

## Tutorial 04

### Expressions | Operators | Conditional Statements

#### Exercise 1:

A. Which of the following expressions results in 45.37?

1. `(int)(45.378 * 100) / 100`
2. `(int)(45.378 * 100) / 100.0`
3. `(int)(45.378 * 100 / 100)`
4. `(int)(45.378) * 100 / 100.0`

B. What is y displayed?

```
public class Test {  
    public static void main(String[] args) {  
        int x = 1;  
        int y = x + x++;  
        System.out.println("y is " + y);  
    }  
}
```

1. y is 1
2. y is 2
3. y is 3
4. y is 4

C. What is the value of i printed in the following code?

```
public class Test {  
    public static void main(String[] args) {  
        int j = 0;  
        int i = ++j + j * 5;  
        System.out.println("What is i? " + i);  
    }  
}
```

1. 0
2. 1
3. 5
4. 6

D. Assuming that x is 1, show the result of the following Boolean expressions:

1. `(x > 0)`
2. `(x < 0)`
3. `(x != 0)`
4. `(x >= 0)`
5. `(x != 1)`

#### Exercise 2:

Write a program that declares two integer variables x and y and initializes their values to 0. Then it reads the value of variable y and assigns 1 to x if y is greater than 0. Finally it prints the value of variable x.

Here are two sample runs:

```
Enter value of y: 5 ↵  
Value of x is 1
```

```
Enter value of y: 0 ↵  
Value of x is 0
```

### Exercise 3

Write a program that reads the performance level of an employee (between 0 and 100) and his salary. Then it increases the salary by 3% if performance level is greater than or equal to 90.

Here are two sample runs:

```
Enter performance level: 50 ↵  
Enter base salary: 5000 ↵  
Salary is 5000.0
```

```
Enter performance level: 90 ↵  
Enter base salary: 10000 ↵  
Salary is 10300.0
```

### Exercise 4

Write a program that reads values of seconds, minutes and hours as integers, then prints the equivalent number of seconds

### Exercise 5

Write a program that reads a number of seconds, and converts it to the regular form of h:m:s, then prints the results.

## Tutorial 04 Solutions

### Exercise 1:

A. b

B. b

C. d

D.

1. true
2. false
3. true
4. true
5. false

### Exercise 2:

```
import java.util.Scanner;
public class TestIf {
    public static void main(String[] args) {
        Scanner reader = new Scanner(System.in);
        int x = 0, y = 0;
        System.out.print("Enter value of y: ");
        y = reader.nextInt();
        if (y > 0){
            x = 1;
        }
        System.out.println("Value of x is " + x);
    }
}
```

### Exercise 3:

```
import java.util.Scanner;
public class ComputeSalary {
    public static void main(String[] args) {
        Scanner reader = new Scanner(System.in);
        double perf, sal;
        System.out.print("Enter performance level: ");
        perf = reader.nextDouble();
        System.out.print("Enter base salary: ");
        sal = reader.nextDouble();
        if (perf >= 90){
            sal += sal * 3/100;
        }
        System.out.println("Salary is " + sal);
    }
}
```

#### Exercise 4:

```
import java.util.Scanner;
class G {
    public static void main(String[] args) {
        Scanner KB = new Scanner(System.in);
        int s = KB.nextInt();
        int m = KB.nextInt();
        int h = KB.nextInt();
        int totalSec = s + m*60 + h*3600;
        System.out.println(totalSec);
    }
}
```

#### Exercise 5:

```
import java.util.Scanner;
class H {
    public static void main(String[] args) {
        Scanner KB = new Scanner(System.in);
        int totalSec = KB.nextInt();
        int s = totalSec % 60;
        int m = totalSec / 60 % 60;
        int h = totalSec / 3600;
        System.out.println(h + ":" + m + ":" + s);
    }
}
```