

Lesson 5: For Loop, While Loop, and Do While Loop

1. In computer programming, **loops** are used to repeat a block of code.
2. 3 types of loops: for loop, while loop, do...while loop
3. **Java for loop**:
 - used to run a block of code for a certain number of times while the condition is met
 - Commonly used to iterate through collections like **arrays**
 - The syntax of for loop is:

```
for (initialExpression; testExpression; updateExpression) {  
    // body of the loop  
}
```

 - a. The **initialExpression** initializes and/or declares variables and executes only once.
 - b. **testExpression**- condition is evaluated here
 - c. The **updateExpression** updates the value of initialExpression.
4. **Java while loop** is used to run a specific code until a certain condition is met. The syntax of the while loop is:

```
while (testExpression) {  
    // body of loop  
}
```
5. The **do...while loop** is similar to while loop. However, the body of do...while loop is executed once before the test expression is checked. loop evaluates the textExpression inside the parentheses ().

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

```
<terminated> ForLoops [Java Application] C:\Program Files\J...  
0  
1  
2  
3  
4
```

```
int x = 0;  
while(x < 5) {  
    System.out.println(x);  
    x++;  
}
```