

Use nested for-loops to have the turtle draw a snowflake of polygons. Use the variable turnAmount to turn after each shape and the variable n for the sides of the polygon.

To make the drawing faster, you can call the World or Turtle object's setSpeed method with a 0-100 delay value where 0 is the fastest. If the code below does not work in your browser, you can copy the code into this [replit link](#) (refresh page after forking and if it gets stuck) or download the files [here](#) to use in your own IDE.

Save & Run

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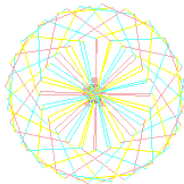
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Pair?

```
1//Code by Akshat Garg
2import java.awt.*;
3import java.util.*;
4
5public class TurtleSnowflakes
6{
7    public static void main(String[] args)
8    {
9        World world = new World(300, 300);
10        Turtle yertle = new Turtle(world);
11        yertle.setSpeed(5); // fast 0 - 100 slow
12
13        // Use this variable in the loops
14        int turnAmount = 15;
15        int n = 5;
16        for (int i = 0; i < (360 / turnAmount); i++){
17            for (int j = 0; j < n; j++) {
18                if ((j+1)%3==0){
19                    yertle.setColor(Color.pink);
20                } else if ((j+1)%3==1){
21                    yertle.setColor(Color.yellow);
22                } else {
23                    yertle.setColor(Color.cyan);
24                }
25                yertle.forward(50);
26                yertle.turn(360 / n);
27            }
28            yertle.turn(turnAmount);
29        }
30        world.show(true);
31    }
32}
33
34
```



Result	Expected	Actual	Notes
Pass	2	2	2 For loops (nested)
Pass	true	true	Checking that code contains if statement to change colors
Pass	1 forward(...)	1 forward(...)	Should only need forward() once
Pass	2 turn(...)	2 turn(...)	Should only need turn(...) twice
Pass	true	true	Checking that code contains Calculates number of iterations using turnAmount

You got 5 out of 5 correct. 100.00%

Activity: 4.4.2.1 ActiveCode (challenge4-4-Turtle-Nested-Loop-Snowflakes)

4-5-6: How many times does the following code print a *?

```

for (int i = 3; i < 8; i++)
{
    for (int y = 1; y < 5; y++)
    {
        System.out.print("*");
    }
    System.out.println();
}

```

☐ A. 40
☒ B. 20
☐ C. 24
☐ D. 30

Check Me Compare me

✓ The outer loop executes $7-3+1=5$ times and the inner $4-1+1=4$ so this will print $5 * 4 = 20$ stars.

Activity: 4.5.3.1 Multiple Choice (q/n_0_1)

4-5-7: What does the following code print?

```

for (int i = 2; i < 8; i++)
{
    for (int y = 1; y <= 5; y++)
    {
        System.out.print("*");
    }
    System.out.println();
}

```

☐ A. A rectangle of 8 rows with 5 stars per row.
☐ B. A rectangle of 8 rows with 4 stars per row.
☒ C. A rectangle of 6 rows with 5 stars per row.
☐ D. A rectangle of 6 rows with 4 stars per row.

Check Me Compare me

✓ The outer loop executes $8-2+1=6$ times so there are 6 rows and the inner loop executes $5-1+1=5$ times so there are 5 columns.

Activity: 4.5.3.2 Multiple Choice (q/n_0_2)

4-5-8: What does the following print?

```

for (int i = 3; i <= 9; i++)
{
    for (int j = 6; j > 0; j--)
    {
        System.out.print("*");
    }
    System.out.println();
}

```

☐ A. A rectangle of 9 rows and 5 stars per row.
☐ B. A rectangle of 6 rows and 6 stars per row.
☐ C. A rectangle of 7 rows and 5 stars per row.
☒ D. A rectangle of 7 rows and 6 stars per row.

Check Me Compare me

✓ The outer loop executes $9-3+1=7$ times and the inner $6-1+1=6$ times.

Activity: 4.5.3.3 Multiple Choice (q/n_0_3)

4-5-9: Consider the following code segment. How many times is the string "Hi!" printed as a result of executing the code segment?

```

int i = 0;
while (i <= 4)
{
    for (int j = 0; j < 3; j++)
    {
        System.out.println("Hi!");
    }
    i++;
}

```

☒ A. 15
☐ B. 12
☐ C. 10
☐ D. 8

Check Me Compare me

✓ The outer loop executes $4-0+1=5$ times and the inner loop $2-0+1=3$, so hi is printed $5*3=15$ times

Activity: 4.5.3.4 Multiple Choice (q/n_4)

This activity was fun and made some cool designs. The inner loops are really cool to work through.