

Introduction to Java

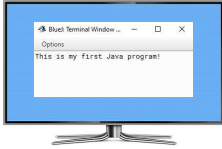
V103

The Most Common Data Types

Data Type	Data Example
String	"George"
int	10
double	3.1415
boolean	true or false
char	'A' or 'a'

First Program

```
/**
 * This is a simple Java program which prints one line to the monitor
 *
 * @author James Bond
 * @version v100
 */
public class firstProgram
{
    //class
    public static void main(String args[])
    {
        //main
        System.out.println("This is my first Java program!");
    }
    //main
}
//class
```



more Data Types for Numbers

There are six numeric types four integer and two floating point:

byte 1 byte -128 to 127.

short 2 bytes -32,768 to 32,767.

int 4 bytes -2,147,483,648 to 2,147,483,647.

long 8 bytes -9,223,372,036,854,775,808 to 9,223,372,036,854,775,80.

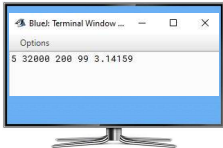
float 4 bytes 7 decimal digits.

double 8 bytes 16 decimal digits.

Outputting Numbers

```
public class OutputtingNumbers
{
    //class
    public static void main(String[] args)
    {
        //main
        byte b = 5;
        short s = 32000;
        int i = 200;
        long m = 99;
        double pi = 3.14159;

        System.out.print( b + " ");
        System.out.print( s + " ");
        System.out.print( i + " ");
        System.out.print( m + " ");
        System.out.print( pi + " ");
        System.out.println();
    }
    //main
}
//class
```



Escape Characters

Some of the characters you may want to display might need special treatment.

Escape Characters	How to Print In Java
a tab (usually 7 or 8 spaces)	System.out.println("\t");
the backslash, i.e. \	System.out.println("\\ ");
a return (advances to next line)	System.out.println("\n"); or System.out.println();

Getting User Input into a Variable

```
import java.util.Scanner;

/**
 * This program asks the user to enter their name and age
 *
 * @author James Bond
 * @version v100
 */
public class AskForAge
{
    //class

    public static void main (String[] args)
    {
        //main
        Scanner keybd = new Scanner(System.in);

        String name;
        int age;

        System.out.print("Enter your first name: ");
        name = keybd.nextLine();

        System.out.print("Enter your age: ");
        age = keybd.nextInt();

    }
    //main
}
//class
```

1. Attach the Scanner library
2. Create keybd object of type Scanner
3. Read a string then an integer.



Swapping Two ints

```
/**
 * This program demonstrates swapping two integers.
 *
 * @author James Bond
 * @version v100
 */
public class NumbersPgm
{
    //class
```

```
public static void main(String args[])
{
    //main
```

```
    int x = 10;
    int y = 20;
    int temp = 0;
```

```
    //to swap the values in x & y, you need a third variable temp
    System.out.println ("Before: x = " + x + " y = " + y);
```

```
    temp = x;
    x = y;
    y = temp;
```

```
    System.out.println ("After : x = " + x + " y = " + y);
```

```
}
//main
```

```
}
//class
```

