Project Team 5 - CIS*43 Software Development With Java Programming Spring 2018

# PATHWAYS

Mission College CIS*43

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# Table of Contents

**Table of Contents** **2**

**Introduction** **3**

Project features & Requirements 3

Project Analysis & Design 4

UML Diagram 5

Case flow diagram 6

**Source Code** **7**

File Description 7

Data Classes 8

Course.java 8

Courselist.java 11

Counselor.java 19

Data.java 20

Test.java 27

GUI files 27

Welcome.java 27

Registration.java 35

Login.java 43

Schedule.java 47

Image Assets 70

**Testing GUI & Results:** **71**

Test 1 71

Test 2 74

**Conclusion** **77**

# Introduction

Our project is an idea we came up with during the Mission Hackathon 2.0. The question we were given is “Design an application that will help a student create their future path”. We came up with the idea of making an app where the user can easily schedule their courses to create their own path. The reason why we decided to go with this idea is because a lot of people have trouble signing up for their courses, especially for people who are just starting college. We knew this was a problem from experience because we had to go through the same process as everyone else. The problem is that the process itself is very long and messy and can be frustrating for those who do not know what they are doing. For example, when you go add you class you have to go through the registration page, your schedule page, the class search page, the add a class page, and finally the submit page where it saves all your changes. This process made it a very confusing and complicated process for students. So we decided to add all those pages into one big page and that is our app.

## Project features & Requirements

- Drop down Menu
    - Will make a drop down menu for the majors
- Semester System
    - Will create a semester for the user
- Scrolling Menu
    - Will scroll through all the semester
- Subtract/Add classes
    - Will allow you to add or subtract a class from your semester
- Export (INCOMPLETE)
    - Will allow user to export to pdf
- Checklist(INCOMPLETE)
    - Will give checklist for all the class

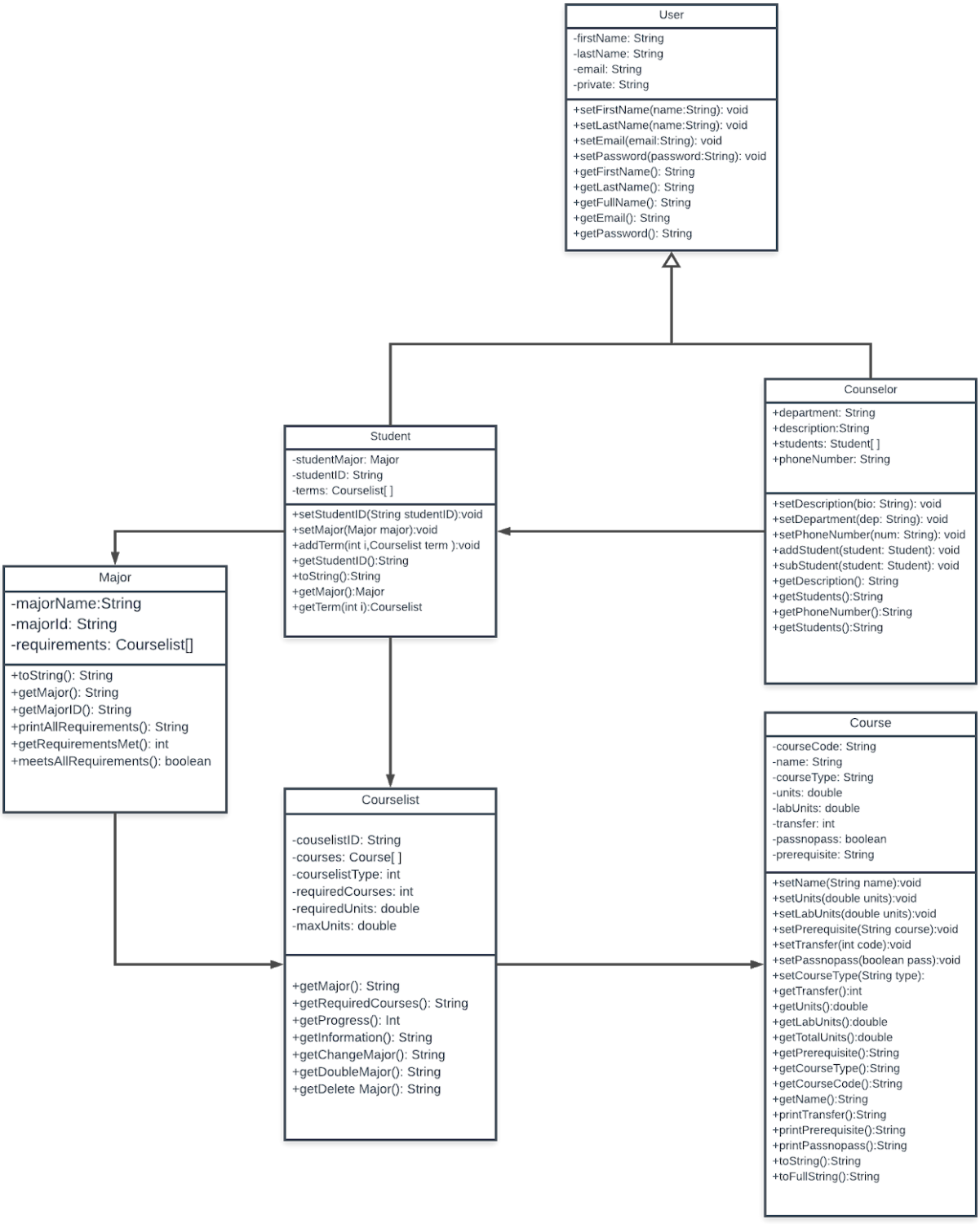
Our program allows the user to add and subtract classes from their schedule. The program then checks off all the class you have done. We wanted to add the export feature so that

you can get and overview of your schedule and be able to print it. We added a dropdown menu when you go select your major there will be a dropdown menu where you can see all the majors you can choose from. The user is then allowed to plan out their semester because the program allows them to create a semester. Not only will you be able to see your current classes and your upcoming classes, but also all the classes you have taken before.

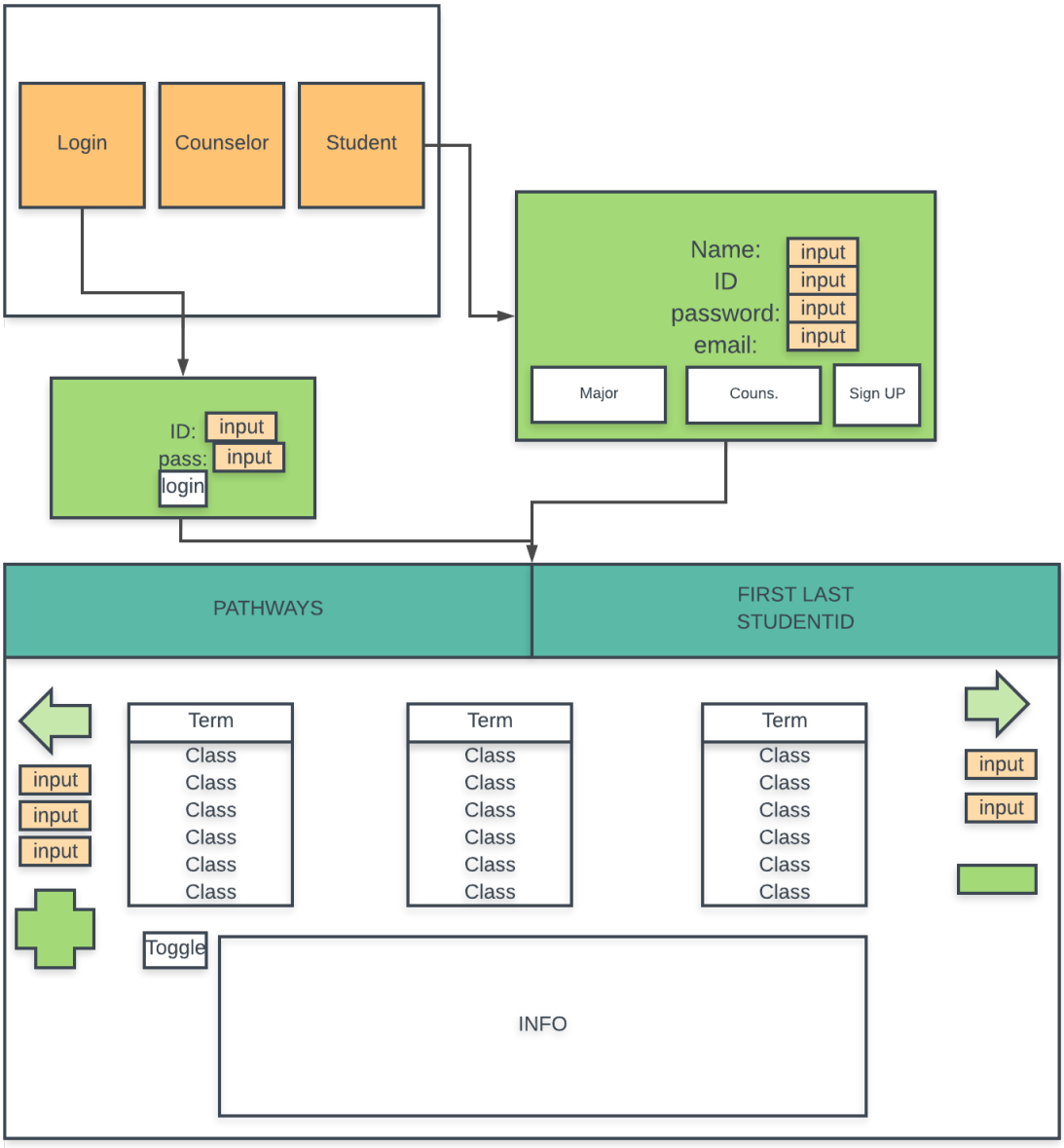
# Project Analysis & Design

1. User opens the Application
2. Program opens the login screen
3. User proceeds to enter name, email, and id number
4. User selects major from dropdown menu
5. User clicks “GO” to login
6. Main page is opened
7. User sees the semesters taken, present, and future
8. User sees the progress of completing their major
9. User  sees all the courses that are required for that major
10. User wants to make a new semester
11. User clicks on the “Add” button and it creates a new semester
12. User wants to add a course
13. User clicks on the “Edit” button
14. User then selects a checkbox to add a course to the semester
15. If user wants to delete that course user can subtract it by using the “Edit” button
16. User wants to see classes taken
17. User clicks the “Arrow” button on the left and sees semesters that user has taken
18. If user wants to see future semesters user clicks the “Arrow” button on the right
19. User wants to see an overview of schedule and wants to print it
20. User clicks on the “Export” button
21. Program exports the page
22. User is satisfied and can close the application

# UML Diagram


User
-firstName: String
-lastName: String
-email: String
-private: String
+setFirstName(name:String): void
+setLastName(name:String): void
+setEmail(email:String): void
+setPassword(password:String): void
+getFirstName(): String
+getLastName(): String
+getFullName(): String
+getEmail(): String
+getPassword(): String
Counselor
+department: String
+description:String
+students: Student[ ]
+phoneNumber: String
+setDescription(bio: String): void
+setDepartment(dep: String): void
+setPhoneNumber(num: String): void
+addStudent(student: Student): void
+subStudent(student: Student): void
+getDescription(): String
+getStudents():String
+getPhoneNumber():String
+getStudents():String
Student
-studentMajor: Major
-studentID: String
-terms: Courselist[ ]
+setStudentID(String studentID):void
+setMajor(Major major):void
+addTerm(int i,Courselist term ):void
+getStudentID():String
+toString():String
+getMajor():Major
+getTerm(int i):Courselist
Major
-majorName:String
-majorId: String
-requirements: Courselist[]
+toString(): String
+getMajor(): String
+getMajorID(): String
+printAllRequirements(): String
+getRequirementsMet(): int
+meetsAllRequirements(): boolean
Courselist
-couselistID: String
-courses: Course[ ]
-courselistType: int
-requiredCourses: int
-requiredUnits: double
-maxUnits: double
+getMajor(): String
+getRequiredCourses(): String
+getProgress(): Int
+getInformation(): String
+getChangeMajor(): String
+getDoubleMajor(): String
+getDelete Major(): String
Course
-courseCode: String
-name: String
-courseType: String
-units: double
-labUnits: double
-transfer: int
-passnopass: boolean
-prerequisite: String
+setName(String name):void
+setUnits(double units):void
+setLabUnits(double units):void
+setPrerequisite(String course):void
+setTransfer(int code):void
+setPassnopass(boolean pass):void
+setCourseType(String type):
+getTransfer():int
+getUnits():double
+getLabUnits():double
+getTotalUnits():double
+getPrerequisite():String
+getCourseType():String
+getCourseCode():String
+getName():String
+printTransfer():String
+printPrerequisite():String
+printPassnopass():String
+toString():String
+toFullString():String

## Case flow diagram



# Source Code

## File Description

Our program contains many classes:

- Course.java
  - Create a course object to store course data.
- Courselist.java
  - Create a Course List to store different types of list of Courses
- Major.java(Unused)
  - Create a major containing Requirements for each major
- User.java
  - Create a User with all User data.
- Student.java
  - Create a Student which extends User by including data for the Student
- Counselor.java(Unused)
  - Create a Counselor which extends User by including data for the Counselor
- Data.java
  - Our “DataBase” for storing all the Data
- Welcome.java
  - Create the main menu which would allow users to Login or Register
- Login.java
  - Create a Login page for a pre existing User to Login and access Schedule
- Registration.java
  - Create a Registration page for a pre existing User to Register and access Schedule
- Schedule.java
  - Display User Schedule and allow User to edit their Schedule
- Test.java
  - A Test file to run the program and hold a temporary current User

# Data Classes

## Course.java

```
package pathways;
public class Course
 {
   private String courseCode;
   private String name;
   private String courseType;
   private double units;
   private double labUnits;
   private int transfer;
   private boolean passnopass;
private String prerequisite;
   public Course(String courseCode, String name, String courseType,
         double units, double labUnits,boolean passnopass){
      this(courseCode,name,courseType,units,labUnits,0, passnopass,"")
 }
   public Course(String courseCode, String name, String courseType,
         double units, double labUnits,boolean passnopass,String prerequisite){
      this(courseCode,name,courseType,units,labUnits,0, passnopass,
            prerequisite);
   }
   public Course(String courseCode, String name, String courseType,
         double units, double labUnits,String prerequisite){
      this(courseCode,name,courseType,units,labUnits,0, false,
            prerequisite);
   }
   public Course(String courseCode, String name, String courseType,
         double units, double labUnits,int transfer,String prerequisite){
      this(courseCode,name,courseType,units,labUnits,transfer, false,
            prerequisite);
   }
   public Course(String courseCode, String name, String courseType,
         double units, double labUnits){
      this(courseCode,name,courseType,units,labUnits,0, false ,"");
   }
```

```
public Course(String courseCode, String name, String courseType,
        double units, double labUnits, int transfer){
    this(courseCode,name,courseType,units,labUnits,transfer, false ,"");
}
public Course(String courseCode, String name, String courseType,
        double units, double labUnits, int transfer, boolean passnopass){
    this(courseCode,name,courseType,units,labUnits,transfer,passnopass,"");
}
public Course(String courseCode, String name, String courseType,
        double units, double labUnits, int transfer, boolean passnopass,
        String prerequisite){
    this.courseCode= courseCode;
    this.name = name;
    this.courseType = courseType;
    this.units = units;
    this.labUnits = labUnits;
    this.transfer = transfer;
    this.passnopass = passnopass;
    this.prerequisite = prerequisite
}
public void setCourseCode(String code){
    this.courseCode=code;
}
public void setName(String name){
    this.name = name;
}
public void setUnits(double units){
    if(units>= 0.0 && units <=18)
    this.units = units;
}
public void setLabUnits(double units){
    if (units >= 0.0 && units <= 18)
    this.labUnits = units;
}
public void setPrerequisite(String course){
    this.prerequisite = course;
}
public void setTransfer(int code){
    this.transfer = code;
```

```
}
public void setPassnopass(boolean pass){
   this.passnopass = pass;
}
public void setCourseType(String type){
   this.courseType = type;
}
public String getCourseCode(){
   return this.courseCode;
}
public String getName(){
   return this.name;
}
public double getUnits(){
   return this.units;
}
public double getLabUnits(){
   return this.labUnits;
}
public double getTotalUnits(){
   return this.units + this.labUnits;
}
public String getPrerequisite(){
   return this.prerequisite;
}
public String getCourseType(){
   return this.courseType;
}
public int getTransfer(){
   return this.transfer;
}
public String printTransfer(){
   if (this.transfer==2)
      return "Transfer:CSU/UC";
   if(this.transfer == 1)
      return "Transfer:CSU ONLY ";
   else
      return "";
}
```

```
    public String printPrerequisite(){
        if(!this.prerequisite.equals(""))
            return String.format("Prequisite:%s ", this.prerequisite);
        else
            return "";
    }
    public String printPassnopass(){
        if  ( this.passnopass)
            return "Pass/NoPass Option Available";
        else
            return "";
    }
    @Override
    public String toString(){
        return String.format("%s %s %.1f/%.1f", this.courseCode,
                this.name, this.units,this.labUnits);
    }
    public String toFullString(){
        return String.format("%s %s %.1f/%.1f\n%s%s %s\n", this.courseCode,
                this.name, this.units,this.labUnits,printPrerequisite(),
                printTransfer(), printPassnopass());
    }
}
```

## Courselist.java

```
package pathways;
public class Courselist {
    private Course[] courses ;
    private String name;
    private int courselistType;//1-ReqClasses, 2-ReqUnits, 3-MaxUnits ,4-Open
    private int requiredCourses;
    private double requiredUnits;
    private double maxUnits;
    public Courselist(  ){
        this.courselistType = 4;
    }
    public Courselist(Course[] courses, int courselistType, double count ){
        this.courses = courses;
```

```
        this.courselistType = courselistType;
        if (courselistType == 1 )
            this.requiredCourses = (int)count;
        if (courselistType == 2 )
            this.requiredUnits = count;
        if (courselistType == 3)
            this.maxUnits = count;
    }
    public void addCourse(Course newCourse){
        Course[] tempcourses = new Course[this.courses.length+1];
        System.arraycopy(courses, 0, tempcourses, 0, courses.length);
        tempcourses[this.courses.length+1] = newCourse;
        this.courses = tempcourses;
    }
    public void replaceCourse(Course newCourse, int i ){
        courses[i]=newCourse;
    }
    //public void subCourse(int i){
    //    this.courses[i]=null;
    //    this.count-=1;
    //}
    public double getTotalUnits(){
        double totalUnits=0;
        for (Course course : courses) {
            totalUnits += course.getTotalUnits();
        }
        return totalUnits;
    }
    public int getNumCourses(){
        return courses.length;
    }
    public double getRequiredUnits(){
        return this.requiredUnits;
    }
    public double getMax(){
        return this.maxUnits;
}
    public String printCourseList(){
        String list = "";
```

```
    for (Course course : courses) {
        list += course.getName();
        list += "\n";
    }
    return list;
}
public void setCourseListType(int courselistType ){
    this.courselistType = courselistType;
}
public boolean meetRequirements(){
    if (courselistType == 1 ){
        if(courses.length>=requiredCourses)
            return true;
    }
    if (courselistType == 2 ){
        if(this.getTotalUnits()>=requiredUnits)
        return true;
    }
    if (courselistType == 3){
        if(this.getTotalUnits()<=requiredUnits)
            return true;
    }
    return false;
}
public void setCount(double count){
    if (courselistType == 1 )
        this.requiredCourses = (int)count;
    if (courselistType == 2 )
        this.requiredUnits = count;
    if (courselistType == 3)
        this.maxUnits = count;
}
public boolean isInCourselist(String courseCode){
    for (Course course : courses) {
        if(course.getCourseCode().equals(courseCode))
            return true;
    }
    return false;
}
```

```
    public Course getCourse(int i){
        return courses[i];
    }
    public int getCourseIndex(String courseCode){
        int index=0;
        for (Course course : courses) {
            if(course.getCourseCode().equals(courseCode))
                break;
            index+=1;
        }return index;

    }
    public String printCourselistType(){
        String printType="";

        if (courselistType == 1 ){
        printType = String.format("Required Classes: %d/%d",this.getNumCourses(),
                this.requiredCourses);
        }
        if (courselistType == 2 ){
        printType = String.format("Required Units: %.1f/%.1f",this.getTotalUnits(),
                this.requiredUnits);
        }
        if (courselistType == 3){
        printType = String.format("Max Units: %.1f/%.1f",this.getTotalUnits(),
                this.maxUnits);
        }
        return printType;
    }
    @Override
    public String toString(){
        String requirements="";
        requirements+= this.printCourselistType()+"\n"+this.printCourseList();
        return requirements;
    }
```

**Major.java**

```
package pathways;
public class Major {
    private String majorName;
```

```
  private String majorId;
  private Courselist[] requirements;
  public Major(String majorName, String majorID,Courselist[] requirements){
    this.majorId = majorID;
    this.majorName = majorName;
    this.requirements = requirements;
  }
  public Major(String majorName, String majorID){
    this.majorId = majorID;
    this.majorName = majorName;

  }
  public String getMajorName(){
     return this.majorName;
  }
  public String getMajorID(){
     return this.majorId;
  }
  public boolean meetsAllRequirements(){
     for (Courselist requirement : requirements)
        if (!requirement.meetRequirements())
           return false;
     return true;
  }
  public String printAllRequirements(){
     String allReq ="";
     for( Courselist requirement: requirements)
        allReq+= requirement.toString();
     return allReq;
  }
  public int getRequirementsMet(){
     int count=0;
     for (Courselist requirement : requirements)
        if (requirement.meetRequirements())
           count++;
     return count;
}
  @Override
  public String toString(){
```

```
        return String.format("%s %d/%d\n %s", this.getMajorName(), this.getRequirementsMet(),
        this.requirements.length, this.printAllRequirements());
    }
}
```

**User.java**

```
package pathways;
public class User {
  private String firstName;
  private String lastName;
  private String email;
  private String password;
  public User(String firstName, String lastName, String email, String password){
      this.firstName= firstName;
      this.lastName = lastName;
      this.email = email;
      this.password = password;
  }
  public void setFirstName(String name){
      this.firstName = name;
  }
  public void setLastName(String name){
      this.lastName = name;
  }
  public void setEmail(String email){
      this.email = email;
  }
  public void setPassword(String password){
      this.password = password;
  }
  public String getFirstName(){
      return this.firstName;
  }
  public String getLastName(){
      return this.lastName;
  }
  public String getFullName(){
      return this.firstName + " " + this.lastName;
  }
  public String getEmail(){
```

```
    return this.email;
  }
  public String getPassword(){
    return this.password;
  }
}
```

Student.java

```
package pathways;
public class Student extends User{
   private String studentID;
   private Major studentMajor;
       Course[] blankcourses1 = new Course[]{Data.blank, Data.blank, Data.blank,
         Data.blank, Data.blank , Data.blank };
       Course[] blankcourses2 = new Course[]{Data.blank, Data.blank, Data.blank,
         Data.blank, Data.blank , Data.blank };
       Course[] blankcourses3 = new Course[]{Data.blank, Data.blank, Data.blank,
         Data.blank, Data.blank , Data.blank };
       Course[] blankcourses4 = new Course[]{Data.blank, Data.blank, Data.blank,
         Data.blank, Data.blank , Data.blank };
       Course[] blankcourses5 = new Course[]{Data.blank, Data.blank, Data.blank,
         Data.blank, Data.blank , Data.blank };
       Course[] blankcourses6 = new Course[]{Data.blank, Data.blank, Data.blank,
         Data.blank, Data.blank , Data.blank };
       Course[] blankcourses7 = new Course[]{Data.blank, Data.blank, Data.blank,
         Data.blank, Data.blank , Data.blank };
       Course[] blankcourses8 = new Course[]{Data.blank, Data.blank, Data.blank,
         Data.blank, Data.blank , Data.blank };
      public  Courselist term1 = new Courselist(blankcourses1,4,4);
      public  Courselist term2 = new Courselist(blankcourses2,4,4);
      public  Courselist term3 = new Courselist(blankcourses3,4,4);
      public  Courselist term4 = new Courselist(blankcourses4,4,4);
      public  Courselist term5 = new Courselist(blankcourses5,4,4);
      public  Courselist term6 = new Courselist(blankcourses6,4,4);
      public  Courselist term7 = new Courselist(blankcourses7,4,4);
      public  Courselist term8 = new Courselist(blankcourses8,4,4);
      public  Courselist[] terms ;
   public Student(String firstName, String lastName, String email, String password,
         String studentID){
      super(firstName, lastName, email, password);
```

```
    this.studentID= studentID;
    terms= new Courselist[]{term1,term2,term3,term4,term5,term6,term7,term8}
        }
public Student(String firstName, String lastName, String email, String password,
        String studentID,Courselist t1,Courselist t2, Courselist t3){
    super(firstName, lastName, email, password);
    this.studentID= studentID;
    terms=new Courselist[] {t1,t2,t3,term4,term5,term6,term7,term8};




        }

public void setStudentID(String studentID){
    this.studentID = studentID;
}
public void setMajor(Major major){
    this.studentMajor = major;
}
public Major getMajor(){
    return this.studentMajor;
}
public String getStudentID(){
    return this.studentID;
}
public String toString(){
    return String.format("%25s %15s %10s %10s",
            super.getFullName(), super.getEmail(), this.studentID,
            this.studentMajor.getMajorName());
}
public Courselist getTerm(int i){
    return terms[i];
}
public void addTerm(int i,Courselist term ){
    terms[i] = term;
}
```

```
}
```

## Counselor.java

```
package pathways;
public class Counselor extends User{
    private String department;
    private String description;
    private String phoneNumber;
    private Student[] students;
    public Counselor(String firstName, String lastName, String email, String password,
       String department, String description, String phoneNumber){
    super(firstName, lastName, email, password);
    this.department = department;
    this.description = description;
    this.phoneNumber = phoneNumber;
    }
    public void setDescription(String bio){
       this.description = bio;
    }
    public void setDepartment(String dep){
       this.department = dep;
    }
    public void setPhoneNumber(String num){
       this.phoneNumber = num;
    }
    public String getDescription(){
       return this.description;
    }
    public String getDepartment(){
       return this.department;
    }
    public String getPhoneNumber(){
       return this.phoneNumber;
    }
    public String getStudents(){
       String list="";
       for (Student student : students) {
```

```
            list += student.toString();
            list += "\n";
        }
        return list;
    }
}
```

## Data.java

```
package pathways;
import static pathways.Data.stu1;
public class Data {
    static Course blank = new Course("","____","",0.0,0.0,0);
    static Course cis007 = new Course("CIS007","Python Programming","CIS",3.0,1.0,
        2, true );
    static Course cis008 = new Course("CIS008","Advanced Python Programming",
        "CIS",3.0,1.0,2, true );
    static Course cis037a = new Course("CIS037A","Introduction to C Programming",
        "CIS",3.0,1.0,2, true );
    static Course cis040 = new Course("CIS040","C++ Programming",
        "CIS",3.0,1.0,2, true );
    static Course cis043 = new Course("CIS043","Software Dev w/ Java",
        "CIS",3.0,1.0,2, true );
    static Course cis044 = new Course("CIS044","Data Structures w/ Java",
        "CIS",3.0,1.0,2, true );
    static Course cis045 = new Course("CIS045","Linux Essentials I",
        "CIS",2.5,0.5,1, true );

    //Math
    static Course math903 = new Course("MATH903","Elementary Algebra", "MATH",
        3.0,0.0,0,true);
    static Course math00c =  new Course("MATH00C","Intermediate Alegbra","MATH",
        5.0,0.0,0,true, "MATH903");
    static Course math002 = new Course("MATH002","PreCalculus and
Trignonmetry","MATH",
        6.0,0.0,2,true, "MATH00C");
    static Course math003a = new Course("MATH003A","Analytic Geometry and Calculus 1",
"MATH",
        5.0,0.0,2,true,"MATH002");
```

```
        static Course math003b = new Course("MATH003B","Analytic Geometry and Calculus 2",
"MATH",
                5.0,0.0,2,true,"MATH003A");

        //Engineering
        static Course egr010 = new Course("EGR010","Introduction to Engineering",
                "EGR",3.0,1.0,2,true);
        static Course egr023 = new Course("EGR023","Mechanics - Statics",
                "EGR",3.0,0.0,2,false);
        static Course egr024 = new Course("EGR024","Introduction To Circuit Analysis",
                "EGR",3.0,1.0,2,false,"MATH003A");
        static Course egr030 = new Course("EGR030","Introduction to Computing for EGR",
                "EGR",3.0,1.0,2,true);
        //English
        static Course eng905ac = new Course("ENG905AC","Accelerated Essay Writing",
                "ENG",6.0,0.0,0, true);
        static Course eng908 = new Course("ENG908","Effective Writing",
              "ENG",3.0,0.0,0, true, "ENG905AC");
        static Course eng001a = new Course("ENG001A","English Composition",
                "ENG",3.0,0.0,2, false, "ENG908");
        static Course eng001b = new Course("ENG001B","English Composition and literature",
                "ENG",3.0,0.0,2, false, "ENG001A");

        static Course hed002 = new Course("HED002","Health and Lifestyle",
                "HED",3.0,0.0,2, true, "HED001");
            static Course phy002a = new Course("PHY002A","General Physics",
                "PHY",4.0,1.0,2, false );
    static Course phy004a = new Course("PHY004A","Engineering Physics-Mechanics",
                "PHY",4.0,1.0,2, false );
            static Course phy004b = new Course("PHY004B","Engineering Physics-Electricity and
Magnetism",
                "PHY",3.0,1.0,2, false );
            static Course his004a = new Course("HIS004A","History of Western Civilization",
                "HIS",3.0,0.0,2, true );
    static Course his004b = new Course("HIS004B","History of Western Civilization",
                "HIS",3.0,0.0,2, true );
            static Course his015 = new Course("HIS015","World History to 1500",
                "HIS",3.0,0.0,2, true );
            static Course his015h = new Course("HIS015H","World History to 1500 - Honors",
```

```
        "HIS",3.0,0.0,2, true );
    static Course his017a = new Course("HIS017A","History of the United States to 1877",
        "HIS",3.0,0.0,2, true );
    static Course his017b = new Course("HIS017B","History of the United States Since
1877",
        "HIS",3.0,0.0,2, true );
    static Course his020 = new Course("HIS020","History and Geography of California",
        "HIS",3.0,0.0,2, true );
    static Course his031 = new Course("HIS031","History of East Asia",
        "HIS",3.0,0.0,2, true );
    static Course rea054 = new Course("REA054","Critical College Reading and Thinking",
        "REA",3.0,0.0,1, false );
    static Course rea961 = new Course("REA961","Building College Reading Strategies",
        "REA",2.5,0.5,0, true );
    static Course art001a = new Course("ART001A"," Survey of Western Art 1",
        "ART",3.0,0.0,2, true );
    static Course art001b = new Course("ART001B","Survey of Western Art 2",
        "ART",3.0,0.0,2, true );
    static Course art001d = new Course("ART001D","Art of the 20th Century",
        "ART",3.0,0.0,2, true );
    static Course art031a = new Course("ART031A","Drawing",
        "ART",2.0,1.0,2, true );
    static Course art031b = new Course("ART031B","Intermediate Drawing",
        "ART",2.0,1.0,2, true );
    static Course art033a = new Course("ART033A","Basic Design: Two-Dimensional",
        "ART",2.0,1.0,2, true );
    static Course art033b = new Course("ART033B","Basic Design: Three-Dimensional",
        "ART",2.0,1.0,2, true );
    static Course art034a = new Course("ART034A","Introduction to Digital Art",
        "ART",2.0,1.0,2, true );
    static Course art034b = new Course("ART034B","Advanced Digital Art",
        "ART",2.0,1.0,2, true );
    static Course art035a = new Course("ART035A","Life Drawing",
        "ART",2.0,1.0,2, true );
    static Course art035B = new Course("ART035B","Life Drawing",
        "ART",2.0,1.0,2, true );
    static Course art035c = new Course("ART035C","Life Drawing",
        "ART",2.0,1.0,2, true );
    static Course art035d = new Course("ART035D","Life Drawing",
```

```
    "ART",2.0,1.0,2, true );
  static Course art049a = new Course("ART049A","Painting",
    "ART",2.0,1.0,2, true );
  static Course art049b = new Course("ART049B","Painting",
    "ART",2.0,1.0,2, true );
  static Course art049c = new Course("ART049C","Painting",
    "ART",2.0,1.0,2, true );
  static Course art049d = new Course("ART049D","Painting",
    "ART",2.0,1.0,2, true );
  static Course art065a = new Course("ART065A","Ceramics-Handbuilding",
    "ART",2.0,1.0,2, true );
  static Course art065b = new Course("ART065B","Ceramics-Handbuilding",
    "ART",2.0,1.0,2, true );
  static Course art065c = new Course("ART065C","Ceramics-Handbuilding",
    "ART",2.0,1.0,2, true );
  static Course art065d = new Course("ART065D","Ceramics-Handbuilding",
    "ART",2.0,1.0,2, true );
  static Course art067a = new Course("ART067A","Ceramics-Potter's Wheel",
    "ART",2.0,1.0,2, true );
  static Course art067b = new Course("ART067B","Ceramics-Potter's Wheel",
    "ART",2.0,1.0,2, true );
  static Course art067c = new Course("ART067C","Ceramics-Potter's Wheel",
    "ART",2.0,1.0,2, true );
  static Course art067d = new Course("ART067D","Ceramics-Potter's Wheel",
    "ART",2.0,1.0,2, true );
  static Course art075a = new Course("ART075A","Metalsmithing",
    "ART",2.0,1.0,1, true );
  static Course com001 = new Course("COM001","Public Speaking",
    "COM",3.0,0.0,2, false );
  static Course com001h = new Course("COM001H","Public Speaking - Honors",
    "COM",3.0,0.0,2, false );
  static Course com004 = new Course("COM004","Small Group Communication",
    "COM",3.0,0.0,2, false );
  static Course com008 = new Course("COM008","Interpersonal Communication",
    "COM",3.0,0.0,1, true );
  static Course com012 = new Course("COM012","Introduction to Intercultural
Communication",
    "COM",3.0,0.0,2, false );
  static Course com020 = new Course("COM020","Argumentation and Debate",
```

```
            "COM",3.0,0.0,2, false );
        static Course com020h = new Course("COM020H","Argumentation and Debate -
Honors",
            "COM",3.0,0.0,2, false );
        static Course com025 = new Course("COM025","Mass Communication and Society",
            "COM",3.0,0.0,2, false );
        static Course ecn001a = new Course("ECN001A","Principles of Macroeconomics",
            "ECN",3.0,1.0,2, false );
        static Course ecn001b = new Course("ECN001B","Principles of Microeconomics",
            "ECN",3.0,1.0,2, false );
        static Course ecn006 = new Course("ECN006","The Global Economy",
            "ECN",3.0,0.0,2, false );
        static Course phi001 = new Course("PHI001","Introduction to Philosophy",
            "PHI",3.0,0.0,2, true );
        static Course phi002 = new Course("PHI002","Introduction to Logic",
            "PHI",3.0,0.0,2, true );
        static Course phi003 = new Course("PHI003","Introduction to Logic",
            "PHI",3.0,0.0,2, true );
        static Course phi005 = new Course("PHI005","Introduction to Social and Political
Philosophy",
            "PHI",3.0,0.0,2, true );



    public static Course[] masterlist = new Course[]{
blank, cis007, cis008, cis037a, cis040, cis043, cis044, cis045, math903,
        math00c, math002, math003a, math003b, egr010, egr023, egr024,
        egr030, eng905ac, eng908, eng001a, eng001b, hed002, phy002a,
        phy004a, phy004b, his004a, his004b, his015, his015h, his017a,
        his017b, his020, his031, rea054, rea961, art001a, art001b, art001d,
        art031a, art031b, art033a, art033b, art034a, art034b, art035a, art035B,
        art035c,art035d,art049a, art049b, art049c, art049d, art065a, art065b,
        art065c, art065d , art067a, art067b, art067c, art067d, art075a, com001,
        com001h,com004,com008, com012, com020, com020h, com025, ecn001a, ecn001b,
        ecn006, phi001, phi002, phi003, phi005
};
    static Course[]  cislist = new Course[]{cis008, cis037a,cis040,math903,math00c,egr030};
    static Course[]  egrlist = new Course[]{ egr010, egr023,egr024,egr030,phy004a, phy004b};
    static Course[]  mathlist = new Course[]{ math003a,math003b};
```

```
        static Course[]  mathlist3 = new Course[]{ cis037a, cis043, egr030};
        static Course[]  artlist2 = new Course[]{art033a, art033b, art035a, art034a, art065a};
        public static Course[]  artlist = new Course[]{art001a, art001b, art031a};
        public static Course[]  artlist3 = new Course[]{phi001, phi003, his004a, his004b};
        public static Courselist CIS1 = new Courselist(cislist,2,10);
        public static Courselist egr1 = new Courselist(egrlist,2,18);
        public static Courselist math1 = new Courselist(mathlist,1,8);
        public static Course[]  mathlist2 = new Course[]{ phy002a };
        public static Courselist math2 = new Courselist(mathlist2,1,4;
        public static Courselist math3 = new Courselist(mathlist3,1,4);
       public  static Courselist art1 = new Courselist(artlist,2,9);
        public static Courselist art2 = new Courselist(artlist2,1,3);
        public static Courselist art3 = new Courselist(artlist3,1,3);
        public static Course[] t1 = new Course[]{cis008, cis037a, math903,
phi001,blank,blank,blank};
        public static Course[] t2 = new Course[]{cis040, art033b, math003a,
phi003,blank,blank,blank};
        public static Course[] t3 = new Course[]{hed002, eng001a, cis045,
art034a,blank,blank,blank};
        public static Course[] t4 = new Course[]{eng001b, his004a, math003b,
art035a,blank,blank,blank};
        public static Course[] t5 = new Course[]{egr010, egr023, math00c,
art065a,blank,blank,blank};
        public static Course[] t6 = new Course[]{egr024, egr030, phy004a,
art001a,blank,blank,blank};
        public static Course[] t7 = new Course[]{egr010,com008 , his017b,
art001b,blank,blank,blank};

        public static Courselist tt1 = new Courselist(t1,4,10);
        public static Courselist tt2 = new Courselist(t2,4,10);
        public static Courselist tt3 = new Courselist(t3,4,10);
        public static Courselist tt4 = new Courselist(t4,4,10);
        public static Courselist tt5 = new Courselist(t5,4,10);
        public static Courselist tt6 = new Courselist(t6,4,10);
        public static Courselist tt7 = new Courselist(t7,4,10);
        public static Student stuu = new Student("","","","","");
        public static Student stu1 = new
Student("Kelly","Jelly","kellyjelly@gmail.com","pass","g0stu1",
        tt1,tt2,tt3);
```

```
	public static Student stu2 = new Student("Kevin", "Sticks",
"Chops@gmail.com","pass","g0stu2",
		tt4,tt5,tt6);
	public static Student stu3 = new
Student("Shawn","Brownman","Shawnyboy@gmail.com","pass","g0stu3");
	public static Student stu4 = new
Student("Jack","Tran","JackTiger@gmail.com","pass","g0stu4");
	public static Student stu5 = new
Student("Tony","Thompson","BMWKing@gmail.com","pass","g0stu5");
	public static Student stu6 = new
Student("Gibby","Salazar","chapitoloco@gmail.com","pass","g0stu6");
	public static Student stu7 = new
Student("Ray","Magday","heyman@gmail.com","pass","g0stu7");
	public static Student stu8 = new
Student("Oscar","Smith","soul@gmail.com","pass","g0stu8");
	public static Student stu9 = new Student("","","","","");
	public static Student stu10 = new Student("","","","","");
	public static Student stu11 = new Student("","","","","");
	public static Student stu12 = new Student("","","","","");
	public static Student stu13 = new Student("","","","","");
	public static Student stu14 = new Student("","","","","");
	public static Student stu15 = new Student("","","","","");
	public static Student stu16 = new Student("","","","","");
	//static Courselist tt8 = new Courselist(t8,4,0);
	//stu.addTerm(, Data.tt);
	//stu.addTerm(, Data.tt);
	public static Student[] studentlist= new Student[]{stu1,stu2,stu3,stu4,
	   stu5,stu6,stu7,stu8,stu9,stu10,stu11,stu12,stu13,
	stu14,stu15,stu16};
}
```

## Test.java

```
package pathways;
public class Test {
	public static Student stu=new Student("3333","33","3","33","33");;
	public static int studentcount=8;
	//public static Student stu1=new Student("3333","33","3","33","33");
	//public static Student stu2=new Student("4","4","4","4","4");
```

```
    //public static Student stu3=new Student("----","-","-","-","-");
    public static void main(String args[]){
        Welcome start = new Welcome();
        start.setVisible(true);
    }
```

# GUI files

### Welcome.java

```
package pathways;
public class Welcome extends javax.swing.JFrame {
    public Welcome() {
        initComponents();
        Test.stu=Data.stuu;
    }
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {
        jLabel1 = new javax.swing.JLabel();
        buttonStudent = new javax.swing.JButton();
        buttonCounselor = new javax.swing.JButton();
        buttonLogin = new javax.swing.JButton();
        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        jLabel1.setFont(new java.awt.Font("Tahoma", 0, 48)); // NOI18N
        jLabel1.setText("PathWays");
        buttonStudent.setFont(new java.awt.Font("Tahoma", 0, 24)); // NOI18N
        buttonStudent.setText("New Student");
        buttonStudent.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                buttonStudentActionPerformed(evt);
            }
        });
        buttonCounselor.setFont(new java.awt.Font("Tahoma", 0, 24)); // NOI18N
        buttonCounselor.setText("New Counselor");
        buttonCounselor.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                buttonCounselorActionPerformed(evt);
```

```
        }
    });
    buttonLogin.setFont(new java.awt.Font("Tahoma", 0, 24)); // NOI18N
    buttonLogin.setText("Login");
    buttonLogin.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            buttonLoginActionPerformed(evt);
        }
    });
    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(jLabel1)
            .addGap(369, 369, 369))
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
            .addGap(12, 12, 12)
            .addComponent(buttonLogin, javax.swing.GroupLayout.PREFERRED_SIZE, 313,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(14, 14, 14)
            .addComponent(buttonStudent, javax.swing.GroupLayout.PREFERRED_SIZE, 313,
javax.swing.GroupLayout.PREFERRED_SIZE)
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
            .addComponent(buttonCounselor, javax.swing.GroupLayout.PREFERRED_SIZE,
313, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(19, 19, 19)
            .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(99, 99, 99)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
```

```
                .addComponent(buttonLogin, javax.swing.GroupLayout.PREFERRED_SIZE, 252,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(buttonStudent, javax.swing.GroupLayout.PREFERRED_SIZE,
252, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(buttonCounselor, javax.swing.GroupLayout.PREFERRED_SIZE,
252, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addContainerGap(242, Short.MAX_VALUE))
        );
        pack();
    }// </editor-fold>
    private void buttonStudentActionPerformed(java.awt.event.ActionEvent evt) {
        Registration s = new Registration();
        s.setVisible(true);
        dispose();
    }
    private void buttonCounselorActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }
    private void buttonLoginActionPerformed(java.awt.event.ActionEvent evt) {
        Login a = new Login();
        a.setVisible(true);
        dispose();
    }
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
```

```
        } catch (ClassNotFoundException ex) {
java.util.logging.Logger.getLogger(Welcome.class.getName()).log(java.util.logging.Level.SEVE
RE, null, ex);
        } catch (InstantiationException ex) {
java.util.logging.Logger.getLogger(Welcome.class.getName()).log(java.util.logging.Level.SEVE
RE, null, ex);
        } catch (IllegalAccessException ex) {
java.util.logging.Logger.getLogger(Welcome.class.getName()).log(java.util.logging.Level.SEVE
RE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
java.util.logging.Logger.getLogger(Welcome.class.getName()).log(java.util.logging.Level.SEVE
RE, null, ex);
        }
        //</editor-fold>
        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Welcome().setVisible(true);
            }
        });
    }
    // Variables declaration - do not modify
    private javax.swing.JButton buttonCounselor;
    private javax.swing.JButton buttonLogin;
    private javax.swing.JButton buttonStudent;
    private javax.swing.JLabel jLabel1;
    // End of variables declaration
}
```

**Login.java**

```
package pathways;
public class Login extends javax.swing.JFrame {
    public Login() {
        initComponents();
    }
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {
        jLabel6 = new javax.swing.JLabel();
        textStudentID = new javax.swing.JTextField();
```

```
        buttonLogin = new javax.swing.JButton();
        jLabel5 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        textPassword = new javax.swing.JPasswordField();
        jButton1 = new javax.swing.JButton();
        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        jLabel6.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jLabel6.setText("Password:");
        buttonLogin.setText("Login");
        buttonLogin.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                buttonLoginActionPerformed(evt);
            }
        });
        jLabel5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jLabel5.setText("ID Number:");
        jLabel2.setFont(new java.awt.Font("Tahoma", 0, 24)); // NOI18N
        jLabel2.setText("Login");
        jButton1.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/resources/logo.png"))); // NOI18N
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });
        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap(330, Short.MAX_VALUE)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addComponent(buttonLogin)
                        .addGap(115, 115, 115))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
```

```
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(jLabel6)
                        .addGap(18, 18, 18)
                        .addComponent(textPassword,
javax.swing.GroupLayout.PREFERRED_SIZE, 148,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(jLabel5)
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE,
78, javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(textStudentID,
javax.swing.GroupLayout.PREFERRED_SIZE, 148,
javax.swing.GroupLayout.PREFERRED_SIZE))))
                .addGap(378, 378, 378))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addComponent(jButton1)
                .addGap(280, 280, 280))))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(jButton1)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 88,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(60, 60, 60)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(textStudentID, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jLabel5))
            .addGap(18, 18, 18)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jLabel6)
                .addComponent(textPassword, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
```

```
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 227,
Short.MAX_VALUE)
            .addComponent(buttonLogin)
            .addGap(105, 105, 105))
        );
        pack();
    }// </editor-fold>
    private void buttonLoginActionPerformed(java.awt.event.ActionEvent evt) {
        String pass = textPassword.getText();
        String StudentID = textStudentID.getText();
        for (Student student : Data.studentlist) {
            if (StudentID.equals(student.getStudentID()) && pass.equals(student.getPassword())){
                Test.stu=student;
                Schedule a = new Schedule();
                a.setVisible(true);
                dispose();
            }
        }
         }
    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
         }
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE
, null, ex);
        } catch (InstantiationException ex) {
```

```
java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE
, null, ex);
        } catch (IllegalAccessException ex) {
java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE
, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE
, null, ex);
        }
        //</editor-fold>
        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Login().setVisible(true);
            }
        });
    }
    // Variables declaration - do not modify
    private javax.swing.JButton buttonLogin;
    private javax.swing.JButton jButton1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JPasswordField textPassword;
    private javax.swing.JTextField textStudentID;
    // End of variables declaration
}
```

## Registration.java

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package pathways;
public class Registration extends javax.swing.JFrame {
    /**
```

```
 * Creates new form Registration
 */
public Registration() {
    initComponents();
}
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {
    jPanel1 = new javax.swing.JPanel();
    jLabel2 = new javax.swing.JLabel();
    textLastName = new javax.swing.JTextField();
    jLabel3 = new javax.swing.JLabel();
    textFirstName = new javax.swing.JTextField();
    textEmail = new javax.swing.JTextField();
    jLabel4 = new javax.swing.JLabel();
    jLabel5 = new javax.swing.JLabel();
    textStudentID = new javax.swing.JTextField();
    jLabel6 = new javax.swing.JLabel();
    jLabel7 = new javax.swing.JLabel();
    jLabel8 = new javax.swing.JLabel();
    dropMajor = new javax.swing.JComboBox<>();
    jComboBox2 = new javax.swing.JComboBox<>();
    jLabel9 = new javax.swing.JLabel();
    buttonCreateAccount = new javax.swing.JButton();
    textPassword = new javax.swing.JPasswordField();
    jButton1 = new javax.swing.JButton();
    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
    jPanel1.setFont(new java.awt.Font("Tahoma", 0, 36)); // NOI18N
    jLabel2.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jLabel2.setText("First Name:");
    jLabel3.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jLabel3.setText("Last Name:");
    jLabel4.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jLabel4.setText("Email:");
    jLabel5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jLabel5.setText("ID Number:");
    jLabel6.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jLabel6.setText("Choose a Major:");
    jLabel7.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
```

```
        jLabel7.setText("Counselor:");
        jLabel8.setFont(new java.awt.Font("Tahoma", 0, 24)); // NOI18N
        jLabel8.setText("Registration");
        dropMajor.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] { "",
"Engineering", "Math", "Science", "English", "Art" }));
        dropMajor.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                dropMajorActionPerformed(evt);
            }
        });
        jComboBox2.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] { " ",
"Mr. Don", "Mrs. Penny", "Dr. Tom", "Michael Condry" }));
        jComboBox2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jComboBox2ActionPerformed(evt);
            }
        });
        jLabel9.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jLabel9.setText("Password:");
        buttonCreateAccount.setText("Create Account");
        buttonCreateAccount.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                buttonCreateAccountActionPerformed(evt);
            }
        });
        textPassword.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                textPasswordActionPerformed(evt);
            }
});
        jButton1.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/resources/logo.png"))); // NOI18N
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });
        javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
```

```
        jPanel1Layout.setHorizontalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(432, 432, 432)
                    .addComponent(buttonCreateAccount))
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(334, 334, 334)
                    .addComponent(jLabel8))
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(298, 298, 298)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
                        .addGroup(jPanel1Layout.createSequentialGroup()
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(jLabel3)
                            .addComponent(jLabel4))
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(textEmail)
                            .addComponent(textLastName)))
                        .addGroup(jPanel1Layout.createSequentialGroup()
                            .addComponent(jLabel2)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                            .addComponent(textFirstName))
                        .addGroup(jPanel1Layout.createSequentialGroup()
                            .addComponent(jLabel5)
                            .addGap(2, 2, 2)
                            .addComponent(textStudentID,
javax.swing.GroupLayout.PREFERRED_SIZE, 180,
javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addGroup(jPanel1Layout.createSequentialGroup()
                            .addComponent(jLabel9)
                            .addGap(18, 18, 18)
```

```
                        .addComponent(textPassword,
javax.swing.GroupLayout.PREFERRED_SIZE, 177,
javax.swing.GroupLayout.PREFERRED_SIZE))))
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(245, 245, 245)
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(jButton1)
                        .addGroup(jPanel1Layout.createSequentialGroup()
                            .addComponent(jLabel6)
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                            .addComponent(dropMajor, javax.swing.GroupLayout.PREFERRED_SIZE,
91, javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addGap(70, 70, 70)
                            .addComponent(jLabel7)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                            .addComponent(jComboBox2,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)))))
                .addContainerGap(133, Short.MAX_VALUE))
        );
        jPanel1Layout.setVerticalGroup(
jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jButton1)
                .addGap(9, 9, 9)
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING
)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addComponent(jLabel8, javax.swing.GroupLayout.PREFERRED_SIZE, 42,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(63, 63, 63)
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
                            .addComponent(jLabel2)
                            .addComponent(textFirstName,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
```

```
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
                    .addComponent(jLabel3)
                    .addComponent(textLastName,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
                    .addComponent(textEmail, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel4))
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
                    .addComponent(jLabel5)
                    .addComponent(textStudentID,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(28, 28, 28))
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
                .addComponent(jLabel9)
                .addComponent(textPassword, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)))
            .addGap(62, 62, 62)
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
                .addComponent(jLabel7)
                .addComponent(jComboBox2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jLabel6)
                .addComponent(dropMajor, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(33, 33, 33)
            .addComponent(buttonCreateAccount)
            .addContainerGap(110, Short.MAX_VALUE))
        );
```

```
        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 53, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 46, Short.MAX_VALUE))
        );
        pack();
    }// </editor-fold>
    private void dropMajorActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }
    private void jComboBox2ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }
    private void buttonCreateAccountActionPerformed(java.awt.event.ActionEvent evt) {
        String FirstName= textFirstName.getText();
        String LastName=textLastName.getText();
        String Email=textEmail.getText();
        String Password= textPassword.getText();
        String StudentID= textStudentID.getText();
        Test.stu.setMajor(new Major("TESTED"," TET"));
        Test.stu=Data.studentlist[Test.studentcount];
        Test.stu.setFirstName(textFirstName.getText());
        Test.stu.setLastName(textLastName.getText());
        Test.stu.setEmail(textEmail.getText());
        Test.stu.setPassword(textPassword.getText());
        Test.stu.setStudentID(textStudentID.getText());
        Test.stu.setMajor(new Major("TESTED"," TET"));
        //Test.stu=Data.studentlist[Test.studentcount];
```

```
        //Test.stu.setMajor(new Major("TESTED"," TET"));
        System.out.println(Test.stu.toString());
        Schedule schedule = new Schedule();
        schedule.setVisible(true);
        Test.studentcount++;
        dispose();    // TODO add your handling code here:
    }
    private void textPasswordActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }
    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
java.util.logging.Logger.getLogger(Registration.class.getName()).log(java.util.logging.Level.SE
VERE, null, ex);
        } catch (InstantiationException ex) {
java.util.logging.Logger.getLogger(Registration.class.getName()).log(java.util.logging.Level.SE
VERE, null, ex);
        } catch (IllegalAccessException ex) {
java.util.logging.Logger.getLogger(Registration.class.getName()).log(java.util.logging.Level.SE
VERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
java.util.logging.Logger.getLogger(Registration.class.getName()).log(java.util.logging.Level.SE
VERE, null, ex);
```

```
        }
        //</editor-fold>
        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Registration().setVisible(true);
            }
        });
    }
    // Variables declaration - do not modify
    private javax.swing.JButton buttonCreateAccount;
    private javax.swing.JComboBox<String> dropMajor;
    private javax.swing.JButton jButton1;
    private javax.swing.JComboBox<String> jComboBox2;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JLabel jLabel7;
    private javax.swing.JLabel jLabel8;
    private javax.swing.JLabel jLabel9;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JTextField textEmail;
    private javax.swing.JTextField textFirstName;
    private javax.swing.JTextField textLastName;
    private javax.swing.JPasswordField textPassword;
    private javax.swing.JTextField textStudentID;
    // End of variables declaration
}
```

## Login.java

```
package pathways;
public class Login extends javax.swing.JFrame {
    public Login() {
        initComponents();
    }
    @SuppressWarnings("unchecked")
```

```
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jLabel6 = new javax.swing.JLabel();
        textStudentID = new javax.swing.JTextField();
        buttonLogin = new javax.swing.JButton();
        jLabel5 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        textPassword = new javax.swing.JPasswordField();
        jButton1 = new javax.swing.JButton();
        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        jLabel6.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jLabel6.setText("Password:");
        buttonLogin.setText("Login");
        buttonLogin.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                buttonLoginActionPerformed(evt);
            }
        });
        jLabel5.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
        jLabel5.setText("ID Number:");
        jLabel2.setFont(new java.awt.Font("Tahoma", 0, 24)); // NOI18N
        jLabel2.setText("Login");
        jButton1.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/resources/logo.png"))); // NOI18N
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });
        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap(330, Short.MAX_VALUE)
  .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
```

```
                    .addComponent(buttonLogin)
                    .addGap(115, 115, 115))
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                        .addGroup(layout.createSequentialGroup()
                            .addComponent(jLabel6)
                            .addGap(18, 18, 18)
                            .addComponent(textPassword,
javax.swing.GroupLayout.PREFERRED_SIZE, 148,
javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addGroup(layout.createSequentialGroup()
                            .addComponent(jLabel5)
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                                .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE,
78, javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addComponent(textStudentID,
javax.swing.GroupLayout.PREFERRED_SIZE, 148,
javax.swing.GroupLayout.PREFERRED_SIZE))))
                    .addGap(378, 378, 378))
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                    .addComponent(jButton1)
                    .addGap(280, 280, 280))))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jButton1)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 88,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(60, 60, 60)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(textStudentID, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                .addComponent(jLabel5))
            .addGap(18, 18, 18)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jLabel6)
                .addComponent(textPassword, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 227,
Short.MAX_VALUE)
            .addComponent(buttonLogin)
            .addGap(105, 105, 105))
        );
        pack();
    }// </editor-fold>
    private void buttonLoginActionPerformed(java.awt.event.ActionEvent evt) {
        String pass = textPassword.getText();
        String StudentID = textStudentID.getText();
        for (Student student : Data.studentlist) {
            if (StudentID.equals(student.getStudentID()) && pass.equals(student.getPassword())){
                Test.stu=student;
                Schedule a = new Schedule();
                a.setVisible(true);
                dispose();
            }
        }
    }
    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
     }
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
```

```
            }
        }
    } catch (ClassNotFoundException ex) {
java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE
, null, ex);
    } catch (InstantiationException ex) {
java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE
, null, ex);
    } catch (IllegalAccessException ex) {
java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE
, null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {
java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE
, null, ex);
    }
    //</editor-fold>
    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new Login().setVisible(true);
        }
    });
  }
  // Variables declaration - do not modify
  private javax.swing.JButton buttonLogin;
  private javax.swing.JButton jButton1;
  private javax.swing.JLabel jLabel2;
  private javax.swing.JLabel jLabel5;
  private javax.swing.JLabel jLabel6;
  private javax.swing.JPasswordField textPassword;
  private javax.swing.JTextField textStudentID;
  // End of variables declaration
}
```

## Schedule.java

```
package pathways;
import java.awt.*;
public class Schedule extends javax.swing.JFrame {
```

```
        int termpage = 0;
        int info=1;
    public Schedule() {
        initComponents();
        labelFullName.setText(Test.stu.getFullName());
        labelStudentID.setText(Test.stu.getStudentID());
        labelEmail.setText(Test.stu.getEmail());
        //String termnames[] ={"Term 1"," Term 2", "Term 3", "Term 4","Term 6"};
        //int termpage = 0;
        printtable();
    }
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {
        buttonLeft = new javax.swing.JButton();
        buttonRight = new javax.swing.JButton();
        labelFullName = new javax.swing.JLabel();
        buttonHome = new javax.swing.JButton();
        labelStudentID = new javax.swing.JLabel();
        labelEmail = new javax.swing.JLabel();
        labelColumn1 = new javax.swing.JLabel();
        labelColumn2 = new javax.swing.JLabel();
        labelColumn3 = new javax.swing.JLabel();
        t1c1 = new javax.swing.JLabel();
        t1c2 = new javax.swing.JLabel();
        t1c3 = new javax.swing.JLabel();
        t1c4 = new javax.swing.JLabel();
        t1c5 = new javax.swing.JLabel();
        t1c6 = new javax.swing.JLabel();
        t3c1 = new javax.swing.JLabel();
        t3c2 = new javax.swing.JLabel();
        t3c3 = new javax.swing.JLabel();
        t3c4 = new javax.swing.JLabel();
        t3c5 = new javax.swing.JLabel();
        t3c6 = new javax.swing.JLabel();
        t2c3 = new javax.swing.JLabel();
        t2c5 = new javax.swing.JLabel();
        t2c2 = new javax.swing.JLabel();
        t2c1 = new javax.swing.JLabel();
```

```
        t2c4 = new javax.swing.JLabel();
        t2c6 = new javax.swing.JLabel();
        buttonAdd = new javax.swing.JButton();
        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        textCourse = new javax.swing.JTextField();
        textTerm = new javax.swing.JTextField();
        textRow = new javax.swing.JTextField();
        jLabel5 = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        textTerm1 = new javax.swing.JTextField();
        textRow1 = new javax.swing.JTextField();
        buttonMinus = new javax.swing.JButton();
        buttoninfo = new javax.swing.JButton();
        jScrollPane1 = new javax.swing.JScrollPane();
        labelINFO = new javax.swing.JTextArea();
        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        buttonLeft.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/resources/left.png"))); // NOI18N
        buttonLeft.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                buttonLeftActionPerformed(evt);
            }
        });
        buttonRight.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/resources/right.png"))); // NOI18N
        buttonRight.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                buttonRightActionPerformed(evt);
            }
        });
        labelFullName.setFont(new java.awt.Font("Lucida Grande", 0, 24)); // NOI18N
        labelFullName.setText("FULLNAME");
        buttonHome.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/resources/logo.png"))); // NOI18N
        buttonHome.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                buttonHomeActionPerformed(evt);
```

```
    }
});
labelStudentID.setFont(new java.awt.Font("Lucida Grande", 0, 24)); // NOI18N
labelStudentID.setText("STUDENTID");
labelEmail.setFont(new java.awt.Font("Lucida Grande", 0, 24)); // NOI18N
labelEmail.setText("EMAIL");
labelColumn1.setFont(new java.awt.Font("Lucida Grande", 1, 18)); // NOI18N
labelColumn1.setText("term1");
labelColumn2.setFont(new java.awt.Font("Lucida Grande", 1, 18)); // NOI18N
labelColumn2.setText("term 2");
labelColumn3.setFont(new java.awt.Font("Lucida Grande", 1, 18)); // NOI18N
labelColumn3.setText("term3");
t1c1.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t1c1.setText("jLabel1");
t1c2.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t1c2.setText("jLabel1");

t1c3.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t1c3.setText("jLabel1");
t1c4.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t1c4.setText("jLabel1");
t1c5.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t1c5.setText("jLabel1");
t1c6.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t1c6.setText("jLabel1");
t3c1.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t3c1.setText("jLabel1");
t3c2.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t3c2.setText("jLabel1");
t3c3.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t3c3.setText("jLabel1");
t3c4.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t3c4.setText("jLabel1");
t3c5.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t3c5.setText("jLabel1");
t3c6.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t3c6.setText("jLabel1");
t2c3.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
t2c3.setText("jLabel1");
```

```
        t2c5.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
        t2c5.setText("jLabel1");
        t2c2.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
        t2c2.setText("jLabel1");
        t2c1.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
        t2c1.setText("jLabel1");
        t2c4.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
        t2c4.setText("jLabel1");
        t2c6.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
        t2c6.setText("jLabel1");
        buttonAdd.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/resources/PLUS.png"))); // NOI18N
        buttonAdd.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                buttonAddActionPerformed(evt);
            }
        });
        jLabel1.setText("COURSE");
        jLabel2.setText("Term");
        jLabel3.setText("Row");
        textCourse.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                textCourseActionPerformed(evt);
            }
        });
        textTerm.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                textTermActionPerformed(evt);
            }
        });
        textRow.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                textRowActionPerformed(evt);
            }
        });
        jLabel5.setText("Term");
        jLabel6.setText("Row");
        textRow1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
            textRow1ActionPerformed(evt);
        }
    });
    buttonMinus.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/resources/MINUS.png"))); // NOI18N
    buttonMinus.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            buttonMinusActionPerformed(evt);
        }
    });

    buttoninfo.setText("Info");
    buttoninfo.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            buttoninfoActionPerformed(evt);
        }
    });
    labelINFO.setColumns(20);
    labelINFO.setFont(new java.awt.Font("Lucida Grande", 0, 18)); // NOI18N
    labelINFO.setRows(5);
    jScrollPane1.setViewportView(labelINFO);
    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(buttonLeft)
                .addGroup(layout.createSequentialGroup()
                    .addContainerGap()
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addGroup(layout.createSequentialGroup()
                            .addComponent(jLabel1)
                            .addGap(1, 1, 1)
                            .addComponent(textCourse, javax.swing.GroupLayout.PREFERRED_SIZE,
66, javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addGroup(layout.createSequentialGroup()
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                                .addComponent(jLabel2)
```

```
                        .addComponent(jLabel3))
                    .addGap(18, 18, 18)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(textTerm,
javax.swing.GroupLayout.PREFERRED_SIZE, 66,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(textRow, javax.swing.GroupLayout.PREFERRED_SIZE,
66, javax.swing.GroupLayout.PREFERRED_SIZE)))
                .addGroup(layout.createSequentialGroup()
                    .addGap(6, 6, 6)
                    .addComponent(buttonAdd)))))
            .addGap(80, 80, 80)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(labelColumn1)
                .addComponent(t1c4)
                .addComponent(t1c5)
                .addComponent(t1c6)
                .addComponent(t1c1)
                .addComponent(t1c2)
                .addComponent(t1c3))
            .addGap(50, 50, 50)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING, false)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(t2c3)
                    .addComponent(t2c5)
                    .addComponent(t2c2)
                    .addComponent(t2c1)
                    .addComponent(t2c4)
                    .addComponent(t2c6))
                .addComponent(labelColumn2))
            .addGap(50, 50, 50)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                .addGroup(layout.createSequentialGroup()
                    .addComponent(labelColumn3)
                    .addGap(7, 7, 7))
                .addComponent(t3c1)
                .addComponent(t3c4)
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
                .addComponent(t3c2)
                .addComponent(t3c3)
                .addComponent(t3c5)
                .addComponent(t3c6)))
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 811,
Short.MAX_VALUE)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(237, 237, 237)
                .addComponent(buttonRight))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                        .addComponent(jLabel5)
                        .addComponent(jLabel6))
                    .addGap(18, 18, 18)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(textTerm1,
javax.swing.GroupLayout.PREFERRED_SIZE, 66,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(textRow1,
javax.swing.GroupLayout.PREFERRED_SIZE, 66,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                    .addGroup(layout.createSequentialGroup()
                        .addGap(6, 6, 6)
                        .addComponent(buttonMinus)))
                .addGap(14, 14, 14))))
        .addGroup(layout.createSequentialGroup()
            .addComponent(buttoninfo)
            .addGap(0, 0, Short.MAX_VALUE))
        .addGroup(layout.createSequentialGroup()
            .addContainerGap()
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE,
1092, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 0, Short.MAX_VALUE))
```

```
                .addGroup(layout.createSequentialGroup()
                    .addComponent(buttonHome)
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(labelFullName,
javax.swing.GroupLayout.Alignment.TRAILING)
                        .addComponent(labelStudentID,
javax.swing.GroupLayout.Alignment.TRAILING)
                        .addComponent(labelEmail,
javax.swing.GroupLayout.Alignment.TRAILING))))
            .addContainerGap())
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(buttonHome)
                .addGroup(layout.createSequentialGroup()
                    .addContainerGap()
                    .addComponent(labelFullName)
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addComponent(labelStudentID)
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addComponent(labelEmail)))
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGap(18, 18, 18)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(buttonLeft)
                        .addComponent(buttonRight))
                    .addGap(18, 18, 18)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addGroup(layout.createSequentialGroup()
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                                .addComponent(jLabel1)
                                .addComponent(textCourse,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
```

```
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addGroup(layout.createSequentialGroup()
                            .addComponent(jLabel2)
                            .addGap(18, 18, 18)
                            .addComponent(jLabel3))
                        .addGroup(layout.createSequentialGroup()
                            .addComponent(textTerm,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                            .addComponent(textRow,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)))
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                        .addComponent(buttonAdd))
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(jLabel5)
                        .addGap(18, 18, 18)
                        .addComponent(jLabel6))
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(textTerm1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addComponent(textRow1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))))
                .addGroup(layout.createSequentialGroup()
                    .addGap(64, 64, 64)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(labelColumn1)
                        .addComponent(labelColumn3))
                    .addGap(18, 18, 18)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addGroup(layout.createSequentialGroup()
                            .addComponent(t1c1)
                            .addGap(13, 13, 13)
                            .addComponent(t1c2)
```

```
                        .addGap(13, 13, 13)
                        .addComponent(t1c3)
                        .addGap(13, 13, 13)
                        .addComponent(t1c4)
                        .addGap(13, 13, 13)
                        .addComponent(t1c5)
                        .addGap(13, 13, 13)
                        .addComponent(t1c6))
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(t3c1)
                        .addGap(13, 13, 13)
                        .addComponent(t3c2)
                        .addGap(13, 13, 13)
                        .addComponent(t3c3)
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                        .addComponent(t3c4)
                        .addGap(14, 14, 14)
                        .addComponent(t3c5)
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                        .addComponent(t3c6))))
                .addGroup(layout.createSequentialGroup()
                    .addComponent(labelColumn2)
                    .addGap(13, 13, 13)
                    .addComponent(t2c1)
                    .addGap(13, 13, 13)
                    .addComponent(t2c2)
                    .addGap(13, 13, 13)
                    .addComponent(t2c3)
                    .addGap(13, 13, 13)
                    .addComponent(t2c4)
                    .addGap(13, 13, 13)
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(buttonMinus)
                        .addGroup(layout.createSequentialGroup()
                            .addComponent(t2c5)
                            .addGap(13, 13, 13)
                            .addComponent(t2c6)))))
            .addGap(14, 14, 14)
            .addComponent(buttoninfo)
```

```
            .addGap(34, 34, 34)
            .addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 430,
Short.MAX_VALUE))
        );
        pack();
    }// </editor-fold>
    private void buttonLeftActionPerformed(java.awt.event.ActionEvent evt) {
        if(termpage>0)
        this.termpage-=1;
        printtable();
        repaint();// TODO add your handling code here:
    }
    private void buttonHomeActionPerformed(java.awt.event.ActionEvent evt) {
        Welcome start = new Welcome();
        start.setVisible(true);
        dispose();// TODO add your handling code here:
    }
    private void buttonRightActionPerformed(java.awt.event.ActionEvent evt) {
        if(termpage<=7)
        this.termpage+=1;
        printtable();
        repaint();    // TODO add your handling code here:
    }
    private void buttonAddActionPerformed(java.awt.event.ActionEvent evt) {
            String course = textCourse.getText();
    int term = Integer.parseInt(textTerm.getText())-1;
    int row = Integer.parseInt(textRow.getText())-1;
    Course replacement=Data.blank;
        for (Course masterlist : Data.masterlist) {
            if (course.equals(masterlist.getCourseCode()))
              replacement=masterlist;}
    Test.stu.getTerm(term).replaceCourse(replacement,row);
    printtable();
    }
    private void textCourseActionPerformed(java.awt.event.ActionEvent evt) {
}
    private void textTermActionPerformed(java.awt.event.ActionEvent evt) {
            }
    private void textRowActionPerformed(java.awt.event.ActionEvent evt) {
```

```
    }
    private void textRow1ActionPerformed(java.awt.event.ActionEvent evt) {
    }
    private void buttonMinusActionPerformed(java.awt.event.ActionEvent evt) {
            int term = Integer.parseInt(textTerm1.getText())-1;
            int row = Integer.parseInt(textRow1.getText())-1;
            Course replacement=Data.blank;
            Test.stu.getTerm(term).replaceCourse(replacement,row);
            printtable();
    }
    private void buttoninfoActionPerformed(java.awt.event.ActionEvent evt) {
    info++;
    printtable();// TODO add your handling code here:
    }
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
java.util.logging.Logger.getLogger(Schedule.class.getName()).log(java.util.logging.Level.SEVE
RE, null, ex);
        } catch (InstantiationException ex) {
java.util.logging.Logger.getLogger(Schedule.class.getName()).log(java.util.logging.Level.SEVE
RE, null, ex);
        } catch (IllegalAccessException ex) {
java.util.logging.Logger.getLogger(Schedule.class.getName()).log(java.util.logging.Level.SEVE
RE, null, ex);
```

```
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
java.util.logging.Logger.getLogger(Schedule.class.getName()).log(java.util.logging.Level.SEVE
RE, null, ex);
        }
        //</editor-fold>
        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Schedule().setVisible(true);
            }
        });
    }
    // Variables declaration - do not modify
    private javax.swing.JButton buttonAdd;
    private javax.swing.JButton buttonHome;
    private javax.swing.JButton buttonLeft;
    private javax.swing.JButton buttonMinus;
    private javax.swing.JButton buttonRight;
    private javax.swing.JButton buttoninfo;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JLabel labelColumn1;
    private javax.swing.JLabel labelColumn2;
    private javax.swing.JLabel labelColumn3;
    private javax.swing.JLabel labelEmail;
    private javax.swing.JLabel labelFullName;
    private javax.swing.JTextArea labelINFO;
    private javax.swing.JLabel labelStudentID;
    private javax.swing.JLabel t1c1;
    private javax.swing.JLabel t1c2;
    private javax.swing.JLabel t1c3;
    private javax.swing.JLabel t1c4;
    private javax.swing.JLabel t1c5;
    private javax.swing.JLabel t1c6;
    private javax.swing.JLabel t2c1;
```

```
    private javax.swing.JLabel t2c2;
    private javax.swing.JLabel t2c3;
    private javax.swing.JLabel t2c4;
    private javax.swing.JLabel t2c5;
    private javax.swing.JLabel t2c6;
    private javax.swing.JLabel t3c1;
    private javax.swing.JLabel t3c2;
    private javax.swing.JLabel t3c3;
    private javax.swing.JLabel t3c4;
    private javax.swing.JLabel t3c5;
    private javax.swing.JLabel t3c6;
    private javax.swing.JTextField textCourse;
    private javax.swing.JTextField textRow;
    private javax.swing.JTextField textRow1;
    private javax.swing.JTextField textTerm;
    private javax.swing.JTextField textTerm1;
    // End of variables declaration
    public void printtable(){
            String termnames[] ={"Term 1"+String.format("
%.1f",Test.stu.getTerm(0).getTotalUnits()),
          "Term 2"+String.format(" %.1f",Test.stu.getTerm(1).getTotalUnits()),
          "Term 3"+String.format(" %.1f",Test.stu.getTerm(2).getTotalUnits()),
          "Term 4"+String.format(" %.1f",Test.stu.getTerm(3).getTotalUnits()),
          "Term 5"+String.format(" %.1f",Test.stu.getTerm(4).getTotalUnits()),
          "Term 6"+String.format(" %.1f",Test.stu.getTerm(5).getTotalUnits()),
          "Term 7"+String.format(" %.1f",Test.stu.getTerm(6).getTotalUnits()),
          "Term 8"+String.format(" %.1f",Test.stu.getTerm(7).getTotalUnits())    };
        labelColumn1.setText(termnames[termpage]);
        labelColumn2.setText(termnames[termpage+1]);
        labelColumn3.setText(termnames[termpage+2]);
        t1c1.setText(Test.stu.getTerm(termpage).getCourse(0).toString());
        t1c2.setText(Test.stu.getTerm(termpage).getCourse(1).toString());
        t1c3.setText(Test.stu.getTerm(termpage).getCourse(2).toString());
        t1c4.setText(Test.stu.getTerm(termpage).getCourse(3).toString());
        t1c5.setText(Test.stu.getTerm(termpage).getCourse(4).toString());
        t1c6.setText(Test.stu.getTerm(termpage).getCourse(5).toString());
        t2c1.setText(Test.stu.getTerm(termpage+1).getCourse(0).toString());
        t2c2.setText(Test.stu.getTerm(termpage+1).getCourse(1).toString());
        t2c3.setText(Test.stu.getTerm(termpage+1).getCourse(2).toString());
```

```
        t2c4.setText(Test.stu.getTerm(termpage+1).getCourse(3).toString());
        t2c5.setText(Test.stu.getTerm(termpage+1).getCourse(4).toString());
        t2c6.setText(Test.stu.getTerm(termpage+1).getCourse(5).toString());
        t3c1.setText(Test.stu.getTerm(termpage+2).getCourse(0).toString());
        t3c2.setText(Test.stu.getTerm(termpage+2).getCourse(1).toString());
        t3c3.setText(Test.stu.getTerm(termpage+2).getCourse(2).toString());
        t3c4.setText(Test.stu.getTerm(termpage+2).getCourse(3).toString());
        t3c5.setText(Test.stu.getTerm(termpage+2).getCourse(4).toString());
        t3c6.setText(Test.stu.getTerm(termpage+2).getCourse(5).toString());
        String bigtext="";
        switch (info%6) {
           case 0:  bigtext = "AREA A – LANGUAGE AND RATIONALITY – 6 semester/9
quarter units minimum \n" +
"1. English Composition course:\n" +
"ENG 001A English Composition I\n" +
"2. One additional course:\n" +
"COM 001, 001H Public Speaking\n" +
"COM 004 Small Group Communications \n" +
"COM 020, 020H Argumentation and Debate \n" +
"ENG 001B English Composition\n" +
"ENG 001C Clear Thinking in Writing\n" +
"EGR 030, Intro to Computing for Engineers \n" +
"FRN 003, 4 Intermediate Language (5ea)\n" +
"MAT 000C, 000CG, 000CM, 009 or a more advanced Math course (3-5 units) \n" +
"PHI 002 Logic\n" +
"PHI 003 Introduction to Ethics\n" +
"POL 020 Controversial Legal Issues\n" +
"REA 054 Critical College Reading & Thinking\n" +
"SOC 016 Introduction to Statistics in Social and Behavioral Sciences \n" +
"SPA 003, 004 Intermediate Language (5ea)";
                    break;
           case 1: bigtext="AREA B – NATURAL SCIENCES – 3semester/4 quarter units
minimum\n" +
"These courses examine the physical universe, its life forms and its natural phenomena. Courses
with a lab are underlined.\n" +
"ANT 001 Physical Anthropology\n" +
"AST 001 Astronomy\n" +
"AST 003 Astronomy with Lab (4)\n" +
"AST 003H Astronomy with Lab – Honors (4) \n" +
```

```
"AST 004 Astrobiology\n" +
"BIO 001A, 001AH, 001B General Biology (5 ea) \n" +
"BIO 004 Microbiology (5)\n" +
"BIO 010 Introduction to Biology\n" +
"BIO 010L Introduction to Biology Lab (1)\n" +
"BIO 011 Human Biology (4)\n" +
"BIO 012 Emerging Infectious Disease\n" +
"BIO 014 Introductory Neuroscience\n" +
"BIO 015 Human Genetics\n" +
"BIO 016 Marine Biology (4)\n" +
"BIO 017, 017H Genetics and Society\n" +
"BIO 019 Oceans: Life in the Sea\n" +
"BIO 022 Anat.& Physiology for Allied Health Workers \n" +
"(4) BIO 025 Environmental Biology\n" +
"BIO 030 Tropical Ecology (3)\n" +
"BIO 030L Tropical Ecology Field Studies (1)\n" +
"BIO 032 California Plants and Animal (4)\n" +
"BIO 047, 048, 048H Human Anatomy, Physiology (5ea)\n" +
"CHM 001A,001AH, 001B, 001BH General Chemistry (5ea)\n" +
"CHM 002 Introductory Chemistry\n" +
"CHM 002L Introduction to Chemistry Lab (1)\n" +
"CHM 012A, 012AH, 012B, 012BH Organic Chemistry (5ea)\n" +
"CHM 030A,030B Fundamentals of Chemistry (4)\n" +
"CHM 060 Survey of General, Organic and Biological Chemistry \n" +
"(4) GEO 001 Introduction to Physical Geography\n" +
"NTR 015 Human Nutrition\n" +
"NTR 040 Nutrition and Disease\n" +
"NTR 052 Nutrition for Children\n" +
"PHY 002A,002B General Physics (5ea)\n" +
"PHY 004A,004B,004C Engineering Physics (5ea)\n" +
"PHY 004D Engineering Physics - Atomic (2)\n" +
"PHY 010 Introduction to Physics (4)\n" +
"PSY 007 Biological Psycholog";
                break;
        case 2: bigtext="AREA C – HUMANITIES – 3semester/4 quarter units minimum\n" +
"These courses develop an awareness of the ways in which people throughout the ages and in
different cultures have responded to themselves and the world around them in artistic and
cultural creation. NOTE: Three 1-unit classes alone may not be used to satisfy this category.\n" +
"\n" +
```

"ARB 001, 002 First, Second Semester Arabic\n" +
"ARB 50A, 50B Beginning Conversational Arabic and Culture \n" +
"ART 001A Survey of Western Art I\n" +
"ART 001B Survey of Western Art II\n" +
"ART 001D Survey of Modern Art\n" +
"ART 004 Art Appreciation\n" +
"ART 007 Survey of Asian Art\n" +
"ART 011 The History of Modern Design (Also GDES 011) ART 031A,B Drawing\n" +
"ART 033A Basic Design: Two-Dimensional\n" +
"ART 033B Basic Design: Three-Dimensional\n" +
"ART 034A,B Introduction to/Advanced Digital Art\n" +
"ART 035A,B Life Drawing\n" +
"ART 039A Survey of Printmaking\n" +
"ART 047A,B Watercolor\n" +
"ART 048A,B Airbrush Painting\n" +
"ART 049A,B Painting\n" +
"ART 065A,B Ceramics-Handbuilding\n" +
"ART 067A,B Ceramics-Potter's Wheel\n" +
"ART 075A,B Metalsmithing\n" +
"ART 078A,B Furniture Design and Construction\n" +
"ART 085A,B Sculpture\n" +
"ART 088A,B Metal Sculpture Casting\n" +
"CHI 001, 2 First/Second Semester Chinese\n" +
"CHI 050A,B Basic Conversational Chinese\n" +
"COM 012 Intercultural Communication\n" +
"ENG 001B English Composition\n" +
"ENG 005A,B English Literature\n" +
"ENGL 006B World Literature\n" +
"ENG 007A,B American Literature\n" +
"ENG 013 Chicana/o-Latina/o Literature\n" +
"ENG 015 Intro. to Film Analysis (Also HUM 015)\n" +
"ENG 043 Classical Mythology\n" +
"ENG 048 Introduction to Shakespeare\n" +
"ENG 070 Creative Writing\n" +
"FRN 001,2 First/Second Semester French - Elementary (5ea) \n" +
"FRN 003,4 Third/Forth Semester French - Intermediate (5ea) \n" +
"FRN 001L, 2L French Lab (0.5 ea)\n" +
"GDS 011 The History of Modern Design (Also ART 011)\n" +
"GDS 012 History of Photography\n" +

"GDS 015 Photo-media and Social Change\n" +
"GDS 073 Digital Photography\n" +
"HIS 004A, 004AH History of Western Civilization\n" +
"HIS 004B, 004BH History of Western Civilization\n" +
"HIS 015, 015H World History to 1500\n" +
"HIS 016, 016H World History since 1500\n" +
"HIS 017A, 017AH History of the United States to 1877 \n" +
"HIS 017B, 017BH History of the United States since 1877 \n" +
"HIS 033, 033H Women's Issues Past and Present\n" +
"HUM 001A,001B Human Values in and from the Arts \n" +
"HUM 007 International Films (Also POL 007)\n" +
"(HUM 007 may only be counted in Area C)\n" +
"HUM 015 Intro to Film Analysis (Also ENGL 015)\n" +
"HUM 016A Hispanic Roots and Culture\n" +
"HUM 018, 018H African American Culture/Humanities\n" +
"HUM 020 Asian Roots and Culture\n" +
"HUM 022 Introduction to Islam\n" +
"HUM 024 The Asian American Experience\n" +
"HUM 030, Cultural Studies\n" +
"JPN 001,002 First/Second Semester Japanese - Elementary (5 ea)\n" +
"KIN 041 – 048 All Dance Classes see catalog for complete course titles and units)\n" +
"KIN 080 Dance Appreciation (formerly WHP 040)\n" +
"MUS 005 Fundamentals of Music Theory\n" +
"MUS 006 Commercial Music Theory I\n" +
"MUS 007 Commercial Music Theory II\n" +
"MUS 010 Music Appreciation\n" +
"MUS 016 History of Rock Music\n" +
"MUS 017 Musics of the World\n" +
"MUS 030A,B/031A,B Beginning/Intermediate Piano (1 ea)\n" +
"MUS 032A,B/033A,B Beginning/Intermediate Voice (1 ea)\n" +
"MUS 036A,B Beginning Guitar (1 ea)\n" +
"MUS 041A, B Mission Chorus (1 ea)\n" +
"MUS 048A, B Symphony Orchestra (1 ea)\n" +
"PHI 001 Introduction to Philosophy\n" +
"PHI 002 Logic\n" +
"PHI 003 Introduction to Problems in Ethics\n" +
"PHI 005 Introduction to Social and Political Philosophy (Also POL 003) \n" +
"POL 003 Introduction to Social and Political Philosophy (Also PHI 005) \n" +
"SPA 001,2 First/Second Semester Spanish - Elementary (5ea)\n" +

```
"SPA 001L,2L Spanish Lab (.5ea)\n" +
"SPA 003,4 Third/Forth Semester Spanish - Intermediate (5ea)\n" +
"SPA 050A,B Basic Conversational Spanish\n" +
"VIE 001,2 First/Second Semester Vietnamese - Elementary (5ea)\n" +
"VIE 049A,B Vietnamese Language & Culture for Fluent Speakers";
                break;
        case 3: bigtext="AREA D — SOCIAL & BEHAVIORAL SCIENCES\n" +
"Series 1: \n" +
"Social and Behavioral Sciences (3 sem/ 4.5 qtr units): These courses deal with human, social, psychological, political, and economic institutions and behavior and their historical background, selected from among the following:\n" +
"                                                \n" +
"ANT 003 Cultural Anthropology\n" +
"ANT 045 Human Sexuality (Also PSY/SOC 045)\n" +
"ANT 055 Magic, Witchcraft, & Religion\n" +
"BUS 061 Business and Society\n" +
"CHD 001 Child Growth & Development\n" +
"CHD 002 Child, Family and Community\n" +
"CHD 013 Working with Children in a Diverse Society\n" +
"COM 025 Mass Communication and Society\n" +
"COU 055 Valuing Diversity\n" +
"ECN 001A Principles of Macroeconomics\n" +
"ECN 001B Principles of Microeconomics\n" +
"ECN 006 The Global Economy\n" +
"GEO 002 Introduction to Cultural Geography\n" +
"GEO 006 World Regional Geography\n" +
"GLB 001 Global Perspectives\n" +
"GLB 002 Global Issues\n" +
"GLB 004 The Developing World\n" +
"HIS 004A, 004AH, 004B, 004BH History of Western Civilization \n" +
"HIS 015, 015H World History to 1500\n" +
"HIS 016, 016H World History since 1500\n" +
"HIS 017A, 017AH United States History to 1877\n" +
"HIS 017B, 017BH United States History since 1877\n" +
"HIS 020 History and Geography of California\n" +
"HIS 033, 033H Women’s Issues Past and Present\n" +
"HUM 016A Hispanic Roots and Culture\n" +
"HUM 018, 018H African American Roots and Culture\n" +
"HUM 024 The Asian American Experience\n" +
```

```
"POL 001, 001H American Government\n" +
"POL 002 Comparative Government\n" +
"POL 004 International Relations\n" +
"POL 005 Political Science Research Methodology \n" +
"POL 006 Politics of Race, Class and Gender\n" +
"POL 007 International Films) (Also HUMAN 007) (POL 007 may only be counted in Area
D)\n" +
"POL 020 Controversial Legal Issues\n" +
"PSY 001, 001H General Psychology\n" +
"PSY 002A Experimental Psychophysiology (4)\n" +
"PSY 007 Biological Psychology\n" +
"PSY 010 Social Psychology\n" +
"PSY 012 Human Growth and Development\n" +
"PYS 015, 015H Introduction to Research Methods\n" +
"PSY 025 Introduction to Abnormal Psychology\n" +
"PSY 030 Psychology of Addiction and Substance Abuse PSY 045 Human Sexuality (Also
ANT/SOC 045)\n" +
"SOC 001, 001H Introduction to Sociology\n" +
"SOC 002, 002H Social Problems\n" +
"SOC 021 Sociology of Minorities in the U.S.\n" +
"SOC 040 Marriage and Family\n" +
"SOC 045 Human Sexuality (Also ANT/PSY 045)\n" +
"SOC 047 Sociology of Criminology\n" +
"SOC 050 Introduction to Criminal Justice\n" +
"SOC 054 Concepts of Criminal Law\n" +
"SOC 058 Introduction to Corrections\n" +
"SOC 060 Community and Justice System\n" +
"\n" +
"Series 2: American History and Institutions (3 sem/4 qtr units): \n" +
"Demonstrate proficiency in American history or American government on a departmental
examination \n" +
"OR complete a course with a grade of C (or “P”) or better from one of the following:\n" +
"HIS 017A, 017AH History of United States to 1877 \n" +
"HIS 017B, 017BH History of United States since 1877 \n" +
"HIS 020 History and Geography of California \n" +
"POL 001, 001H American Government";
                break;
        case 4: bigtext="AREA E – LIFELONG LEARNING \n" +
"The Lifelong Learning requirement will be completed by the selection of either:\n" +
```

"Option 1: \n" +
"Three (3) units from Area A-2, B, C or D; OR\n" +
"Option 2:\n" +
"Three (3) units from courses listed below which cultivate self-understanding and development of the student as an integrated individual capable of coping with life in our modern society, assist students to acquire the skills necessary to adapt to change, gain self-understanding, and set achievable goals, and which include consideration of such matters as cognitive, affective and psycho-motor development, health, stress management, and key relationships of humans to their social and physical environment. \n" +
"NOTE: \n" +
"All Kinesiology (KIN/WHP/PE) courses are accepted in Area E (except Theory courses). However, only one unit from this area will count for General Education.\n" +
"\n" +
"ANT 045 Human Sexuality (Also PSY/SOC 045) \n" +
"BIO 025 Environmental Biology\n" +
"BUS 061 Business and Society\n" +
"CHD 002 Child, Family and Community\n" +
"CHD 013 Working with Children in a Diverse Society \n" +
"CHD 017 Child Health and Safety\n" +
"CHL 010 Community Health Problems\n" +
"COM 004 Small Group Communication\n" +
"COM 008 Interpersonal Communication\n" +
"COM 012 Introduction to Intercultural Communication \n" +
"COU 005 Strategies for Success\n" +
"COU 012 Careers and Life Styles\n" +
"COU 012A Careers and Life Styles (1)\n" +
"COU 017 Transfer Success and Life Transitions\n" +
"COU 023 Becoming a Master Student-Athlete (2)\n" +
"COU 055 Valuing Diversity\n" +
"GLB 001 Global Perspectives\n" +
"GLB 002 Global Issues\n" +
"HED 002 Health and Lifestyle\n" +
"KIN 078 Introduction to Kinesiology\n" +
"LIB 010 Information Competency (1)\n" +
"LIB 010H Information Competency (1)\n" +
"NTR 015 Human Nutrition\n" +
"NTR 040 Nutrition and Disease\n" +
"NTR 052 Nutrition for Children\n" +
"PSY 012 Human Growth and Development\n" +

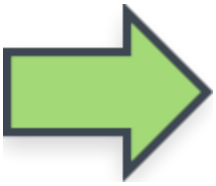
```
"PSY 025 Introduction to Abnormal Psychology\n" +
"PSY 030 Psychology of Addiction and Substance Abuse PSY 045 Human Sexuality (Also
ANT/SOC 045)\n" +
"SOC 002, 002H Social Problems\n" +
"SOC 021 Sociology of Minorities in the U.S.\n" +
"SOC 040 Marriage and Family\n" +
"SOC 045 Human Sexuality";
                break;
        case 5: bigtext="All Classes\n"+
                "blank, cis007, cis008, cis037a, cis040, cis043, cis044, cis045, \n"
                + "math903, math00c, math002, math003a, math003b, egr010, egr023, \n"
                + "egr024, egr030, eng905ac, eng908, eng001a, eng001b, hed002, phy002a, \n"
                + "phy004a, phy004b, his004a, his004b, his015, his015h, his017a, his017b, \n"
                + "his020, his031, rea054, rea961, art001a, art001b, art001d, art031a, art031b, \n"
                + "art033a, art033b, art034a, art034b, art035a, art035B, art035c,art035d,art049a, \n"
                + "art049b, art049c, art049d, art065a, art065b, art065c, art065d , art067a, art067b,
\n"
                + "art067c, art067d, art075a, com001, com001h,com004,com008, com012, com020,
com020h, \n"
                + "com025, ecn001a, ecn001b, ecn006, phi001, phi002, phi003, phi005";
                break;
      }
labelINFO.setText(bigtext);
   }
}
```

## Image Assets

Banner.png (UNUSED)

logo.png

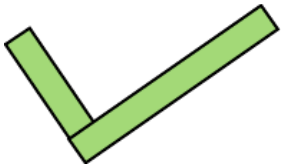
left.png



right.png

plus.png

minus.png

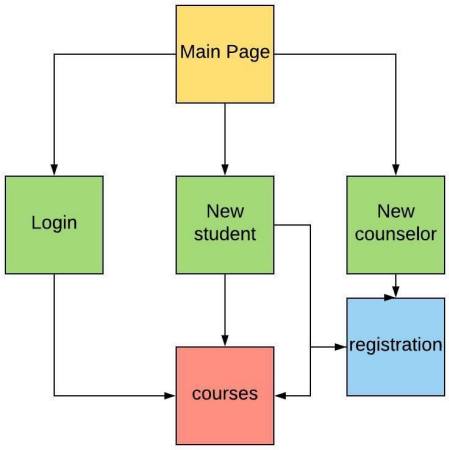


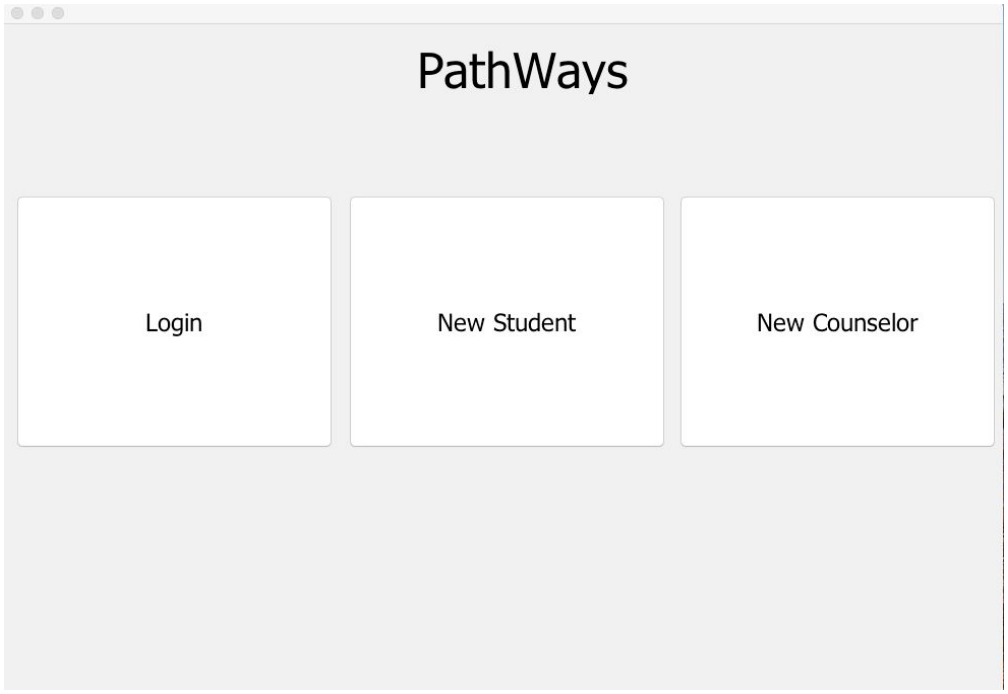
Check.png

# Testing GUI & Results:

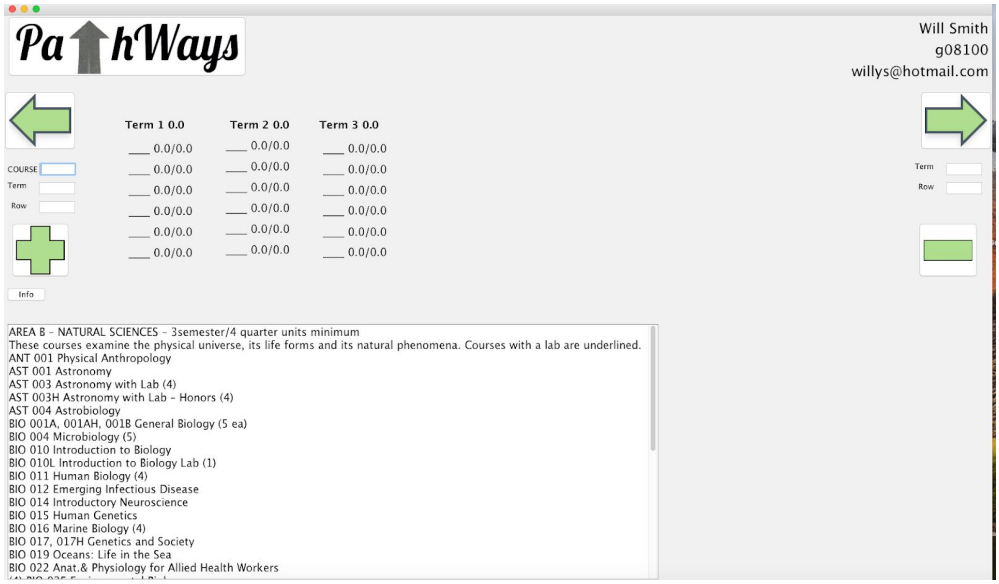
### Test 1

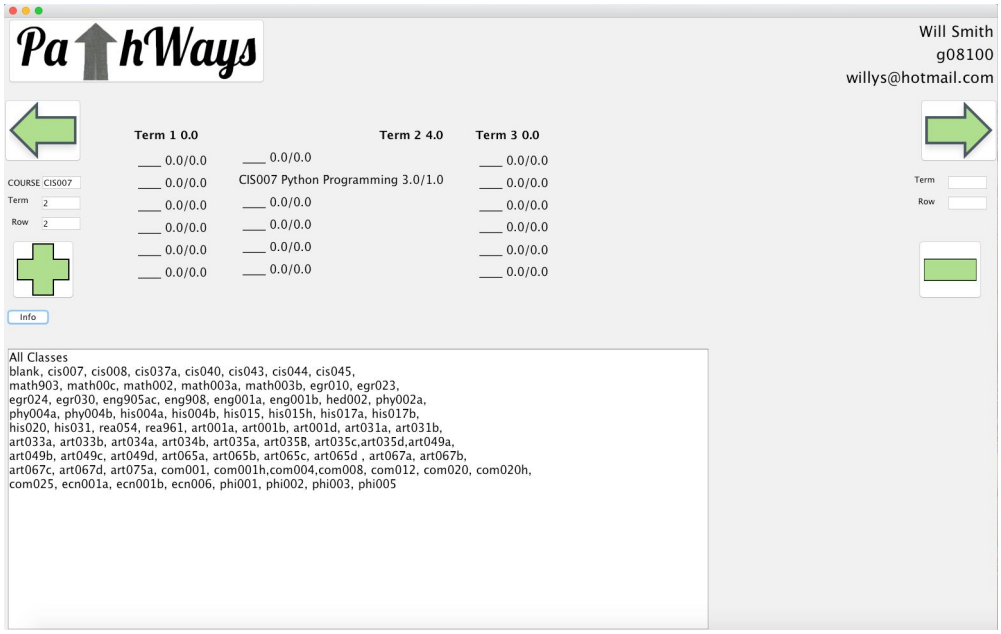
There is a main screen with three bottoms that users can login or register. After the user login, the courses screen show up. However, we didn't finish the courses screen yet.

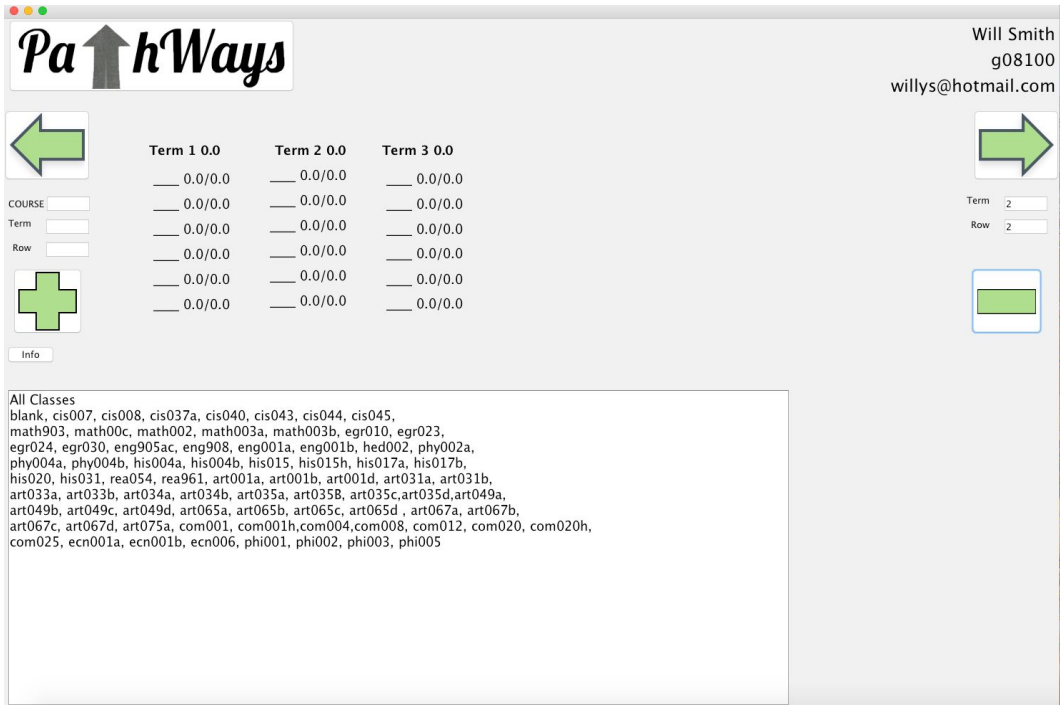



PathWays
Login
New Student
New Counselor

PathWays
Registration
First Name: Will
Last Name: Smith
Email: willys@hotmail.com
ID Number: g08100
Password: ••••
Choose a Major: Engi...
Counselor: Dr. Tom
Create Account

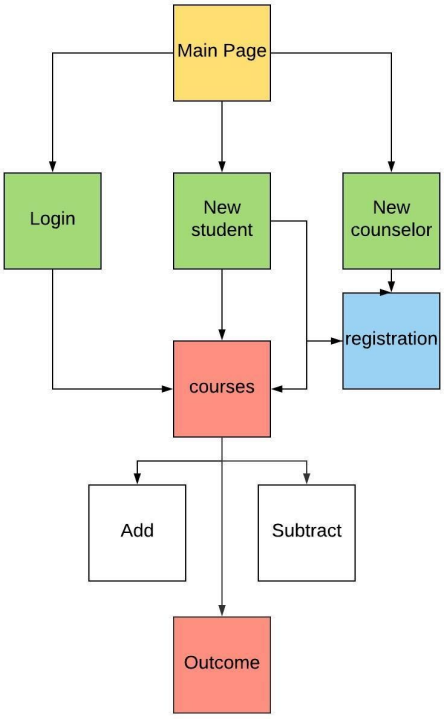

PathWays
Will Smith
g08100
willys@hotmail.com
Term 1 0.0
Term 2 0.0
Term 3 0.0
___ 0.0/0.0
COURSE
Term
Row
Info
AREA B – NATURAL SCIENCES – 3semester/4 quarter units minimum
These courses examine the physical universe, its life forms and its natural phenomena. Courses with a lab are underlined.
ANT 001 Physical Anthropology
AST 001 Astronomy
AST 003 Astronomy with Lab (4)
AST 003H Astronomy with Lab – Honors (4)
AST 004 Astrobiology
BIO 001A, 001AH, 001B General Biology (5 ea)
BIO 004 Microbiology (5)
BIO 010 Introduction to Biology
BIO 010L Introduction to Biology Lab (1)
BIO 011 Human Biology (4)
BIO 012 Emerging Infectious Disease
BIO 014 Introductory Neuroscience
BIO 015 Human Genetics
BIO 016 Marine Biology (4)
BIO 017, 017H Genetics and Society
BIO 019 Oceans: Life in the Sea
BIO 022 Anat.& Physiology for Allied Health Workers

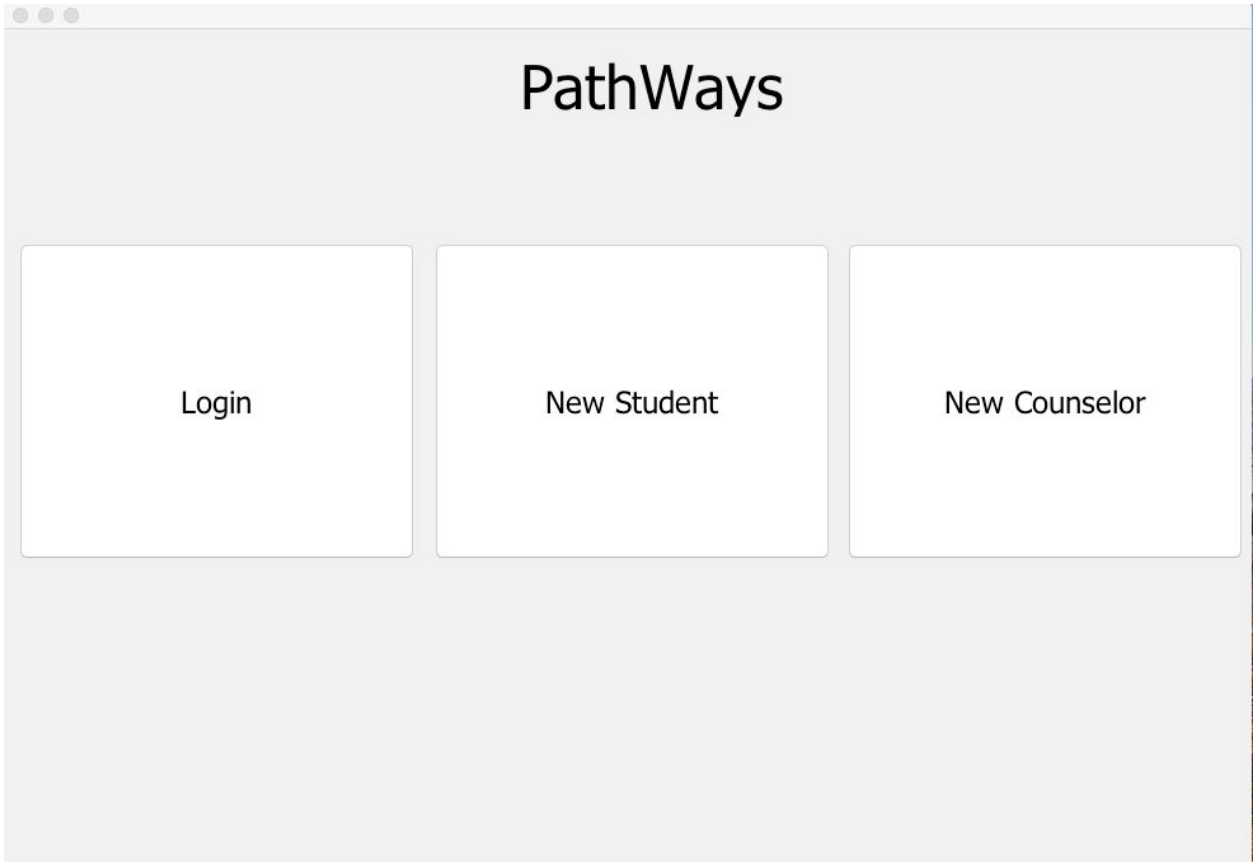

PathWays
Will Smith
g08100
willys@hotmail.com
Term 1 0.0
Term 2 4.0
Term 3 0.0
___ 0.0/0.0
CIS007 Python Programming 3.0/1.0
COURSE CIS007
Term 2
Row 2
Info
All Classes
blank, cis007, cis008, cis037a, cis040, cis043, cis044, cis045,
math903, math00c, math002, math003a, math003b, egr010, egr023,
egr024, egr030, eng905ac, eng908, eng001a, eng001b, hed002, phy002a,
phy004a, phy004b, his004a, his004b, his015, his015h, his017a, his017b,
his020, his031, rea054, rea961, art001a, art001b, art001d, art031a, art031b,
art033a, art033b, art034a, art034b, art035a, art035B, art035c,art035d,art049a,
art049b, art049c, art049d, art065a, art065b, art065c, art065d , art067a, art067b,
art067c, art067d, art075a, com001, com001h,com004,com008, com012, com020, com020h,
com025, ecn001a, ecn001b, ecn006, phi001, phi002, phi003, phi005

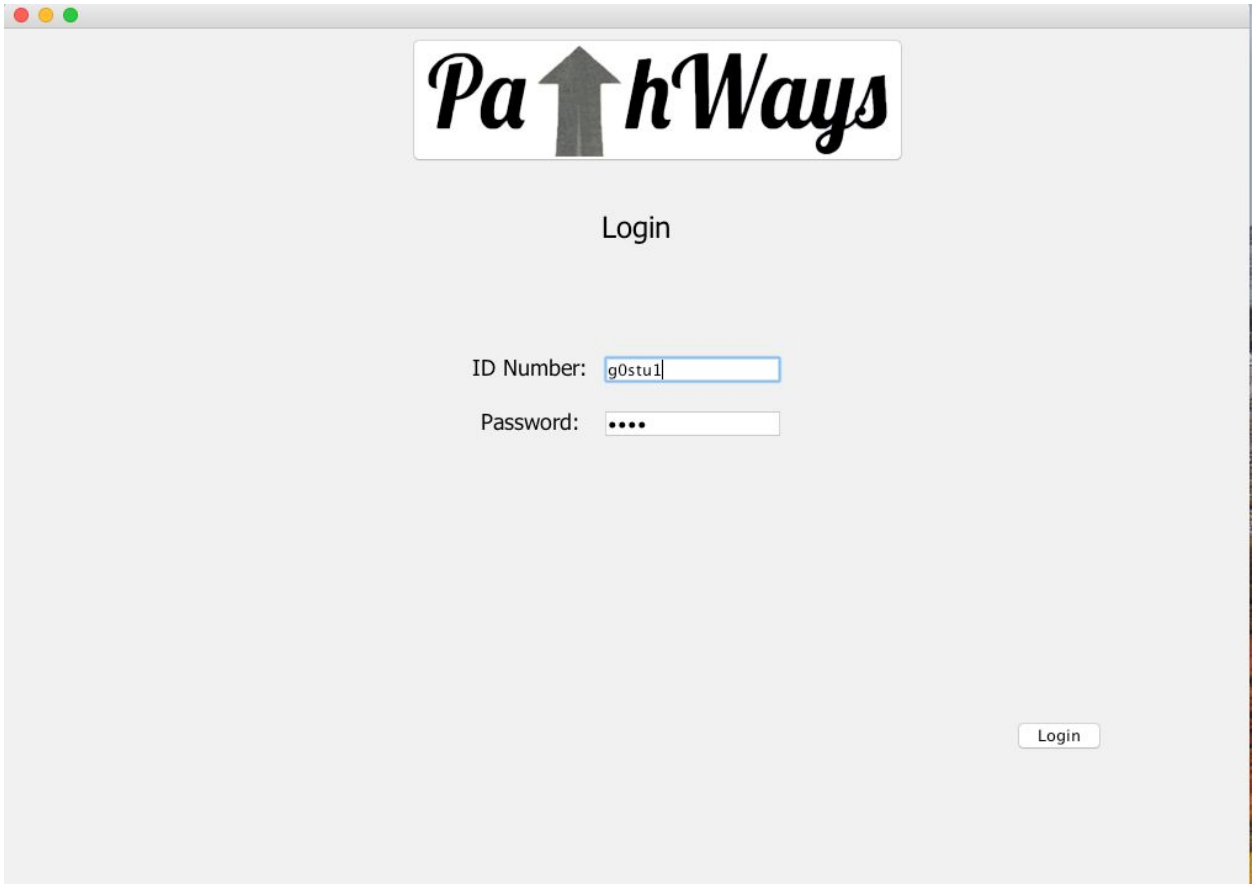


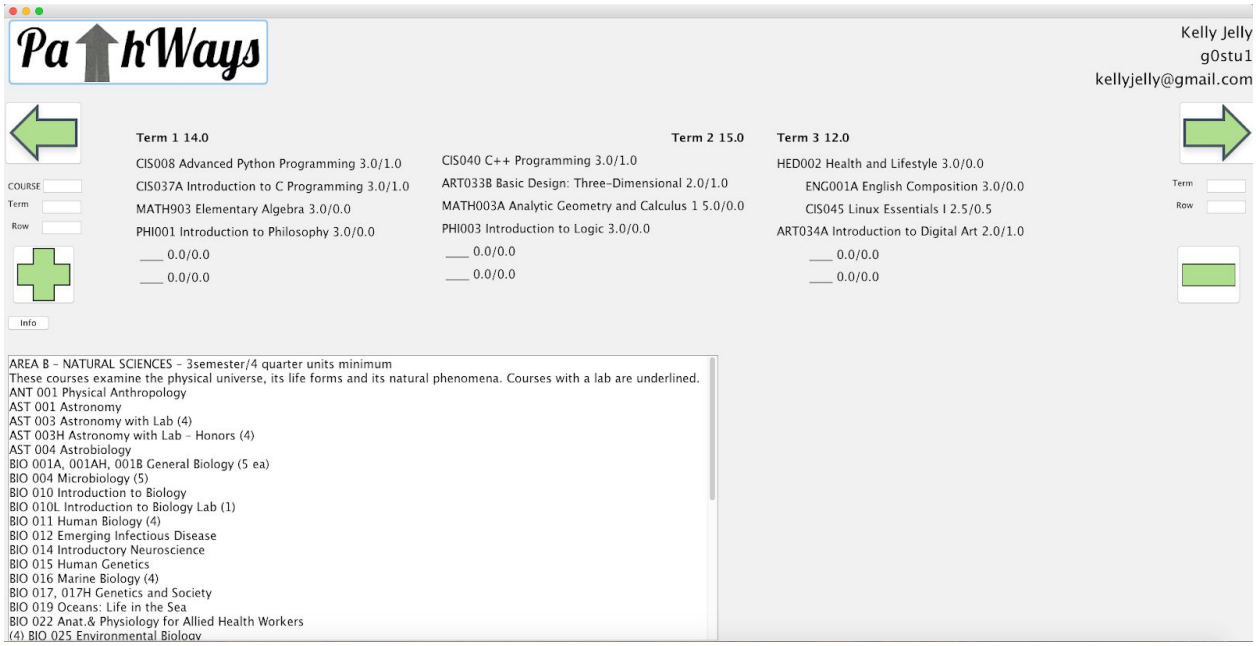

## Test 2

There is a main screen with three bottoms that users can login or register. After the user login, the courses screen show up. You can type the course, term and row on the left side of the screen. Then, click the “add” sign to add courses. Also, you can type the term and row on the right side of the screen. Then, click the “subtract” sign to remove the courses.


Main Page
Login
New student
New counselor
registration
courses
Add
Subtract
Outcome


PathWays
Login
New Student
New Counselor


PathWays
Login
ID Number:
g0stu1
Password:
Login


PathWays
Kelly Jelly
g0stu1
kellyjelly@gmail.com
Term 1 14.0
CIS008 Advanced Python Programming 3.0/1.0
CIS037A Introduction to C Programming 3.0/1.0
MATH903 Elementary Algebra 3.0/0.0
PHI001 Introduction to Philosophy 3.0/0.0
___ 0.0/0.0
___ 0.0/0.0
Term 2 15.0
CIS040 C++ Programming 3.0/1.0
ART033B Basic Design: Three-Dimensional 2.0/1.0
MATH003A Analytic Geometry and Calculus 1 5.0/0.0
PHI003 Introduction to Logic 3.0/0.0
___ 0.0/0.0
___ 0.0/0.0
Term 3 12.0
HED002 Health and Lifestyle 3.0/0.0
ENG001A English Composition 3.0/0.0
CIS045 Linux Essentials I 2.5/0.5
ART034A Introduction to Digital Art 2.0/1.0
___ 0.0/0.0
___ 0.0/0.0
COURSE
Term
Row
Info
Term
Row
AREA B - NATURAL SCIENCES - 3semester/4 quarter units minimum
These courses examine the physical universe, its life forms and its natural phenomena. Courses with a lab are underlined.
ANT 001 Physical Anthropology
AST 001 Astronomy
AST 003 Astronomy with Lab (4)
AST 003H Astronomy with Lab - Honors (4)
AST 004 Astrobiology
BIO 001A, 001AH, 001B General Biology (5 ea)
BIO 004 Microbiology (5)
BIO 010 Introduction to Biology
BIO 010L Introduction to Biology Lab (1)
BIO 011 Human Biology (4)
BIO 012 Emerging Infectious Disease
BIO 014 Introductory Neuroscience
BIO 015 Human Genetics
BIO 016 Marine Biology (4)
BIO 017, 017H Genetics and Society
BIO 019 Oceans: Life in the Sea
BIO 022 Anat.& Physiology for Allied Health Workers
(4) BIO 025 Environmental Biology

# Conclusion

Our app is for any student who wants to keep track of their pathway to success. Also our app is for counselors who want to see what their students schedule is like so they can help them improve on it. This app will help guide the user through college to make it to a better life in the end. It is simple and fast so that anyone who has never used our app can use it immediately. In the future we would like to publish this app so that everyone who wants to use can use it on Android and Apple phones. In conclusion, we want to thank our professor and the class for being so good.