TP02

Java Data Input

# Remark

1. In Java, we can request user to input data by using class Scanner in package java.util. To use Scanner, we need to import java.util.Scanner. Example:

**import** java.util.Scanner;

**public** **class** UsingScanner {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

**int** a = sc.nextInt();

**long** b = sc.nextLong();

**float** c = sc.nextFloat();

**double** d = sc.nextDouble();

String e = sc.nextLine(); // read a line (including space)

String f = sc.next(); // read until space or line break

**char** g = sc.nextLine().charAt(0); // read as String and get first character

}

}

1. Datatypes:

|  |  |  |
| --- | --- | --- |
| **Type** | **Java** | **C** |
| char | 16 bits | 8 bits |
| short | 16 bits | 16 bits |
| int | 32 bits | 16, 32 or 64 bits |
| long | 16 bits | 32 or 64 bits |
| float | 32 bits | 32 bits |
| double | 64 bits | 64 bits |
| boolean | 1 bit | (use int) |
| byte | 8 bits | (use char) |
| String |  | (use char array or pointer) |

1. Specialties of String:  
   String has 2 roles:
   1. A Class type:
      1. It can be null example: String str = null;
      2. We can create object from String, example: String str2 = new String(“Titi”);
   2. A Base type: example:

String str;  
str = “This is normal value”;  
str = str + “ use just like int datatype”;

# TP02.1. Hello One’s Name

Implement an application Java that displays “Hello *<input\_name>*!” where *<input\_name>* represents user input from keyboard. Example:

Input your name: Visal  
Hello Visal!

# TP02.2. Rectangle

Write a program in Java to calculate perimeter and surface of a rectangle with given width and height from keyboard. Example:

Program for calculating perimeter and surface of a Rectangle.  
Please input width (in meter): 20  
Please input height (in meter): 30  
  
Perimeter = (20 + 30) x 2 = 100 m  
Surface = 20 x 30 = 600 m^2

# TP02.3. Equation

Write a program in Java to calculate value of x in a formula below:

Where y and z are given by user from keyboard. Suppose that x, y, z are non-zero. Example:

Program for calculating equation 1/x = 1/y + 1/z  
Please input y: 2.25  
Please input z: 2  
Result x = 1.0588236

# TP02.4. Hundreds Counter

Write a program in Java to count number of hundreds of given number from keyboard. Example:

Program for counting the number of hundreds.  
Please input a positive number: 2000  
  
There are 20 hundred in number 2000.

# TP02.5. Cheater Game

Write a program in Java to let user input a number from keyboard. After input, program will display a number that is 1 bigger than inputted number. Example:

Program for guessing your luckiness.  
Please input a positive number: 65  
  
I got 66. I am luckier.