Operators &
Control Flow Statements

Shristi Technology Labs

Operators

- Arithmetic Operators
- Relational Operators
- Boolean logical Operators
- Ternary Operator

Arithmetic Operators

Basic Operators

+, -, *, /,%,+=,-=,*=,/=,%=

Increment & Decrement Operators

Pre-Increment
int x=10;
++x * 2 **22**

Post-Increment
int x=10;
x++ * 2 **20**

Pre-Decrement
int y=56;
--y+5 **60**

Post-Decrement
int y=10;
y-- *2 **20**

Relational Operators

Basic Operators

>,<,>=,<=,==,!=

eg.

```
int x = 50,y = 60;
boolean val = x>y          //false

boolean val = x<=y          //true
```

Boolean Logical Operators

Basic Operators

&,|,^,&=,|=,^=,&&,||,==,!=

Short-Circuit Logical Operators

&&- checks for false condition

||- checks for true condition

A	B	A&B	A|B
False	False	False	False
False	True	False	True
True	False	False	True
True	True	True	True

Example :1

```
int a=9,b=8;
If(a<b && a/0==10){
//If(a>b && a/0==10){
   SOP("hello");
}else
    SOP("welcome");
```

o/p : welcome

Exception is neglected as it checks false condition

o/p :Exception is thrown

SOP ->System.out.print()

Example :2

```
int a=9,b=8;
If(a<b || a/0==10){
//If(a>b || a/0==10){
    SOP("hello");
}else
    SOP("welcome");
```

o/p : Exception is thrown

as it checks true condition

o/p : hello

SOP ->System.out.print()

Ternary Operator

Basic Operator

?:

syntax: ***expr1?expr2:expr3***

expr1 → evaluates to boolean value

expr2 → gets evaluated when condition is true

expr2 → gets evaluated when condition is false

eg.

```
int i=90;
int k=i<40?30:i+1;
```

Control Flow Statements

Control Flow Statements

- Selection Statements
  - If
  - switch
- Iteration Statements
  - for / for-each
  - while
  - do-while

if-else

Simple if

```
if(condition){
// set of statements
}else{
//set of statements
}
```

Ladder if

```
If(conditiont){
//stmts
}else if (condt){
//stmts
} else{  }
```

Example

```
If(a>b){
System.out.print("A is greater");
}else
if(b>c){
System.out.print("B is greater");
}else{
System.out.print("C is greater");
}
```

switch

```
switch(expr){
case: constant value
 //set of stmts;
break;
case constantvalue:
 //set of stmts;
break;
default
 //set of stmts;
break;
}
```

Example

```
int x=10,y=20;
switch(x+y){
case 30:
System.out.print("Sum "+30);
break;
case 50:
System.out.print("Sum "+50);
break;
default
System.out.print(" no match");
break;}
```

for

```
for(initialization;condt;incr){
// set of stmts
}
```

Example

```
for(int i=0;i<10;i++){
System.out.print(i+ " ");
}
```

o/p:

0 1 2 3 4 5 6 7 8 9

for - each

```
for(datatype variable:array){
// set of stmts
}
```

Example

```
int []marks = new int[3];
marks[0]=90;
marks[1]=50;
marks[2]=80;
for(int m:marks){
System.out.print(m+ " ");
}
```

o/p:

90 50 80

while

```
while(condition){
//set of stmts
}
```

Example

```
int i = 1;
while(i<10){
//while(i>10){
System.out.println(i);
i++;
}
```

o/p

1 2 3 4 5 6 7 8 9

No output

do-while

```
do {
//set of stmts
} while(condition)
```

Example

```
int x = 1;
do{
System.out.println(x);
x++;
}while(x<10);
}while(x>10);
```

o/p

1 2 3 4 5 6 7 8 9

1

Summary

- Operators
  - Arithmetic Operator
  - Relational Operator
  - Boolean logical Operator
  - Ternary Operator
- ControlFlow Statements
  - If-else
  - Switch
  - For
  - While/Dowhile

Thank You