

Research Week 2

1. What are the different loops Java provides us with?

Loops allow for a Java program to execute, or iterate, specified code as many times as necessary depending on the conditions calling for the loop. The specified code could be executed never, once, many times, or infinitely, as the program requires. The three main types of loops in Java are the 'for' loop, the 'while' loop, and the 'do-while' loop. There is a fourth type, the 'for-each' loop, or enhanced 'for' loop, that is useful for moving information in and out of arrays and collections.

References

Loops in Java. (2022, May 11). Retrieved November 12, 2022 from <https://www.geeksforgeeks.org/loops-in-java/>

Loops in Java. (n.d.). Retrieved November 12, 2022 from <https://www.javatpoint.com/java-for-loop>

2. What is the syntax of one of the loops in your above answer? How and when should you use this loop? Give an example.

A 'while' loop is best used to iterate through a part of a program when a certain condition exists, and it is not known how many times the selected code may need to be executed. The first step in a 'while' loop is to check the status of the condition required for the iteration to occur. If the condition is false, the program exits the loop and continues to the next part of the program. If the condition is true, the next step is to perform the iterative code. The final step, completed while inside the iteration, is to update a counter or some part of the condition being checked to prevent an infinite loop.

Syntax:

```
while (boolean condition) {  
    statement(s) to be executed  
    condition modification  
}
```

Example:

```
Scanner sc= new Scanner(System.in);  
  
System.out.print("Have you finished your studying and homework? Enter Y or N ");  
String studyStatus = sc.nextLine();  
while (studyStatus.equalsIgnoreCase("N")) {  
    System.out.println("Keep working! You can do it!");  
    System.out.println();    // inserts a blank line  
    System.out.print("Have you finished your studying and homework? Enter Y or N ");  
    studyStatus = sc.nextLine();  
} // end WHILE  
System.out.println("Well done! Take a break!");
```

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References

Java While Loop. (n.d.). Retrieved November 12, 2022 from <https://www.javatpoint.com/java-while-loop>

Java While Loops. (n.d.). Retrieved November 12, 2022 from <https://www.w3schools.in/java/loops/while>

5. What is your favorite thing you learned this week?

I'd have to say the favorite thing I learned this week is the joy of watching properly executed code fill the console with the results I was expecting. It may seem silly, but it excites me to see the results of my programming in action, even if it is in the learning process.

References

My brain and emotions.