

Scratch Loop Graphics

Name: _____ Period: _____

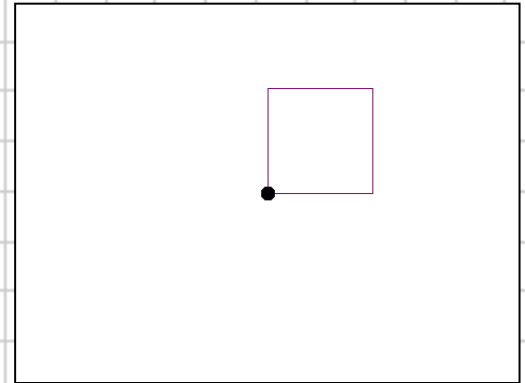
Pen Interlude

On the class website for today there will be a file: **pen.sb**. Save this file to your Scratch folder. Open the file up. In it you will find a small dot as your one sprite and a blank background.

1. Create the following script for your Sprite. The *Pen Down* statement can be found under the *Pen* button on the *Blocks Palette*. Draw what happens when you run this script:



2. Write a script to draw a square like the one to the right. Hint: you need to move, then turn - how many degrees is each angle in the square? How many times do you do that sequence (move, then turn).



3. Does your square always start in the center of the screen? If you moved your sprite with the mouse, then ran the script with the Green Flag button, does the square start in the center?
4. Add the following **initialization statements** to the beginning of your script (under the green flag tab)
 - clear (it's under the Pen button).
 - set the pen color to a color you particularly like (also under the Pen Button)
 - set the initial location of the sprite to 0, 0 (it's under the motion button)
 - point in direction 90 (right) (it's under the motion button)

Loop Statements

5. Look at your script. Are there any statements (like say... the ones right) that are repeated more than once?



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6. Change your script to use a *repeat* control statement to eliminate the duplicated statements. Change the number in the white area in the repeat statement to the following and draw what you see (including the final position of the sprite)

Number	What you see after you run
0	
1	
2	
3	
4	
5	
6	
7	
8	

7. Scavenger hunt: There is a statement somewhere that will allow you to change the pen color by a certain amount that you can specify. Find that statement. Under what button in the Blocks Palette is it?

Add this statement inside your loop and set the number in the white area to some value. By default it is set to 10, but you can change that. Run your program. What happens? Are all sides of the square still the same color?

Save your file as pen.sb in your Scratch folder! And show it for sign off.

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8. **Fill in the Table:** Try modifying the angle and the number of times the loop executes. Fill in this table with the right values for the various shapes.

Shape	Angle	Repeat	Angle * Repeat
Triangle			
Square	90	4	360
Pentagon			
Hexagon			
Octagon			
Bonus: circle!			

Turn in this page when you are done for Grading. Thanks