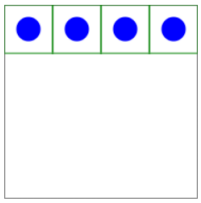
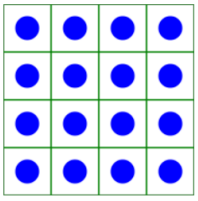
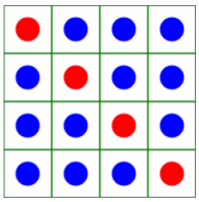
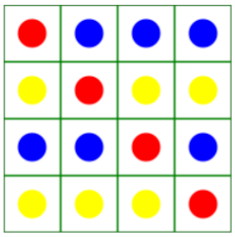
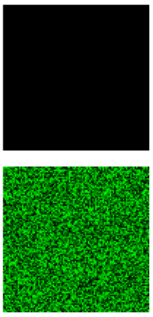
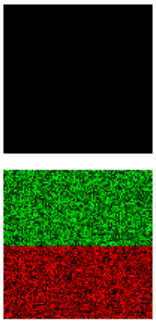
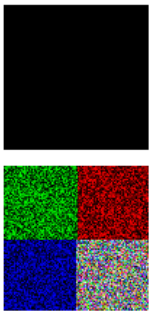
CS128 – Homework #7 Nested Loops Spring 2022

Task 1a Use a nested loop to produce the 5 lines of output shown.	1 2 2 3 3 3 4 4 4 4 5 5 5 5 5
Task1b Use a nested loop to produce the 5 lines of output shown.	1 1 2 1 2 3 1 2 3 4 1 2 3 4 5
Task1c Use a nested loop to produce the 5 lines of output shown.	1 2 4 3 6 9 4 8 12 16 5 10 15 20 25

Task 2a Run the code in task2a. It creates a canvas to draw 1 row of 4 framed green rectangles. Update the loop to draw blue circles within each green rectangle as shown. The radius of each circle is ¼ the size of the rectangle.	
Task2b Copy the code from task2a into task2b. Add a nested loop to draw 4 rows as shown.	
Task2c Copy the code from task2b into task2c. Color the circles along the diagonal red.	
Task2d Copy the code from task2c into task2d. The circles along the diagonal should remain red. For circles that are not along the diagonal, alternate the colors in each row between blue and yellow as shown.	

Task 3a The starter code creates a 100x100 image with all pixels set to the default color of black. Use a nested loop to set the color of each pixel. The green should be a random value between 0 and 255, while the red and blue should be 0.	
Task3b Copy the code from task3a into task3b. Update the code to set the green to a random value between 0 and 255 in the top half of the image (blue and red are 0), and set the red to a random value between 0 and 255 in the bottom half (green and blue are 0).	
Task3c Copy the code from task3b into task3b. Update the code to set: • green to a random value in the top left quadrant • red to a random value in the top right quadrant • blue to a random value in the bottom left quadrant • red, green, and blue to random values in the bottom right quadrant	

SUBMIT TO CANVAS

Submit hw7.ipynb. Save your notebook. Select File/Download As/Notebook.

Submit hw7.pdf. Select File/Print Preview. Right click/Print/Save as pdf.