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);
  }
}
```