Assignment 2_2:
Due 8:00 AM Monday 6 Oct 2008
Submit: file zip of your source code

Objectives: In this assignment, you familiarize yourself with constant, variable, data types, operators, Scanner and Dialog classes. Remember that I expect you to follow programming style to make your code readable.

Note: You can discuss the assignment with your friends or your tutor but you have to complete by yourself. Copying other’s work is not permitted and you will get 0 point for any part you copied from your friends.

1. (20 points) Convert the following pseudocode to Java code. Be sure to choose reasonable data type and declare the appropriate variables.

   Store 3.14 in the PI variable, make this variable a constant.
   Store 5 in the radius variable
   Calculate and store the area of above circle in the circleArea variable.
   Store 9 in the length variable
   Store 8.2 in the width variable
   Calculate and store the area of above rectangle in the rectangleArea variable.
   Subtract are area of rectangle from area of circle and store the result in the difference variable
   Display area of circle, rectangle, and the difference in three separate lines:

   Example:
   Area of the circle: 78.5
   Area of rectangle: 73.8
   The difference is: 4.7

2. (25 points) Look at the image below. Assume that the radius’s length of the circle equals ½ length of a side of the square. Write a program to ask the user to enter side length of the square, then calculate and display the total area of the parts which are filled yellow color in image.
Example1:
Please enter side length of the square: 9
The area of yellow parts is: 17.415
Example2:
Please enter side length of the square: 5.8
The area of yellow parts is: 7.2326

3. **(25 points)** Write a program segment that displays a story using the following variables: name, age, city, college, yearOfAdmission, yearOfGraduate, profession. The program asks the user to enter these items, and then displays a story using the following format:

There once was a person named ..... who lived in ..... At the age of ..... ..... went to college at ..... in ..... ..... graduated in ..... after ..... years of study and went to work as a ..... 

Below is a sample of the story:
There once was a person named **Hoa** who lived in **Hue**. At the age of **20**, **Hoa** went to college at **SaigonTech** in **2002**. **Hoa** graduated in **2005** after **3** years of study and went to work as a **programmer**.

4. **(30 points)** Write a program that reads from keyboard the name, weight and the height of a person and then calculate his/her Body Mass Index (BMI) using the following formula:

\[
BMI = \frac{weight}{height^2}
\]

Where weight (in kilogram) and height (in meter) are real numbers representing the weight and the height of a person. The result should be rounded with two decimal places.
Then your program shows a message dialog to display the name in upper case letters and his/her BMI index.
Note that in this exercise, your program must show Input Dialog to get the user’s input data and use Message dialog to show the BMI Index.

Example:
What's your name?
Tran Van Thanh

What's your height?
1.75

What's your weight?
70

Hello TRAN VAN THANH Your BMI index is: 22.86