

Selenium Class 10 - Java Control Flow Statements

Java has three types of Control Flow Statements

- i) Conditional / Decision Making Statements
- ii) Loop Statements
- iii) Branching Statements

Java Operators Continuation

d) Java Logical Operator Examples

Example 1:

```
boolean a= true, b=false;
```

```
System.out.println(!(a&&b));//true
```

```
System.out.println(a&&b);//false
```

```
System.out.println(a||b);//true
```

Example 2:

```
int a=1000, b=500, c=900;
```

```
if ((a>b)&&(a>c)){
```

```
System.out.println("A is a Big Number");
```

```
}
```

```
else
```

```
{
```

```
System.out.println("A is Not big Number");  
}
```

Example 3:

```
int a=1000, b=500, c=1200;
```

```
if ((a>b)|| (a>c)){  
System.out.println("A is a Big Number");  
}  
else  
{  
System.out.println("A is Not big Number");  
}
```

Example 4:

```
int a=1000, b=500, c=700;
```

```
if (!(a>b)&&(a>c)){  
System.out.println("A is a Big Number");  
}  
else  
{  
System.out.println("A is Not big Number");  
}
```

e) Assignment Operators

```
int a=10, b=20;
```

```
System.out.println(a==b);//false (Comparison)
```

```
System.out.println(a=b);//20 (Assignment)
```

1) Assignment =

2) Add and Assign +=

3) Subtract and Assign -=

4) Multiply and Assign *=

Example:

```
int a=10;
```

```
System.out.println(a);//10
```

```
a=a+10;
```

```
System.out.println(a);//20
```

```
a-=10;
```

```
System.out.println(a);//10
```

```
a*=10;  
System.out.println(a);//100
```

Java has three types of Control Flow Statements

i) Conditional / Decision Making Statements

a) Two types of Conditional Statements

- 1) if statement
- 2) switch statement

b) Three types of Conditions

- 1) Single Condition (Positive and Negative Conditions)

Syntax:

```
if (condition){  
.  
.  
}
```

Positive condition

```
if (a>b) {  
.  
.  
}
```

Negative Condition

```
if (!(b>a) {  
.  
.  
}
```

2) Compound Condition (Positive and Negative Conditions)

Positive Condition

```
if ((condition1) && Or ||(condition2) {  
.  
.  
}
```

Negative Condition

```
if (!(condition1) && Or || (condition2){  
.  
.  
}
```

3) Nested Condition

```
if (condition1){  
  if (condition2){  
    if (condition3){  
      .  
      .  
    }  
  }  
}
```

```
}  
}  
}
```

c) Usage of Conditional Statements

1) Execute a block of statements when a condition true

Syntax:

```
if (condition){  
Statements  
.  
.  
.  
}
```

Example:

```
int a=100, b=500;  
  
if (a>b){  
System.out.println("A is a Big Number");  
}
```

2) Execute a block of statements when a condition is true, otherwise execute another block of statements

Syntax:

```
if (condition){  
.  
.  
}  
else  
{  
.  
.  
}
```

Example:

```
int a=100, b=100;  
  
if (a>b){  
System.out.println("A is a Big Number");  
}  
else  
{  
System.out.println("B is a Big Number");  
}  
}  
}
```

3) Execute a block of statements when a compound condition is true

Syntax:

```
if ((condition1) && or || (condition2) && or || (condition3)){  
.  
.  
}
```

Example:

```
int a=100, b=90, c=700;  
  
if ((a>b) || (a>c)){  
System.out.println("A is a Big Number");  
}
```

4) Decide between several alternates (else if)

Syntax:

```
if (condition){  
.  
.  
}  
else if (condition){  
.  
.
```



```
.  
}  
else if (condition){  
.br/>.br/>}  
else if (condition){  
.br/>.br/>}  
else {  
.br/>.br/>}
```

In Software Testing:

Requirement - Test Case / Test Script

In Software Development:

Problem - Solution

Problem: Initialize an Integer variable and verify the range

if the number is in between 1 and 100 then display "Number is a Small Number"

if the number is in between 101 and 1000 then display "Number is a Medium Number"

if the number is in between 1001 and 10000 then display "Number is a Big Number"

if the number is more than 10000 then display "Number is a High Number"

Otherwise display "Number is either Zero or Negative Number"

Solution:

Input:

- 1) 50
- 2) 150
- 3) 1500
- 4) 15000
- 5) 0
- 6) -100

```
if ((val>0)&& (val<=100)){
System.out.println("Val is a Small Number");
}
else if ((val>100) && (val<=1000)){
System.out.println("Val is a Medium Number");
}
else if ((val>1000) && (val<=10000)){
System.out.println("Val is a Big Number");
}
else if (val>10000){
System.out.println("Val is a High Number");
}
else
{
```

```
System.out.println("val is either Zero or Negaive Number");  
}
```

Assignment:

* Handle Invalid Input for the above Program - Bharathi

Note: It has to accept Integer only (for every iteration)

6) Execute a Block of statements when more than one condition is true

Syntax:

```
if (condition1){  
    if (condition2){  
        if (condition3){  
            Statements  
            .  
            .  
        }  
    }  
}
```

Example:

```
int a=100, b=90, c=80, d=70;
```

```
if (a>b){  
    if (a>c){
```

```
if(a>d){  
    System.out.println("A is a Big Number");  
}  
}  
}
```

Syntax 2:

```
if (condition1){  
    if (condition2){  
        if (condition3){  
            Statements  
            .  
            .  
        }  
    }  
    else {  
        .  
    }  
}  
else {  
    .  
}  
}  
else {  
    .  
}  
}
```

Using Nested If:

```
int a=100, b=900, c=80, d=70;
```

```
if (a>b){  
    if (a>c){  
        if(a>d){  
            System.out.println("A is a Big Number");  
        }  
        else{  
            System.out.println("A is Not a Big Number -3rd Condition is False");  
        }  
    }  
    else{  
        System.out.println("A is Not a Big Number -2nd Condition is False");  
    }  
    else{  
        System.out.println("A is Not a Big Number-1st Condition is False");  
    }  
}
```

Using Compound Condition:

```
int a=100, b=900, c=800, d=700;
```

```
if ((a>b)&&(a>c)&&(a>d)){  
    System.out.println("A is a Big Number");  
}
```

```
}  
else{  
System.out.println("A is Not Big Number");  
}
```

Nested Condition vs. Compound Condition

In Nested Condition we can write multiple else parts, where as in Compound Condition single else part only...

Problem: Find the biggest Number between four numbers

Hint: Use else if and compound condition

Java Program:

```
int a=100, b=90, c=80, d=200;  
  
if ((a>b)&&(a>c)&&(a>d)){  
System.out.println("A is a Big Number");  
}  
else if ((b>a)&&(b>c)&&(b>d)){  
System.out.println("B is a Big Number");  
}  
else if ((c>a)&&(c>b)&&(c>d)){  
System.out.println("C is a Big Number");  
}  
else {  
System.out.println("D is a Big Number");
```

}

Assignment:

If two or more variables having same value the check it and display the output

Ex: "B and C are Big Numbers"
