        System.out.println("Enter your home phone number:");
        int homeNumber1=in.nextInt();
        obj1.setHomeNumber(homeNumber1);
        obj1.getHomeNumber();
        homeNumber=homeNumber1;}
        else if(contactInfo == 2) {
            System.out.println("Do you want to edit: 1.e-mail 2.mobile phone 3.Home number");
```

04-Aya Nabil

Tasks from (7-part of 17)

You can enter a subtitle here if you need it

Coding 1(code 7) :-

```java
package com.company;

import java.time.LocalDate;
import java.time.Period;

public class Age {
    private static Period StudentAge;
    private static LocalDate StudentBirth;
    public static Period getStudentAge() {
        return StudentAge;
    }

    /**
     *
     * @return the StudentBirth
     */
    public static LocalDate getStudentBirth() {
        return StudentBirth;
    }

    /**
     *
     * @param StudentBirth set value of StudentBirth to the class
     */
    public static void setStudentBirth(LocalDate StudentBirth) {
        Aya_Nabil.StudentBirth = StudentBirth;
    }

    /**
     *
     * @param year of birth
     * @param Month of birth
     * @param day of birth
     */
    public static void setStudentAge(int year,int Month,int day) {
        StudentBirth = LocalDate.of(year,Month,day);
        LocalDate NOW = LocalDate.now();
        Aya_Nabil.StudentAge = Period.between(StudentBirth, NOW);
    }

    public static int getDay() {
        return Day;
    }
```

Coding 2(code 7) :-

```java
 *
 * @param day
 */
public static void setDay(int day) {
    if (day > 31 || day < 1) {
        System.out.println("Invalid Day , Please Try again");
    }
    Day = day;
}

/**
 *
 * @return month
 */
public static int getMonth() {
    return Month;
}

/**
 *
 * @param month
 */
public static void setMonth(int month) {
    if (Month > 12 || Month < 1) {
        System.out.println("Invalid Month , Please Try Again");
    }
    Month = month;
}

/**
 *
 * @return year
 */
public static int getYear() {
    return Year;
}

/**
 *
 * @param year
 */
public static void setYear(int year) {
    if (Year < 1980 || year < 0) {
        System.out.println("Invalid Year , Please Try Again");
    }
    Year = year;
}
```

Coding 3(Code 8) :-

```java
package com.company;
/**
 * Author AyaNabil on 27/5/2022
 */
public class Gender{

private boolean gender;

public Gender( boolean gender) {

        boolean f = true;
/**
 * if the loop is true then return female else return male
 */
        if (gender == f){
        System.out.print("female");
        }

        else {
```

```java
                System.out.print("male");
        }
}
```

Coding 4(code 8) :-

```
        public boolean isGender() {
        return gender;

        }

        /**
         *
         * @param gender set the value to Gender
         */
        public void setGender(boolean gender) {
        if (gender == true) {
        System.out.print("female");
        }

        else if (gender == false){
                System.out.print("male");
        }
}
}
```

Aya Nabil

Coding 5(9 and 10) :-

```java
package com.company;

import java.util.*;

/**
 * student class to implement the department and year of student
 */
public class Student {
    private String term;
    private String year;
    private String department;

    /**
     *
     * @param term
     * @param year
     * @param department
     */

    public Student( String course, String year, String department ) {
        this.course = course;
        this.year = year;
        this.department = department;
    }

    /**
     *
     * @return course
     */
    public String getCourse()
    {
        return course;
    }

    /**
     *
     * @return year
     */
    public String getYear()
```

Aya Nabil

Coding 6(Code 9 and 10) :-

```
    {
        return year;
    }

    /**
     *
     * @return department
     */
    public String getDepartment()
    {
        return department;
    }

    /**
     *
     * @return
     */
    public String toString()
    {
        return ", course: " + course + ", year: " + year +
                ", department: " + department;
    }

    /**
     * method to print the enrollment
     */
    public void printEnrollment()
    {
        ArrayList<Student> students = new ArrayList<Student>();
        Scanner input = new Scanner(System.in);

        int menuChoice = 4;
        /**
         * make choice to add student, view student search for a student or exit
         */
        do {
            System.out.println("\t\t\tStudent Record Menu");
            System.out.println("\t\t1. Add Student\t2. View Students\t3. Search Student\t4.
Exit");

            try {
                System.out.println("Enter a choice: ");
                menuChoice = Integer.parseInt(input.nextLine());

            } catch (NumberFormatException e) {
                continue;
            }
```

Aya Nabil

Coding 7(Code 9 and 10) :-

```java
if (menuChoice==1)
{
    System.out.println("Full name:");
    String name = input.nextLine();

    int age = -1;
    do {
        try {
            System.out.println("Age:");
            age = Integer.parseInt(input.nextLine());
        } catch (NumberFormatException e) {
            System.out.println("Enter a number!");
            continue;
        }
    } while (age <= 0);

    System.out.println("Course:");
    String course = input.nextLine();

    System.out.println("Year:");
    String year = input.nextLine();

    System.out.println("Section:");
```

Aya Nabil

Coding 8(Code 9 and 10) :-

```
                String section = input.nextLine();

                Student student = new Student(course, year, section);
                students.add(student);

            } else if (menuChoice==2) {
                System.out.println("Students:");
                for (Student student : students)
                {
                    System.out.println(student);
                }
            }
        } while (menuChoice<4);
    }
}
```

Aya Nabil

Coding 9(Code 11) :-

```java
package com.company;

import java.io.*;
/**
 *@author  AyaNabil on 27/5/2022
 */
public class Subject implements Serializable{
    private String code;
    private String description;
    private double units;
    private double grade;
    private boolean isMajor;

    /**
     *Creates a subject with blank code and description,    units of 1, grade of 65
     *and sets subject as a minor subject
     */
    Subject(){
        code="";
        description="";
        units=1;
        grade=65;
        isMajor=false;
    }
    /**
     *Creates a subject with a subject code but no description. Also sets number
     *of units to 1, grade of 65 and as a minor subject.
     *@param code Subject Code.
     */
    Subject(String code){
        this.code=code.toUpperCase();
        description="";
        units=1;
        grade=65;
        isMajor=false;
    }
```

Aya Nabil

Coding 10(Code 11) :-

```
/**
 *Creates a subject with a subject code but no description. Also sets number
 *of units to 1, grade of 65 and as a minor subject.
 *@param code Subject Code.
 */
Subject(String code){
    this.code=code.toUpperCase();
    description="";
    units=1;
    grade=65;
    isMajor=false;
}
Subject(Subject newSbj){
    code = newSbj.getCode();
    description = newSbj.getDescription();
    units = newSbj.getUnits();
    grade = newSbj.getGrade();
    isMajor = newSbj.isMajor();
}
/**
 *Creates a subject with a subject code and description, units of 1, grade of 65
 *and sets as minor subject.
 *@param code Subject Code.
 *@param SD Subject Description
```

Aya Nabil

Coding 11(Code 11) :-

```
 */
Subject(String code, String SD){
    this.code=code.toUpperCase();
    description=SD.toUpperCase();
    units=1;
    grade=65;
    isMajor=false;
}
/**
 *Creates a subject with a subject code and description and sets as major subject
 *according to the passed method arguments.
 *@param code Subject Code.
 *@param SD Subject Description
 *@param maj true makes the subject major and minor if otherwise.
 */
Subject(String code, String SD, boolean maj){
    this.code = code.toUpperCase();
    description = SD.toUpperCase();
    isMajor = maj;
    units=1;
    grade = 65;
}
/**
 *Creates a subject with code, description, grade, number of units and if to be
 *set as major or minor.
 *@param code    Subject Code.
 *@param SD      Subject Description
 *@param grade   Subject grade.
 *@param units   Number of Units
 *@param maj     true makes the subject major and minor if otherwise.
 */
Subject(String code, String SD, double grade, double units, boolean maj){
    this.code = code.toUpperCase();
    description = SD.toUpperCase();
    this.grade = grade;
    this.units = units;
    isMajor = maj;
}
```

Aya Nabil

Coding 12(Code 11) :-

```java
/**
 *Identifies if subject is major or minor.
 *@return <tt>true</tt> if major <tt>false</tt> if otherwise.
 */
public boolean isMajor(){
    return isMajor;
}
/**
 *Returns the subject's grade.
 *@return The grade.
 */
public double getGrade(){
    return grade;
}
/**
 *Returns the subject code
 *@return Subject Code
 */
public String getCode(){
    return code;
}
/**
 *Returns the subject description
 *@return Subject description
 */
public String getDescription(){
    return description;
}
/**
 *Returns the number of units.
 *@return Subject unit count.
 */
public double getUnits(){
```

Aya Nabil

Coding 13(Code 11) :-

```java
        return units;
    }
    /**
     *Sets the subject to be major or minor.
     *@param maj true if major and false if otherwise.
     */
    public void setAsMajor(boolean maj){
        isMajor = maj;
    }
    /**
     *Sets the grade for this subject.
     *@param grade New grade for the subject.
     */
    public void setGrade(double grade){
        this.grade = grade;
    }
    /**
     *Sets a new subject code for this subject in upper case format.
     *@param thisCode New subject code.
     */
    public void setCode(String thisCode){
        code = thisCode.toUpperCase();
    }
    /**
     *Sets a new description for the subject in upper case format.
     *@param SD New subject description
     */
    public void setDescription(String SD){
        description= SD.toUpperCase();
    }
    /**
     *Sets the number of units of the subject.
     *@param units New Units to be set.
     */
    public void setUnits(double units){
        this.units = units;
    }
    /**
     *Returns the Subject information
     *@return In format <tt>code</tt> - <tt> description      </tt>
     */
    public String toString(){
        return code+" - "+description;
    }
}
```

Thank’s For listing to our project , Dr.Muhammed ELhabrouk