

## The if Statement

### Boolean Expressions:

#### Example #1:

```
boolean a, b, c, d, e;
```

```
a=true;
```

```
b=false;
```

```
c = a && b;
```

```
d = a || b;
```

```
e = !a;
```

*! false is true*

c is false, d is true, and e is false

#### Example #2:

```
boolean test1, test2;
```

```
int a=40;
```

```
test1 = ( a != 50 );
```

```
test2 = ( a == 50 );
```

test1 is true and test2 is false

#### Example #3:

```
boolean test1, test2;
```

```
int a=40;
```

```
test1 = ( a < 50 );
```

```
test2 = ( a > 50 );
```

test1 is true and test2 is false

## The if Statement

20,

### Example #4:

```
boolean test1, test2;  
int a=50;  
test1 = ( a <= 50 );  
test2 = ( a >= 50 );
```

test1 is true and test2 is true

### The if else Statement:

```
boolean booleanExpression;  
if ( booleanExpression ) {  
    Execute code if booleanExpression is true  
}  
else {  
    Execute code if booleanExpression is false  
}
```

← The else block  
is optional

### Example #5:

```
int i=5;  
if ( i < 5 ) {  
    System.out.println("i is less than 5");  
}  
else {  
    System.out.println("i is not less than 5");  
}  
prints out i is not less than 5
```

### Example #6:

```
int i=12;  
if ( ( i < 0 ) || ( i > 10 ) ) {  
    System.out.println("0 <= i <= 10 is not true");  
}  
prints out 0 <= i <= 10 is not true
```