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Reference Guide for GUI Calculator

<https://www.youtube.com/watch?v=mDxEGtMNPtA>

This video explains formatting and designing a guide program from start to finish. Includes changing font (size and design as well as color). It also includes editing actions that a button can take and how to jump back and forth between editing that and changing formatting.

<https://www.youtube.com/watch?v=5o3fMLPY7qY>

watched this video first as a refresher since I haven’t worked with GUI in a while. This allowed me to pick up the essentials on how to create the project and get to the design page with all the options that let you drag in buttons and panes.

<https://docs.oracle.com/javase/7/docs/api/javax/script/ScriptEngine.html>

Describes the different methods within ScriptEngine and give reference to which things are needed to get the method to run.

**Pseudo Code**

Method-buttonplusAction

First expression += next expression

Set expression = expression

Method-read and evaluate

ScriptManager

Total = (double) evaluate expression through script manager

Method-clear calculator

Set expression= blank

Main method

Run calculator()

Reference Guide for Reverse Number Guess

<https://docs.python.org/3/library/random.html>

Reference guide for the random number class of python. Used to produce the computers first guess of what my number is. Spits out random integer (when specified) between a desired min and max.

<https://www.geeksforgeeks.org/python-creating-a-button-in-tkinter/>

Used for creating buttons in the GUI.

**Pseudo Code**

Method-getEntry

Create variable for computer guess, user number

Secret number = user input

Guess= random between 1-100

Ask user if guess matches input

Run program //recursive statement allows user to choose if number is higher, lower or correct

Method-lower

Make the max = previous guess

Guess = (int) (guess + min)/2 //decreases possible choices. Add previous guess to minimum pick the number in the middle

Ask user if guess matches input

Run program //recursive statement allows user to choose if number is higher, lower or correct

Method-higher

Make the min = previous guess

Guess = (int) (guess + max)/2 //decreases possible choices. Add previous guess to max pick the number in the middle

Ask user if guess matches input

Run program //recursive statement allows user to choose if number is higher, lower or correct

Method- is correct

Returns an exit statement

Allows user to input a new number and continue

**Reflection**

This assignment was not difficult because of having to code in different languages and get used to them quickly. It was made much easier by the fact that we were instructed to research and gather materials on how we would code our assignments before even starting. After gathering these materials, the assignment proved less difficult as we knew where each part of the assignment could be found just by jumping back and forth between the resources. The pseudo code was also a great help. Usually, I do not write pseudo code, but I do usually spend days thinking about how I will code an assignment before I sit down and get working on it. This forces me to put my ideas on paper and revise them as I progressed instead of coming up with a ton of ideas and then just working on whichever one I could remember at the time. In addition, putting the pseudo code on paper allows you to start thinking about an approach and jump back to research to find more ways of approaching or enhancing that method before committing to certain techniques or methods.