

Java Loops

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Agenda

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2. For Loop
3. For Loop Example
4. Nested For Loop Example
5. While Loop
6. While Loop Example
7. Do-While Loop
8. Difference between While and Do-While Loop

Loops?

Loops are used to execute a set of statements repeatedly until some condition evaluates to false.



LOOPS REPEAT
ACTIONS...
SO YOU DON'T HAVE TO

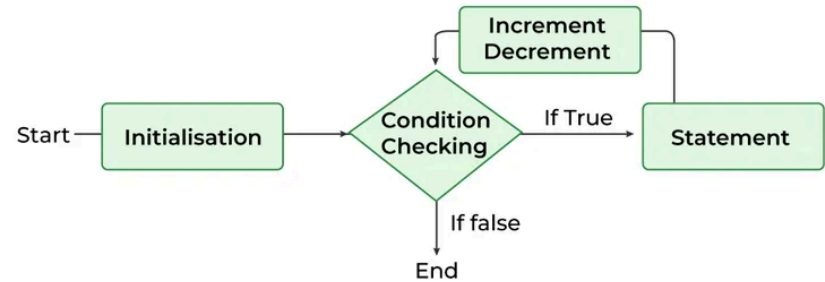
There are **three(3)** types of loops in Java:

- *For Loop*
- *While Loop*
- *Do-While Loop*

For Loop

- **Initialization:** Start variable/value of the loop. It is executed only once.
- **Condition:** The loop continues until the condition is true.
- **Increment/Decrement:** Increases or decreases the value of the loop variable.
- **Statement:** The code block that is executed in each iteration.

```
for (Initialization; Condition; Increment/Decrement) {  
    // Inner code block  
}
```



For Loop Example

```
public class Main {  
  
    public static void main(String[] args) {  
        for (int i = 0; i < 5; i++) {  
            System.out.println(i);  
        }  
    }  
}
```

```
for (int i = 0; i < 3; i++) {  
    System.out.println("i is now " + i);  
}
```

Nested For Loop Example

```
public class Main {  
  
    public static void main(String[] args) {  
        for (int i = 0; i < 3; i++) { // Outer loop  
  
            for (int j = 0; j < 3; j++) { // Inner loop  
                System.out.println("i: " + i + ", j: " + j);  
            }  
        }  
    }  
}
```

While Loop

- **Condition:** The loop continues until the condition is true.

```
while (Condition) {  
    // Inner code block  
}
```

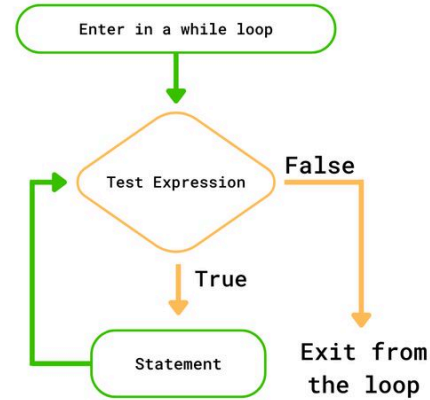
code

```
1 a = 1  
2 while a < 10:  
3     print (a)  
4     a += 2
```

output

variables

While-loop



While Loop Example

```
public class Main {  
  
    public static void main(String[] args) {  
        int i = 0;  
        while (i < 5) {  
            System.out.println(i);  
            i++;  
        }  
    }  
}
```

Infinite Loop Example

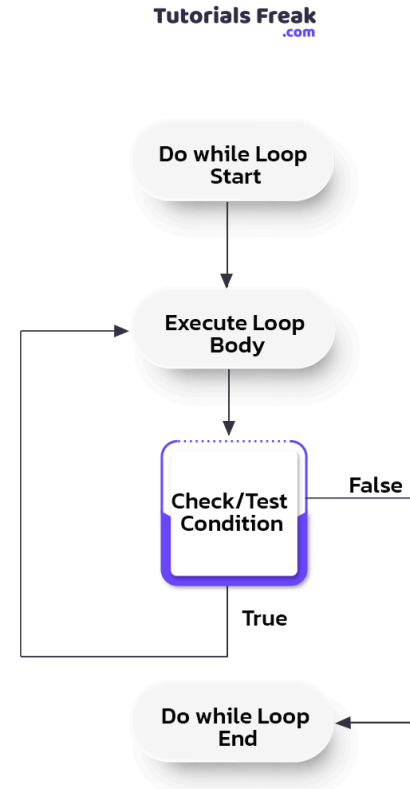
```
public class Main {  
  
    public static void main(String[] args) {  
        while (true) {  
            System.out.println("Infinite Loop");  
        }  
    }  
}
```


Do-While Loop

Do while loop is every similar to a while()-loop, the major difference is that the block inside the loop block will always run once, because the condition is checked after the code is ran.

```
do {  
    // Inner code block  
} while (Condition);
```

```
1  public class Main {  
2  
3      public static void main(String[] args) {  
4          int i = 0;  
5          do {  
6              System.out.println(i);  
7              i++;  
8          } while (i < 5);  
9      }  
10 }
```

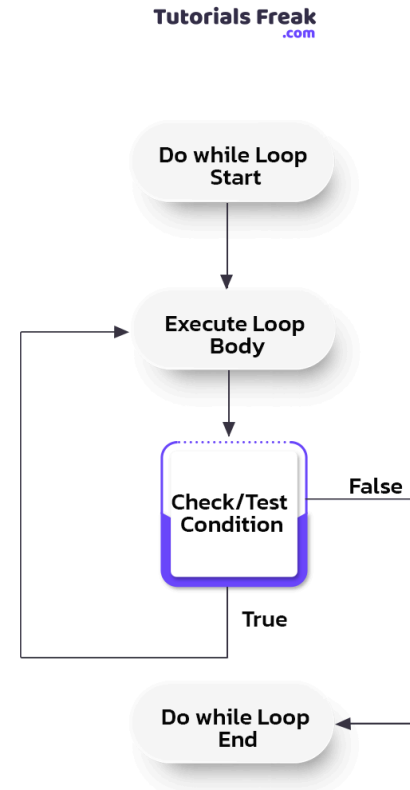


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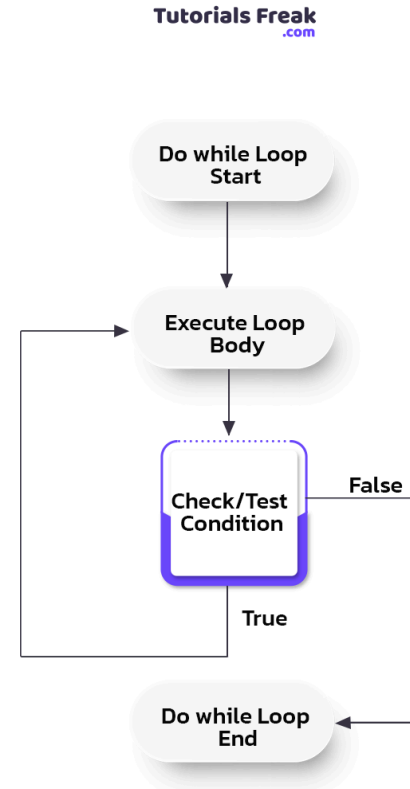


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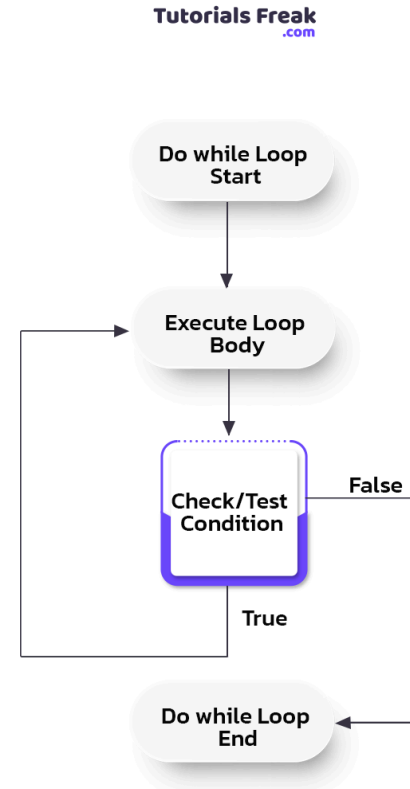


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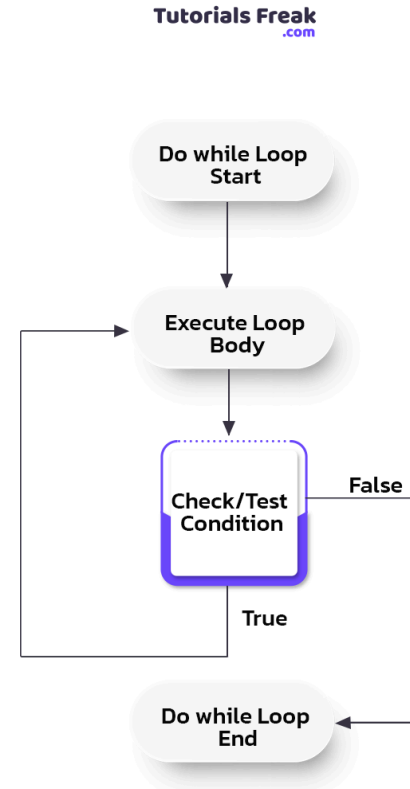


Do-While Loop

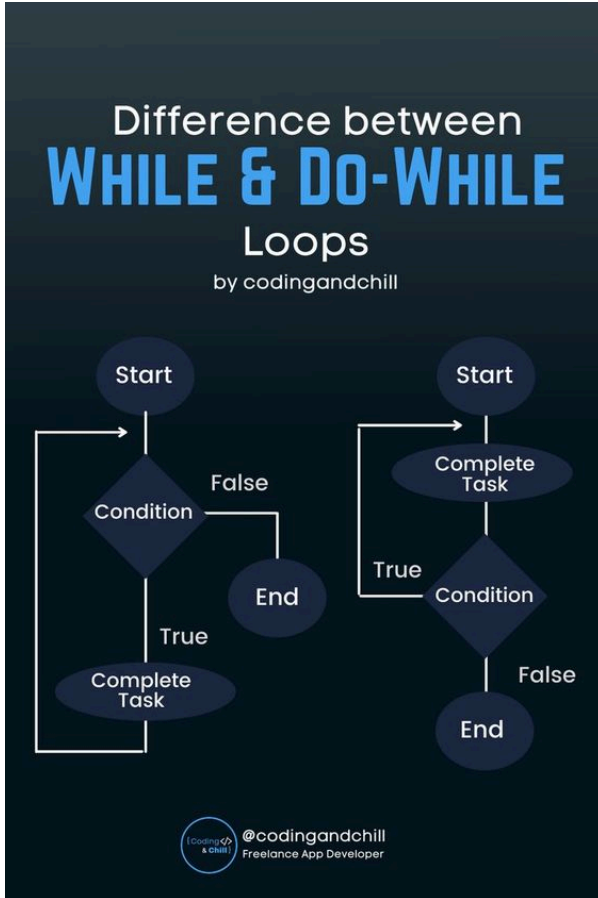
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Difference between While and Do-While Loop



Thank you 

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