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UNIVERSITY

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FACULTY OF Engineering &
Technology

Loops

In programming languages, loops are used to execute a set of instructions repeatedly till certain conditions become true.

There are three types of loops in Java.

1. for loop
2. while loop
3. do-while loop

For Loop

The Java *for loop* is used to iterate a part of the program several times. If the number of iteration is fixed and known prior

There are three types of for loops in java.

- 1.1 Simple For Loop
- 1.2 For-each or Enhanced For Loop
- 1.3 Labeled For Loop

Syntax:

```
for(initialization;condition;incr/decr){  
  //statement or code to be executed  
}
```

Nested For Loop

If a for loop is inside another loop, it is known as a nested for loop. The inner loop executes first completely, then the outer loop executes.

```
public class NestedForExample {  
  public static void main(String[] args) {  
    //loop of i  
    for(int i=1;i<=3;i++){  
      //loop of j  
      for(int j=1;j<=3;j++){  
        System.out.println(i+" "+j);  
      }  
    }  
  }  
}
```

Output

```
1 1  
1 2  
1 3  
2 1  
2 2  
2 3  
3 1  
3 2  
3 3
```

While Loop

1. The Java *while loop* is used to iterate a part of the program several times.
2. If the number of iteration is not fixed, it is recommended to use while loop.

Syntax:

```
while(condition){  
//code to be executed  
}
```

```
public class Example {  
public static void main(String[] args) {  
    int i=1;  
    while(i<=10){  
        System.out.println(i);  
        i++;  
    }  
}
```

Output

```
1  
2  
3  
4  
5  
6  
7  
8  
9  
10
```

do-while Loop

1. The Java *do-while loop* is used to iterate a part of the program several times.
2. *do-while loop* is executed at least once because condition is checked after loop body.

```
do{  
  //code to be executed  
}while(condition);
```

```
public class DoWhileExamp {  
  public static void main(String[] args) {  
    int i=1;  
    do{  
      System.out.println(i);  
      i++;  
    }while(i<=10);  
  }  
}
```

Output

```
1  
2  
3  
4  
5  
6  
7  
8  
9  
10
```

Quiz

1. Why java is called platform independent?
2. Explain various features of java?
3. Explain advantage and limitations of java?
4. Discuss various type of application can built by java?
5. Explain Byte Code?