Exercise 2: Variables

Save these projects as Variables1.java, Variables2.java, etc.
All programs must have a header, use correct indentation, spacing, comments and adhere to good programming style. Save ALL programs in a folder named *variables.*

1. Declare an integer variable called *num*. Store the value 5 in *num* and output the value in *num*.

2. Declare two integer variables called *num1* and *num2*. Store the value 10 in *num1* and 20 in *num2*. Multiply *num1* and *num2* and output the product.

3. Ask the user for their name and age. Output their name and age in a well formatted sentence.

4. Write a program that asks the user for two numbers. Add them together and print the result.

5. Write a program that will ask users to input 2 integers and then output the sum, difference, product, quotient and the remainder (remember to use / and **%**).
Hint: % is the modulous operator. Example: 10 % 4 = 2

SAMPLE RUN:

Enter the first number: 13
Enter the second number: 2

13 + 2 = 15
13 – 2 = 11
13 x 2 = 26
13 / 2 = 6
13/2 remainder is 1

6. Ask the user for the length and the width of a rectangle. Print the area and the perimeter of the rectangle in a well formatted sentence.

7. Ask the user for a number representing a bill at a restaurant. Ask for a number representing the percent of tip they would like to pay. The program should then output the total cost with tax, the total cost of the tip, and the total cost with tax and tip.

8. You are investing money (principal) for a certain rate (%) for a number of years (time). The program then calculates the interest you would earn.
Formula: I = P*R*T (if the user types 15%, then your formula must use 0.15)

Prompt the user to enter the money they are investing (P), get the input and store it. Prompt and get the interest rate(R), the number of years(T) they are investing their money as well.

Your program should output the interest earned(I) in the years given and the total amount of money they will get back.

CHALLENGES

9. Design a program that ask the user for two integers. It should store each in separate integer variables. It should then divide the first number by the second and output the final answer without rounding.

10. Design a program to determine the number of roots in a quadratic. The program should take the values of A,B,C as input and output either 0,1, or 2.

Remember (from grade 9!): http://en.wikipedia.org/wiki/Quadratic_equation