Objectives:

1- Student should learn how to write expressions and use operators according to precedence rules.

2- Student should learn when and how to use conditional statement

Exercise 1

1) Which of the following expressions results in 45.37?
   a) `(int)(45.378 * 100) / 100`
   b) `(int)(45.378 * 100) / 100.0`
   c) `(int)(45.378 * 100 / 100)`
   d) `(int)(45.378) * 100 / 100.0`

2) 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);
  }
}
```
   a) y is 1.
   b) y is 2.
   c) y is 3.
   d) y is 4.

3) 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);
  }
}
```
   a) 0
   b) 1
   c) 5
   d) 6

4) Assuming that **x** is **1**, show the result of the following Boolean expressions:
   a) (x > 0)
   b) (x < 0)
   c) (x != 0)
   d) (x >= 0)
   e) (x != 1)

Solution

1) b
2) b
3) d
4)
   a) true
   b) false
   c) true
   d) true
   e) false

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
```

Solution

```java
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

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 grater 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
```

Solution

```java
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);
    }
}
```

Done...