Republic of the Philippines
Department of Education
REGION III
SCHOOLS DIVISION OFFICE OF NUEVA ECIJA

LEARNING ACTIVITY SHEET
SPECIAL PROGRAM IN ICT
BASIC PROGRAMMING 8
Third Quarter, Week 3

LOOP CONTROL STRUCTURES

Background Information for Learners

There may be a situation when you need to execute a block of code several number of times. In general, statements are executed sequentially. The first statement in a function is executed first, followed by the second, and so on. Programming languages provide various control structures that allow for more complicated execution paths.

A loop statement allows us to execute a statement or group of statements multiple times and following is the general form of a loop statement in most of the programming languages.

Java programming language provides the following types of loop to handle looping requirements.

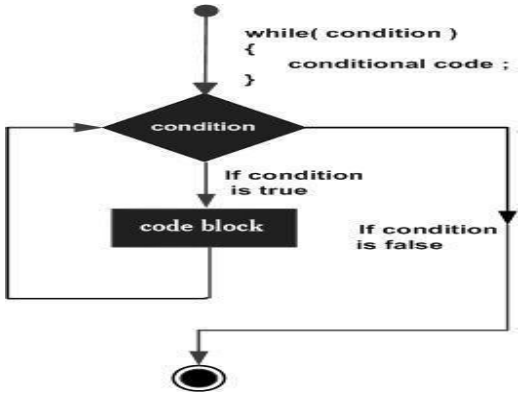
Loop	Description
while loop	Repeats a statement or group of statements while a given condition is true. It tests the condition before executing the loop body.
for loop	Execute a sequence of statements multiple times and abbreviates the code that manages the loop variable
Do.. while loop	Like a while statement, except that it tests the condition at the end of the loop body.

WHILE LOOP

A while loop statement in Java programming language repeatedly executes a target statement as long as a

given condition is true.

Flow Diagram



Sample code:

```
public class Test {

   public static void main(String args[]) {
      int x = 10;

      while( x < 20 ) {
         System.out.print("value of x : " + x );
         x++;
         System.out.print("\n");
      }
   }
}
```

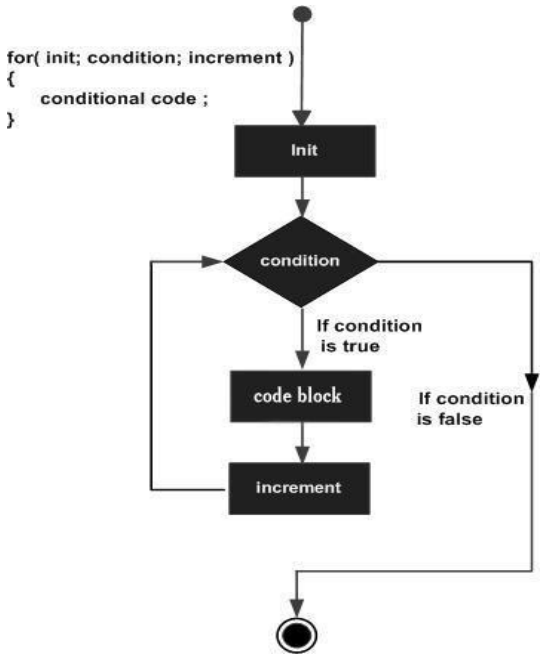
Output

```
value of x : 10
value of x : 11
value of x : 12
value of x : 13
value of x : 14
value of x : 15
value of x : 16
value of x : 17
value of x : 18
value of x : 19
```

FOR LOOP

A for loop is a repetition control structure that allows you to efficiently write a loop that needs to be executed a specific number of times. A for loop is useful when you know how many times a task is to be repeated.

Flow Diagram



Sample code:

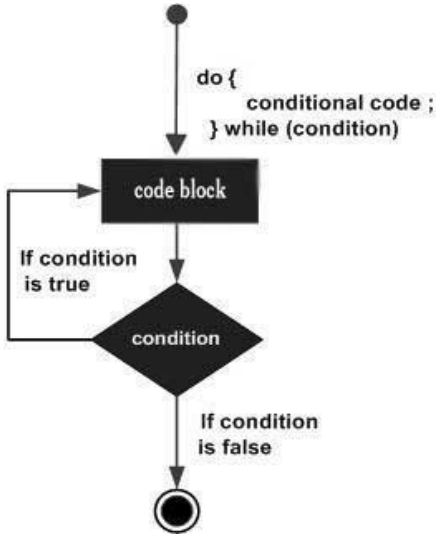
```
public class Test {

   public static void main(String args[]) {

      for(int x = 10; x < 20; x = x + 1) {
         System.out.print("value of x : " + x );
         System.out.print("\n");
      }
   }
}
```

```
value of x : 11
value of x : 12
value of x : 13
value of x : 14
value of x : 15
value of x : 16
value of x : 17
value of x : 18
value of x : 19
```

DO… WHILE LOOP

A **do...while loop** is similar to a while loop, except that a do...while loop is guaranteed to execute at least one time.

Flow Diagram



Sample code:

```
public class Test {

   public static void main(String args[]) {
      int x = 10;

      do {
         System.out.print("value of x : " + x );
         x++;
         System.out.print("\n");
      }while( x < 20 );
   }
}
```

Output

```
value of x : 10
value of x : 11
value of x : 12
value of x : 13
value of x : 14
value of x : 15
value of x : 16
value of x : 17
value of x : 18
value of x : 19
```

Learning Competency with Code

Enumerate the types of repetition/loop control structures

Exercises/Activities:

Attach the screenshot of your codes and result in our Google Classroom

Direction: Create a source code on the following loop control structures. 20 points each code.

1. Using a for loop control structure, write a source code that will print numbers 1-10. You can use any variable you want. Write your code inside the box**.**
2. Using a while loop control structure, write a source code that will print odd numbers 1-20. You can use any variable you want. Write your code inside the box**.**

Scoring Rubrics

	20	15	10
Accuracy	The code is 100% accurate and follows the correct loop structure being asked. The code is running and the output was met.	The code has 2-5 error/incorrect code	The code has 5 or more error/incorrect code

Reflection: Write your answer in a one whole sheet of paper.

Explain each loop control structure being given on this lesson.

References for Learners

https://www.javatpoint.com/java-for-loop

https://www.tutorialspoint.com/java/java_loop_control.htm

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