CISC 110 Assignment 2

In this assignment, you will create an Hourly Wage Calculator App. There are several input text fields, an output text field, one button, and an animation. The user types their yearly income and information about time worked (details below) in the input text fields and then presses the button. When the button is pressed, the app reads the information from the input text fields and calculates the user's total hours worked in the year, and their hourly wage. As well, it jumps to a second frame on the timeline, where it displays the number of hours worked that year, the hourly wage, and the message "Time to go on vacation!". Below that message, it plays a vacation scene animation that you design and create. Think of something you like to do on vacation and create a scene of that.

The following information, read from the user via input text fields and stored in variables, is used to calculate the total hours worked in a year :
- Number of weeks worked during the year
- Number of days worked per week (we are assuming the same number each week)
- Number of hours worked per day (we are assuming the same number each day)

As you do this assignment, remember to save your work after each step, and also to save your work periodically in separate files: multiple versions of both your .fla and your .as files, so you can easily return to any stage if you run into problems. For instance, you might have files called "A2V1.fla", "A2V1.as", "A2V2.fla", and "A2V2.as", as well as the files you're editing, which are "Assign2.fla" and "Assign2.as".

Design your work in small steps and test and save your program after each step. Design steps such that your program is closer to fulfilling the criteria at each step. At an intermediary step, your result values might be purposely incorrect, a simplified calculation, for instance, that you are using while you get something else working. It is generally a good design strategy to first create a simplified version of an application and then to gradually add features. That is what you are doing in each lab: first creating a simplified version of your assignment.

Below are the main steps for your assignment. You decide the intermediary steps. For help figuring out what you need to do, look at Case Study 2, page 75 of your text, and at the Wk3TempConverter example under "ActionScript & Flash Examples" in the Lecture Schedule on our web page. That is a completed version of the example done in class.

1. In the lab, create a simplified version that only has one input text field, the button, and the output text field. For details, see the `Lab 2` instructions.

2. Design your app, following the design process shown in class and in Case Study 2, page 75 of your text. You will show the following to your TA as part of your mark: storyboard, Table of Data Objects including computations, Table of Visual Objects, and Timeline design. You will need:

a. Four input text fields for yearly income, weeks per work year, days per work week, and hours per work day

b. Four variables for input values, one for each of the input values read from the input text fields. Decide whether each of these should be Number (number with decimal portion), int (whole number), or uint (positive whole number).

c. Two variables for the computed values: one for the total hours worked in a year and one for the hourly wage. Again decide whether these are Number, int, or uint.

d. One dynamic text field in which to display the output.

e. Static text fields for the title and any labels for your other text fields.

3. Add the required additional input text fields to your `.fla` file, along with any labels, titles, background color, etc. you have incorporated in your GUI (graphical user interface) design - which should all be indicated on your storyboard. Read the values from the input text fields into your variables. Calculate the total hours worked in a year and use that to calculate the wage per hour. Display the total hours worked in the year and the wage per hour, along with explanatory comments. In other words label your output; don't just display the numbers.

4. Create your vacation animation - a scene of something you like to do on vacation. It can be any scene you like as long as you include at least two motion tweens of instances of two different Movie Clips, and you import a bitmap file that you use as a background. You may add anything else you like. Import the bitmap file to your library and then drag it onto the stage and resize it to fit. The bitmap could be a photograph that you or someone else has taken, or it could be artwork that you've created and then photographed or scanned. If you use an image that is not your own (from the web or elsewhere), you must include an extra "Credits" frame as the first frame in your movie to avoid plagiarism (similar to including a reference list of sources when you write an essay). You don't have to play this frame as part of your movie; you can just show it to your TA. You must also follow copyright regulations. An easy way to obtain images that you may use in your work is to choose ones that have a "Creative Commons" license or are in the public domain. Here is the Creative Commons website: http://creativecommons.org Under "Explore", select "Find CC-Licensed Works". Enter your search criteria, deselect "use for commercial purposes" and then select where you want to search, for instance in Google Images.

5. Once your app is working the way you'd like, publish it and upload it to the CISC 110 web space. You need to upload two files: your .swf and .html files. Do not upload your .fla or .as files.

Assignment 2 Marking Scheme (2% of final mark)

Marked out of 10:

2 marks: Design process document (can be hand-written) with storyboard, Table of Data Objects including computations, Table of Visual Objects, and Timeline design. A problem description is not required, since the assignment description gives that.

2 marks: Reads input from text fields for weeks per work year, days per work week, and hours per work day and stores that information in variables

1 mark: Calculates the total hours worked in the year and the hourly wage correctly

1 mark: Displays the total hours worked in the year and the hourly wage in a text field, along with explanatory comments

2 marks: Plays a vacation animation that contains at least two motion tweens of two different Movie Clips (not just two instances of one Movie Clip).

1 mark: Uses an imported bitmap file as a background for the animation

1 mark: Assignment 2 is published and uploaded on the CISC 110 website (`.swf` and `.html` files).