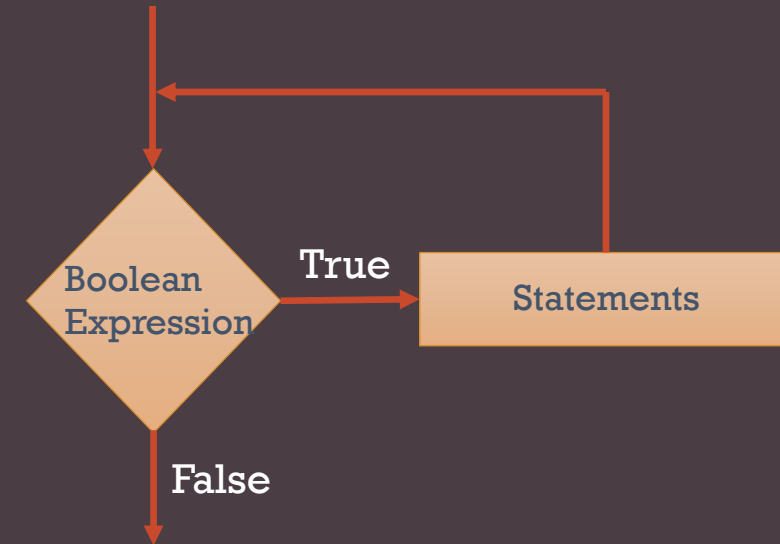




While & do-While

While Loop

- while loop repeatedly executes same set of statements as long as condition is true.
- Condition is checked at loop start.
- The code is repeated in a loop is called the body of the loop.
- Each repetition of the loop body is called an iteration of the loop.



Syntax

Test this boolean expression

If the boolean expression is true,
perform these statements

```
while (number <= 5){
```

```
    System.out.println("Hello");  
    number++;
```

```
}
```

After executing the body of the loop, start over

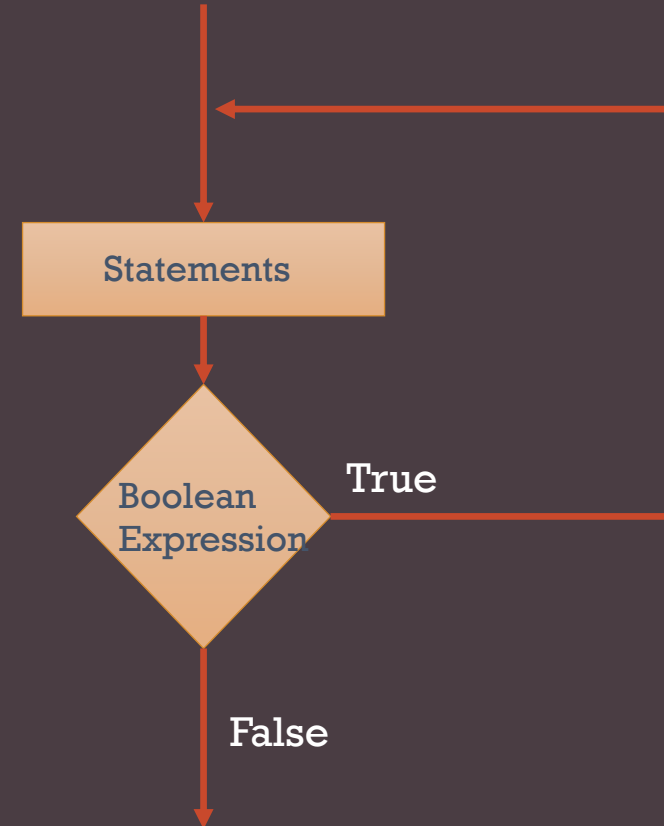
For Loop vs While Loop

```
for(int i = initialValue; i < endValue; i++){  
    //Loop Body  
}
```

```
int i = initialValue;  
while(i < initialValue){  
    //Loop body  
    i++;  
}
```

Do...While Loop

- do...while loop repeatedly executes same set of statements while(condition) is true.
- The statement is executed **once** initially then Condition is checked at loop end
- Code in Loop body will execute at least once



Syntax

```
do {  
    //Loop Body  
    Statement(s);  
}while(Boolean Epression);
```

Task

Write a program using while loop, that calculates the sum of the even numbers between 0 and 10

Write a program that asks user to enter his/her username and password until user enters correctly.

Which Loop to Use?

- You can use a **for loop**, a **while loop**, or a **do-while loop**, whichever is convenient.
- While loop and for loop are called **pretest loops** because the continuation condition is checked before the loop body is executed.
- The do-while loop is called a posttest loop because the condition is checked after the loop body is executed.
- The three forms of loop statements are expressively equivalent; that is you can write a loop in any of these three forms.

Which Loop to Use?

- A **for-loop** may be used if the number of repetition is known in advance.
- A **while loop** may be used if the number of repetitions is not fixed, as in the case of reading the numbers until the input is 0
- A **do-while loop** can be used to replace while loop if the loop body has to be executed before continuation condition is tested.