COP3503 Project 4 – Dietary Survey Form

Objectives:
- Show an understanding of how to
  - Create and layout graphical user interface components
  - Use events to create a dynamic and responsive interface
  - Read UML diagrams and implement the classes and methods outlined in the diagram

Submission Requirements:
- Submit your project via the Canvas course
  - Upload a zip file containing your 3 class files specified below
  - The zip file should be named Project4_N#.zip
    - For Example: Project3_N00123456.zip
- Project requires 1 zip file to be submitted

Design Specification Requirements: 100 points

Use the Project 4 UML Diagram as an outline for the project.
1. You will need to create 3 java files (As outlined in the UML diagram). Project4, FileHandler, CustomJFRame
2. Project 4 will contain the main method were the CustomJFrame will be initialized and displayed
3. FileHandler will contain 2 methods. The constructor FileHandler() and writeResults(String surveyData)
   a. FileHandler() constructor needs to create a csv file called survey_results.csv and create a header for the csv file
      i. Header:
         1. DateTime,FirstName,LastName,PhoneNumber,Email,Sex,Water,Meals,Wheat,Sugar,Dairy,Miles,Weight
      ii. See example in the survey_results_EXAMPLE.csv
   b. writeResults(String surveyData) needs to append the surveyData string to the survey_results.csv file
      i. This method will be similar to the logger method for project 3
4. CustomJFrame will contain the constructor method CustomJFrame() and 1 inner class InnerActionListener.
   a. CustomJFrame() needs to initialize all the class variable components, configure them properly, and then add them to the frame using a layout manager
      i. GridBagLayout manager is recommended but not required
   b. InnerActionListener will contain 2 methods. actionPerformed() and clearForm()
      i. actionPerformed() needs to clear the data of the form and if the submit button was pressed the data needs to be captured and written to the csv file
         1. The submitted data needs to be written to the survey_results.csv file using the FileHandler writeResults() method
         2. The submit and clear buttons both need to register this action listener
      ii. clearForm() needs to reset all fields to their default values

Note: Refer to the Project4_GUI screenshot file for an example of the needed GUI layout. Also, refer to survey_results_EXAMPLE.csv file to see the required format for the output csv file.

Minimum Requirement: -100 points

- All graphic components shown in the example GUI for Project 4 must be present and formatted in a logical manner

Additional Notes:

- The user should be able to hit submit or clear at any time without the program crashing
  - Even if they have not filled out any fields
  - See last row in example csv for an example of a submission with not data
- The CustomJFrame constructor should also initialize the FileHandler object
- Only one radio button should be selectable at a time
- **JSpinner configuration: min = 0 , max = 50, step = 1, default = 15**
- **JSlider configuration: min = 0, max = 10, default = 3**
- **JComboBox Options: Less than 1 Mile, More than 1 mile but less than 2 miles, More than 2 miles but less than 3 miles, More than 3 miles**
  - **Default = Less than 1 Mile**
- JFormattedTextField should only accept numeric values
  - This is the only input verification required for the project
- Your GUI does not need to match the example GUI format exactly, however, all components must be present and displayed in an aesthetically pleasing manner
- The format of your output file must match the format of the survey_results_EXAMPLE.csv file
- No console output is required for this project
- The FileHandler constructor should overwrite any existing file
- The writeResults method should append to the output file. It should not overwrite the existing data
- All input and output streams must be closed properly
- All input and output streams must be surrounded by a try catch
- The CustomJFrame class needs to inherit from the JFrame class
- The InnerActionListener needs to implement the ActionListener interface
- The submit button should also clear the form after the data has been submitted
- Follow the commenting and programming guidelines outlined in the Commenting and Programming guide documents
  - **Failure to do so will result in up to a 25-point reduction**

Example GUI:

UML Diagram:

Project4
+ main(args : String[]) : void

JFrame

«interface»
ActionListener

FileHandler
- surveyFile : String
- fileOutput : FileWriter
- printWriter : PrintWriter

+ FileHandler()
+ writeResults(surveyData:String) : void

CustomJFrame
- headingLabel : JLabel
- firstNameLabel : JLabel
- lastNameLabel : JLabel
- phoneNumberLabel : JLabel
- emailLabel : JLabel
- dietaryLabel : JLabel
- genderLabel : JLabel
- waterLabel : JLabel
- mealsLabel : JLabel
- checkBoxLabel : JLabel
- walkLabel : JLabel
- weightLabel : JLabel
- firstNameTextField : JTextField
- lastNameTextField : JTextField
- phoneNumberTextField : JTextField
- emailTextField : JTextField
- maleRadioButton : JRadioButton
- femaleRadioButton : JRadioButton
- preferRadioButton : JRadioButton
- radioButtonGroup : ButtonGroup
- waterIntakeSpinner : JSpinner
- mealSlider : JSlider
- wheatCheckBox : JCheckBox
- sugarCheckBox : JCheckBox
- dairyCheckBox : JCheckBox
- walkComboBox : JComboBox
- walkOptions : String[]
- weightFormattedTextField : JFormattedTextField
- clearButton : JButton
- submitButton : JButton
- fileHandler : FileHandler

+ CustomJFrame()

InnerActionListener
+ actionPerformed(e : ActionEvent) : void
- clearForm() : void