day25 turtle
Due: Wednesday 10/18/23

Today we'll use Python's turtle to do more things. If you did not do Monday's turtle intro assignment yet, you should do that first.

Today, use turtle to do the following:

1. Put "from turtle import *", and "import random" and "speed(0)" lines at the top of your program.

2. Create a list variable "c" and put five or more colors into it. The colors have to be in quotes like this:

    ```
    c = ["pink","yellow","green","blue","red"]
    ```

3. Create a for loop that repeats 100 times. Go to random locations and draw dots of random sizes that are random colors. Use random.choice() with the color list c to pick the random color. Use random.randint(-350,350) for the x location and random.randint(-300,300)for the y location and a goto command before drawing each dot. Make the dots from 20 to 50 in size. Do not draw lines between the dots (you'll need to do penup() before each goto command and then pendown() after. Look at our example programs from Monday for help with this.

4. Do a penup() command, then go to the center (0,0) using the goto command. Make a plus sign that has arms that are 50 units wide and then write your name in it. Set the pen width to be 4. Set the colors to "black" and "white". You will have to use the color() command, plus begin_fill() and end_fill() to do this. Draw the plus sign using forward() and right() and left() commands. Write your name in the middle like I have done. Use a font size that is readable and fits nicely. Use penup() to move to an appropriate position then write your name so that it fits nicely in the plus sign. You'll just have to use trial and error to figure out where to use the write call. It should look like this to the right but feature your name, not mine.

5. Make another plus sign that has sides that are 4 thick and that uses two colors and is filled and does not overlap your other plus sign. Use your own colors, but it should look something like this to the right. You will have to use the color() command, plus begin_fill() and end_fill() to do this. See the summary of commands at the end of this PDF for examples.

6. Do one other thing that you design yourself. Leave me a comment in your program describing what this last thing is so that I can find it in your drawing.

List of commands on the next page.

A helpful short list of turtle commands:

```
forward(distance)
backward(distance)
right(degrees)
left(degrees)
dot(size)          you can make dots larger by including a number, or leave
                   blank
circle(r)          r is the radius of the circle
penup()            lifts up the imaginary pen that the turtle draws with
pendown()          puts the pen back down so you can draw
home()             goes back to the center of the screen
speed(n)           1 (slow) to 10 (faster), or 0, which makes turtle go the
                   fastest
pensize(n)         sets line thickness
color("red")       or pink, or blue, yellow, etc.
color("c1","c2")   giving two colors makes one the line and one the fill
begin_fill()       say begin_fill(), then do a bunch of stuff that includes
                   overlapping lines, then when you are done, do
                   "end_fill()" to fill areas with color
end_fill()
goto(x,y)          Goes to the location (x,y) on the drawing board
write("text")      writes text on the screen. You can set the font using a
                   call like this: write("Mr. Hays",font=("Times New
                   Roman", 18, "normal"))
bgcolor("color")   Sets the whole window background color
```