

CMPE1300 – ICA 6

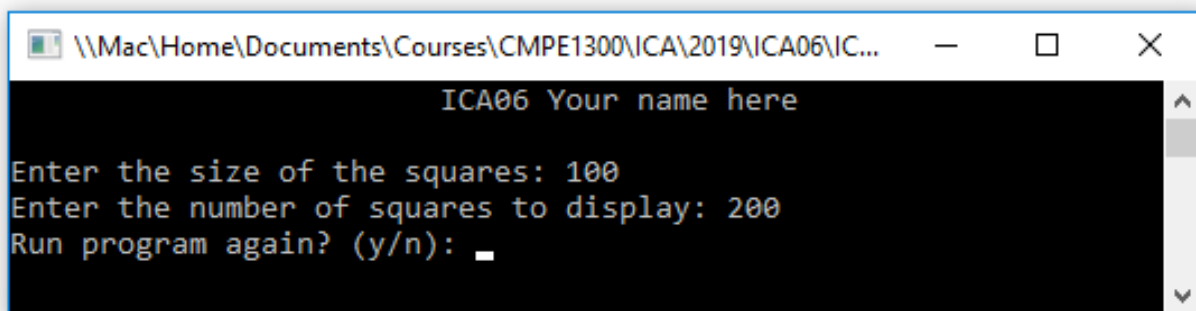
In this assignment, you will write a program that will use while loops to draw a centered squares at random locations in the GDIDrawer window. Your program will ensure that the squares are always fully displayed in the drawer window.

Your solution will perform the following operations:

1. Display a title for the program consisting of your name and the assignment number.
2. Create a GDIDrawer window with a width of a standard size (800 x 600 pixels).
3. Input the size of one side of the square as an integer value, checking to ensure that the value is a valid int and within the range of 10 to 200 inclusive. If an invalid integer, or an out of range value, is input the program will display an error message and use a while loop to perform the input operation again. The message for invalid input and out-of-range value must be different
4. Input the number of squares to draw as an integer value, checking to ensure that the value is a valid int and is greater than zero. If an invalid integer or an out of range value is input the program will display an error message and use a while loop to perform the input operation again. Again, the message for invalid input and out-of-range input must be different.
5. Using a while loop, draw the number of squares using the size in random colors (use `RandColor.GetColor()`) at random locations in the GDIDrawer window. **Ensure that all of the squares are fully displayed in the drawer.**
6. Using a do-while loop, repeat the program if the user enters 'y' or 'Y'. Clear the Console window and the GDIDrawer window.

Write the pseudocode for your program before you write the program. Show your pseudocode to your instructor and submit the pseudocode as comments in your program.

Your program must be commented and use descriptive variable names before it will be accepted.

A screenshot of a console window titled "\\Mac\\Home\\Documents\\Courses\\CMPE1300\\ICA\\2019\\ICA06\\IC...". The window has standard macOS window controls (minimize, maximize, close). The console output is as follows:

```
ICA06 Your name here
Enter the size of the squares: 100
Enter the number of squares to display: 200
Run program again? (y/n): _
```



Rubric- Max marks: 30

Item	Max Marks	Penalty
Display of Title- Centered	1	
GDI Drawer Window created as required	1	
Input of square size + validation	4	Validation missing: -2 Not used different messages for invalid input and out of range input: -1
Input number of square + validation	4	Validation missing: -2 Not used different messages for invalid input and out of range input: -1
Drawing Squares at random locations and of random colors	9	Squares partially drawn within window: -3
Do..While loop for program to continue	3	
Documentation (Programmer block, comments, proper variable names, indentation, spacing between blocks of Code)	5	
Improper Pseudocode		-5