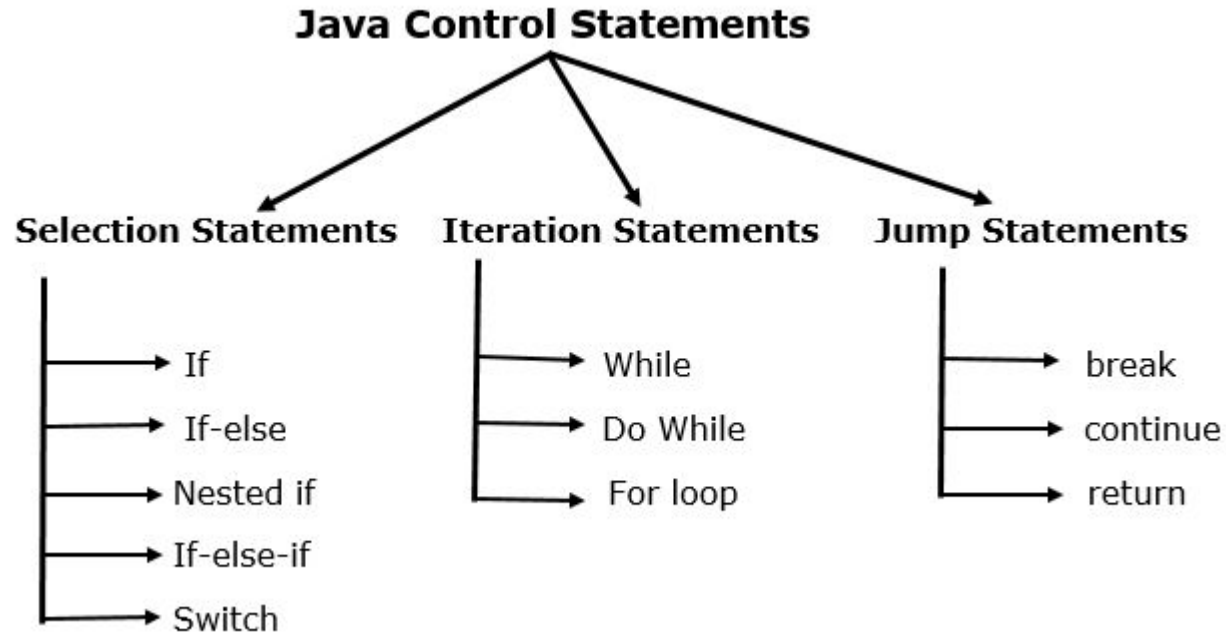


Control Statements

Control Statements



Control Statements

- If with single statement
- Nested ifs
- The if-else-if Ladder
- Switch Statement
- Nested Switch Statement (Switch statement can be used inside another switch)

Control Statements

- Iteration statement
 - While
 - do-while
 - for
- The body of the loop can be empty because a null statement (one that consists only of a semicolon) is syntactically valid in Java.

Ex. `while (++i < --j);` // Midpoint of i and j

- Short loops are frequently coded without bodies when the controlling expression can handle all of the details itself.

Control Statements

- for loop

For (initialization; condition; iteration) // iteration using loop control variable

{

 //body

}

- Declaring loop control variable inside loop // scope ?
- for (int n = 0; n < 10; n++) { //Code }
- Multiple initialization and iterations portions separated by comma are allowed for for loop. Ex. for (a = 1, b = 5; a < b ; a++, b--)

Control Statements

- for loop contd...
 - Either the initialization or the iteration expression or both may be absent.
 - Infinite loop using for
 - `for (; ;) { }`
- For-Each Version of the for Loop (also known as enhanced for loop)
- ***for(type itr-var : collection) statement-block***

```
int nums [ ] = {1,2,3,4,5};
```

```
int sum = 0;
```

```
for (int x: nums) sum += x;
```

- Its iteration variable is read only i.e. `x = x + 2` will not affect nums.
- The iteration variable in the for loop must be type compatible with the type of array being obtained. // Accessing double dimension array

Control Statements

Jump Statement

- break - switch, loop, “civilized form of goto” i.e. labeled break
- continue - loop, labelled continue
- return - explicitly return the control back to the caller
- Void fun()

```
{  
    // statement1;  
    return;  
    Statement2;    //”Unreachable code” error - what is the solution?  
}
```

Control Statements

Jump Statement

- We can assign a label to a block of code.
- We can not break to any label which is not defined for an enclosing block.

Ex.

```
first: {  
    second: {  
        break first;           // Control will come out of the first block  
    }  
    // break second;           // Error, this statement must be inside second block.  
}
```


Control Statement: Labeled Continue

```
class LabeledContinue {  
    public static void main(String args[]) {  
        outer: for (int i = 1; i <= 5; i++)  
        {  
            inner: for (int j = 1; j <= 5; j++)  
            {  
                if(j > i) {  
                    System.out.println();  
                    continue outer;  
                }  
                else System.out.print(j);  
            }  
        }  
    }  
}
```

// GUESS OUTPUT ??

Control Statement: Labeled break

```
class LabeledContinue {  
    public static void main(String args[]) {  
        outer: for (int i = 1; i <= 5; i++)  
        {  
            inner: for (int j = 1; j <= 5; j++)  
            {  
                if(j > i) {  
                    System.out.println();  
                    break outer;  
                }  
                else System.out.print(j);  
            }  
        }  
    }  
}
```

// GUESS OUTPUT ??

```
class SwitchCase{
    public static void main(String args[]){
        int choice = 4;
        switch(choice)
        {
            default:
                System.out.println("default");
                break; //This break is important here, otherwise next case will continue.
            case 1:
                System.out.println("Case 1");
                break;
            case 2:
                System.out.println("Case 2");
                break;
        }
        System.out.println("Out of switch-case");
    }
}
```

GUESS OUTPUT ??