Task Four: Loops

Programmers often need to repeat an action over and over again. Instead of typing out a method multiple times, it is usually easier to use a loop. In this task, you will be using a for-loop. A for-loop runs for a specified number of times. For example, if you want to print “Hello” 10 times, you can use a for loop:

for(int i = 0; i<10; i++)

{

System.out.println(“Hello”);

}

Sometimes, it is useful to use nested for-loops. This is a way of saying a for-loop inside of a for-loop. For example, this for-loop:

for(int x = 0; x<5; x++)

{

for(int y = 0; y<5; y++)

{

System.out.print(“\*”);

}

System.out.println();

}

will print out:

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However, for-loops don’t just have to do an action a specific number of times. It is good to know that a for loop actually just needs a variable that is initialized, a condition that needs to be checked, and an iteration, or something that changes every time the loop is called (increasing or decreasing a number, etc.)

Task:

Your task is to use for loops to print out the designs below. It might be helpful to think about it before jumping into the code. Try to find patterns that you can use to find the algorithm needed.

Designs:

O X O X O X O X O

X O X O X O X O X

O X O X O X O X O

X O X O X O X O X

O X O X O X O X O

X O X O X O X O X

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Good luck, and remember to ask if you have any questions.