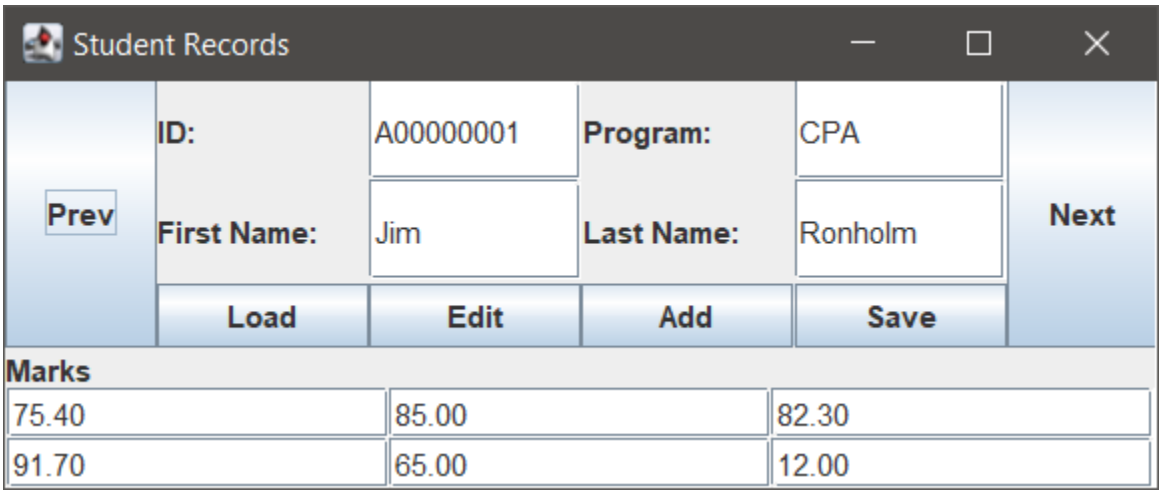
Assignment 1 - GUI

F2020

Student Records

Create the following GUI design. It will form the basis for future assignments.



The form is used to display `Student` records. The `Student` class is provided for you as well as a few other files and documentation.

Your design must have all of the above elements – but you can modify the arrangement.

The GUI does NOT have to respond to events yet – just build it so it can be displayed.

In a later project the form will

a. Iterate forward and backward through a collection of `Student` records when the `Prev`/`Next` buttons are clicked
b. Load a `student` collection when the `Load` button is pressed
c. Allow the form data to be edited when the `Edit` button is pressed (in the future project the `JTextFields` will not allow editing unless the `Edit` button gets pressed)
d. Add a new `Student` record when the `Add` button is pressed
e. Save the `Student` records to disk when the `Save` button is pressed

You will be able to use the instructor solution as your starting point for Assignment 2.

Design Notes

This is a fairly complicated design. Here are some notes concerning how your instructor built it. Also see the JavaDoc files that are included.

`StudentFrame`

a. Extends `JFrame`
b. Retains the default `BorderLayout`
c. The `Prev`/`Next` `JButtons` are added to the `West`/`East` areas

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d. A new `JPanel` is created to contain two other `JPanels` that will hold the student fields and action buttons (green).
   - The `JPanel` uses a `BorderLayout` (default is `FlowLayout` so you will have to change this)
   - This `JPanel` is added to the `Center` area of the `StudentFrame`

e. A new `JPanel` is created to contain the student fields like name and ID
   - The `JPanel` uses a 2x4 `GridLayout` (red)
   - This `JPanel` is added to the `Center` of the `JPanel` described in point d)

f. A new `JPanel` is created to contain the action buttons (`Load`/`Edit`/`Add`/`Save`) (blue)
   - The `JPanel` uses a 1x4 `GridLayout`
   - This `JPanel` is added to the South of the `JPanel` described in Point d)

g. A new instance of the `MarksPanel` is added to the `South` of the `StudentFrame` (purple)

`MarksPanel`

a. Extends `JPanel`
b. Uses a `BorderLayout`
c. The "Marks" `JLabel` is added directly to the `North` of the `JPanel`
d. There is an array of `JTextField` objects to contain the `marks`
e. A new `JPanel` is created to contain the `JTextFields` for the marks (pink)
   a. Uses a 2x3 `GridLayout`
   b. Is added to the `Center` of the `MarksPanel`
f. `setMarks()` method places an array of double into the `JTextFields`

In this drawing the coloured rectangles correspond to all the `JPanels` described above.

The full source code for `Student` and `StudentRecords` (the executable file) have been provided for you.

The Javadoc for the entire project has been supplied as well – unzip and double click on the Package-Summary file.