Control (Conditional) Statements

Exercise 1

Write a Java program that prompts the user to input three integer values and find the greatest value of the three values.

Example:
Enter 3 integer values separated by space: 10 15 20.
The greatest value is: 20

Exercise 2

Write a program that takes the year as input, and report the number of days for that year. The number of days in February is 29 in a leap year and is 28 in a non-leap year. A year is NOT leap year if it is not divisible by 4. If the year is divisible by 100, it's not a leap year UNLESS it is also divisible by 400. Hint: you can use if-else (and switch) statements to classify the case.

Here is some sample input/output. Here is some sample input/output.

Leap Year Calculation
Enter the year: 1900
1900 is NOT a leap year.
The number of days in 1900 is 365.

Exercise 3

Write a nested if statement to print the appropriate activity depending on the value of a variable *temperature* and *humidity* as in the table below: Assume that the temperature can only be warm and cold, and the humidity can only be dry and humid.

if temperature is	***if humidity is***	***print this activity***
warm	dry	"play tennis"
warm	humid	"swim"
cold	dry	"play basketball"
cold	humid	"watch TV"

Exercise 4

Write a Java program to calculate the revenue from a sale based on the unit price and quantity of a product input by the user.

The discount rate is 10% for the quantity purchased between 100 and 120 units, and 15% for the quantity purchased greater than 120 units. If the quantity purchased is less than 100 units, the discount rate is 0%.

Exercise 5

Implement the game *Paper, Scissors, Rock*, so that the user can play many times. The user and computer pick "paper", "scissors", or "rock". Rock beats scissors, scissors beats paper, and paper beats rock. The user should press "-1" to quit. Also, if the user's choice is not valid, keep asking the user to re-enter. (May be you will need the random function for the computer to play!). Here is an example session:

Paper, Scissors, Rock
Enter 0 for paper, 1 for scissors, or 2 for rock (-1 to quit): 1
Player picks scissors
Computer picks paper
Player Wins

Enter 0 for paper, 1 for scissors, or 2 for rock (-1 to quit): 1
Player picks scissors
Computer picks rock
Computer Wins

Enter 0 for paper, 1 for scissors, or 2 for rock (-1 to quit): 1
Player picks scissors
Computer picks scissors
Draw

Enter 0 for paper, 1 for scissors, or 2 for rock (-1 to quit): 10
Invalid selection, please re-enter.

Enter 0 for paper, 1 for scissors, or 2 for rock (-1 to quit): -1
Game Over!

Exercise 6

Write a **SWITCH** statement to print the appropriate color depending on the value of a variable **colorval** as in the table below:

if *colorval* is	**print this color**
1	"red"
2	"blue"
3	"green"
4	"yellow"

Exercise 7

Write a Switch Case Statement that will examine the value of an integer variable called **flag** and print one of the following messages depending on the value assigned to **flag**.

(a) HOT, if **flag** has a value of 1
(b) LUKE WARM, if **flag** has a value of 2
(c) COLD, if **flag** has a value of 3
(d) OUT OF RANGE, if **flag** has other value