#### Introduction to Java Programming - Using the 7.0 Scanner Class

Here is an example of using the new Scanner Class for inputting items in Java. This was new to the Java 5.0 ( 1.5 ) compiler. The Scanner Class can be used as

an alternative to the Buffered Reader, used in traditional Java.

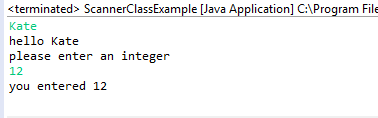
**Figure 1 Scanner Class Example**

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| import java.util.Scanner;  class ScannerClassExample  {  //example of using the scanner class  //which simplifies user input and output  //this is part of the JDK 1.8.0\_45 compiler  public static void main(String args[])  {  //declare a Scanner class object  Scanner sc = new Scanner(System.in);    //prompt user for their name  System.out.println("please enter your name");    //declare a local variable and read the integer  String name = sc.nextLine();    //display the name back to the user  System.out.println("hello " + name);    //prompt user for a number  System.out.println("please enter an integer");    //declare a local variable and read the integer  int num = sc.nextInt();    //display the number back to the user  System.out.println("you entered " + num);  }  } |

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Paste your output below.



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Write an executable JAVA program (with appropriate comments) that to perform the following:

1. Ask the user for their name;
2. Ask the user for three variables: w, x, y (all three variables should be float)
3. Return the name of the user;
4. Return the sum of x and y;
5. Return the subtraction of y from x;
6. Assign the product of x and y to the variable w;
7. Return the quotient of x by y;
8. Return the modulus of x and y and assign the result to the variable w.
9. Return the quotient of y by x with the result assigned to the variable z.
10. Return the result of raising the number x by the number y (exponent).

Note: to perform exponentiation (as Java does not have an exponentiaton operator), the import java.lang.Math; must be added at the top of the code. Declare the result as follows

double result = Math.pow(number, exponent);

You may use your labs, your notes and the text to solve this problem.

Place your source code below:

import java.util.Scanner;

import java.lang.Math;

class Exercise1b

{

//program that calculates different mathematical functions

public static void main(String args[])

{

//declare a Scanner class object

Scanner sc = new Scanner(System.in);

//prompt user for their name

System.out.println("please enter your name");

//declare a local variable and read the integer

String name = sc.nextLine();

//display the name back to the user

System.out.println("hello " + name);

//prompt user for w

System.out.println("please enter a number for w");

//declare a local variable and read the number for w

float numW = sc.nextFloat();

//prompt user for x

System.out.println("please enter a number for x");

//declare a local variable and read the number for x

float numX = sc.nextFloat();

//prompt user for y

System.out.println("please enter a number for y");

//declare a local variable and read the number for y

float numY = sc.nextFloat();

//display the sum of x and y to user

System.out.println("the sum of x and y is: " + (numX + numY));

//display the subtraction of y from x

System.out.println("the subtration of y from x is: " + (numX - numY));

//calculate product of x and y

float xy = numX \* numY;

//assign product of x and y to variable w

numW = xy;

//display quotient of x by y

System.out.println("the quotient of x by y is: " + (numX / numY));

//calculate modulus of x and y

float modxy = numX % numY;

//display modulus of x and y

System.out.println("the modulus of x and y is: " + modxy);

//assign modulus of x and y to variable w

numW = modxy;

//calculate quotient of y by x

float qyx = numY / numX;

//display quotient of y by x

System.out.println("the quotient of y by x is: " + (numY / numX));

//assign quotient of y by x to variable z

float z = 0;

z = qyx;

//calculate result of raising x by y

double result = Math.pow(numX, numY);

//display result of raising x by y

System.out.println("the result of raising x by y is: " + result);

sc.close();

}

}

Place your output below:

