CS 2410 – Spring 2018
Assignment #4

Introduction

The purpose of this assignment is to get experience:

- Using basic GUI components
  - Stage
  - Scene
  - Pane
  - Button
  - ImageViewer
  - Image
  - Text
- Using Event Handlers
- Using File I/O
- Using images from the web
- Using an ArrayList object

Tasks

Create one project for this assignment. There is a single task to complete.

In order to receive full credit your code must follow appropriate class conventions (-5 pts if not followed)

Task – Image Viewer (100 points)

You want to create a simple viewer to view and store your favorite images from the web. Your viewer will have the following features.

- (5 pts) Read a file that lists URLs of images
  - Store it in a folder called 'data'
  - Name the file images.data
  - Each line is of the format
    - <URL> <Title of the picture>
    - There's a space between those items
  - Getting URLs
    - Right click on an image in your web browser (no inappropriate images!)
    - Choose "Copy Image Address" (or something like that)
    - Paste the address into the address bar of your browser to test
    - You should see only the image
    - If that works, then you can use this for your data file
- (5 pts) Use an ArrayList to manage the URL/Titles inside your program
- (20 pts) Display a single image in the viewer
  - Scale the image appropriately
  - Maintain the original aspect ratio
  - Every image should fit in the same size area in your application
  - Don't worry about small images being off-center.
  - The title of the image should show above the picture
- (15 pts) Implement 'next' and 'previous' buttons to cycle through images
  - The next image after the last image is the first image
- (15 pts) Implement an 'add' feature
  - Use a Dialog to get a URL from the user
  - Use a Dialog to get a Title from the user
  - Insert the image info in the list

        - The added image should be displayed
        - The image that was being shown should now be the previous
- (15 pts) Implement a 'delete' feature
    - Remove the current image
    - Show the next available image
    - If all images are removed:
        - Show a "No Image" message
        - Disable all buttons except the 'add' button
        - (Enable all buttons when a new image is added to the empty list)
- (5 pts) Prior to the program closing
    - Save the URL/Title list to the file
- (5 pts) The main window should behave as expected
    - Close properly (meaning the program exits) when the window is closed
    - Window should not resize
- (15 pts) Structure
    - You should have at least three packages with associated class files. One for the view/user interface, one that interacts/manages the data (the controller), and one that represents the data (the model).
    - The controller package should contain class/classes that do things such as:
        - Methods that are called by the user interface (the other class)
            - nextImage
            - prevImage
            - addImage
            - delImage
            - quit
        - Each method (except quit) should return an Image object for the view to display
    - The model package should contain class/classes that do things such as:
        - Provide a single image data object model
        - A class that
            - Reads in the file
            - Manages data in an ArrayList
            - Writes out the file
    - Note: This should be forcing you to think about how your program is organized.

You can assume that the users will always enter a valid URL. See the example run of the program posted to Canvas. Your program should be similar, although you may format it how you see fit. It should look organized.

What/How To Turn In

Submit your files on Canvas according to class conventions.

Due: February 16, 2018