



Crash Course: Repetition Structures 4



ST. MARY'S HIGH SCHOOL



In this crash course

- Other special loops
 - Example 15
 - Example 16
- Summary



Other special loops

- This is bonus content merely for your interest
- It is meant to show you what else you can do with loops in Processing



Other special loops – Example 15

- You can actually have multiple initialization expressions and updating expressions in a for loop
- These additional statements should be separated by commas
- Imagine you have two variables: i and j
- i starts at 0 and increments one at a time
- j starts at 5 and decrements one at a time
- Write a program that prints asterisks (*) to the console while $i > j$



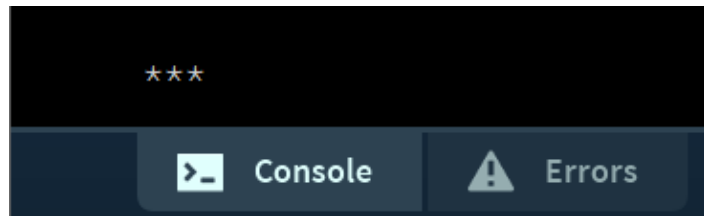
Other special loops – Example 15

Example15 | Processing 3.4



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```
Example15
1 //Example 15
2
3 for(int i = 0, j = 5; i < j; i++, j--)
4 {
5   print("*");
6 }
7
8 //Be careful with the punctuation here
9 //Note that you only have to write "int" once which takes care of both i and j
10 //Try going through the iterations on your own to see what's happening
11 //There are a total of three iterations
12
```





Other special loops – Example 16

- It's also possible to check more than one condition in your loop, similar to if statements
- Write a program that generates a random integer number from 0 to 15, and if in range (greater than one but less than ten), repeat the random selection process
- Otherwise, terminate the program
- Print the results as you go



Other special loops – Example 16

Example16 | Processing 3.4

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```
1 //Example 16
2
3 int x; //A variable to store a random number
4 x = parseInt(random(15)); //Initialization expression
5 //Choose a random number between 0 and 15, then typecast it to an integer
6 //Note that the random() function returns a float so we use parseInt() to convert this to an int
7
8 while((x>1)&&(x<10)) //Test expression
9 //Both of these conditions must be satisfied to execute the code inside the loop body
10 //To be in range, the random number must be between 1 and 10 (not including these boundaries)
11 //So essentially, only integers between 2 and 9 are allowed
12 {
13     println(x+" is in range"); //If the number is in range, indicate this in the console and generate another number
14     x = parseInt(random(15)); //Updating expression
15     //Generate a new random number
16 }
17 println(x+" is not in range"); //Otherwise, if the number is not range, indicate this in the console
18
19
```



Other special loops – Example 16

```
6 is in range
4 is in range
3 is in range
2 is in range
11 is not in range
```

Console Errors



Summary

- In this crash course, we looked at special topics and saw some interesting ways that loops can be used
- It is possible to have multiple initialization expressions and multiple updating expressions in the same for loop
- It is also possible for the test expression to include more than one condition, i.e. your loop checks more than one condition at each iteration