Tutorial 05
Expressions | Operators | Conditional Statements

Exercise 1:

Convert each of the following phrases to a Java boolean expression as in the first example:

English expression	Java expression
1. whether x is positive	x > 0
2. whether x is a multiple of y	
3. whether x is between -2 and 13	
4. whether the difference between x and y is less than 5	
5. whether x is not between 5 and 27	
6. whether x has more than 4 digits	
7. whether x has exactly 6 digits	

Exercise 2:

Write a Java program that prompts the user to enter the width and the length for a rectangle, then to enter the width and the length for a second rectangle, and finally it displays a message stating which rectangle (the first or the second) has greater area. (Note: there are three cases)

Exercise 3

Write a Java program that prompts the user to enter two positive integers, then displays whether the first is a multiple of the second or not.

Exercise 4

Rewrite the following Java program replacing if-else statement with if-then statements.

```java
import java.util.Scanner;
class Ex4 {
  public static void main(String[] args) {
    Scanner SC = new Scanner(System.in);
    System.out.print("Please enter your age: );
    int age = SC.nextInt();
    if (age >= 13 && age <= 60)
      System.out.println("You can proceed.");
    else
      System.out.println("Your age does not qualify you to
process");
  }
}
```

Exercise 5

Trace the following two code fragments for a = +3, a = 0, a = -5, then tell whether these fragments

are equivalent or not.

A.

```
if (a < 0) {
  System.out.println("Negative");
  a = a * -1;
  System.out.println("Absolute value is: " + a);
}
else {
  System.out.println("Positive");
  System.out.println("Absolute value is: " + a);
}
```

B.

```
if (a < 0) {
  System.out.println("Negative");
  a = a * -1;
  System.out.println("Absolute value is: " + a);
}
if (a >= 0) {
  System.out.println("Positive");
  System.out.println("Absolute value is: " + a);
}
```