1. Writing a program that uses an array of classes to store file data

In this example using classes, we will define a different class for Students and write a
Java GUI application that can read student data from the form and create and use an
instance of the Student class.

a. Start by **creating a Java GUI application** and name it something like TestStudent2.
Then for that project,
      create a new jFrameForm to get the GUI window and
          put it into **package teststudent2**, and
          set the GUI to be the main class of the project.

b. Create a Student class: In the left pane of NetBeans, find the TestStudent2 project
and right click on the top line that says TestStudent2. In the menu, select New -> Java
class. In the new class window:
      give the **class name** as Student
      select the **package** of the class to be teststudent2

c. Copy the data file

From the web page, copy the file students.txt to the project folder for TestStudent2

d. Write the Student class.
Use the following code for the Student class (be sure and get the toString method from
the top of the next page):

```
// fields for Student
   //   name, gender (either M or F), age in years, height in inches
   private String studentname;
   private String gender;
   private int age;
   private int height;

   // Constructor gives an initial value to all fields
   public Student(String startname, String startgender,
        int startage, int startheight)
   {
      studentname = startname;
      gender = startgender;
      age = startage;
      height = startheight;
   }
```

```
        // no accessor methods so far

        // display all field values in a String
        public String toString()
        {
           String result = "Student: " + studentname + ", gender: " + gender
               + ", age: " + age + ", height(inches): " + height;
           return result;
        }
```

As usual, correct any issues with spacing and curly brackets.

e. Create the form interface.

On the form, we will have a button to read the file and save the data. Then add a button and label for the result. The form can look something like this:

|__ Read Student File__| File Status   (button and label)

    |___Display Students___| (button)
              Results: (label)

For each button, select Event -> action -> actionPerformed.

f. Copy the code for each button from the FileCandy2 code on the web page.
Be sure to change the following things in the global variables:
       Instead of the class CandySales, we have Student
       Change the name of the array to students and the number to numstudents.

In the first button to read the file:
       Change the variables to read from the file to have a variable for name, gender, age and height
       Add another if statement to read 4 items from each line, instead of 3
       Create a Student object instead of a CandySales object
       Change the array and numstudent variables names to save each Student.

In the second button to display the students:
       Change the array and numstudent variables names.
       Use an variable of type Student for each array element

g. Test your program.