



Structured Programming 1

Practical 1 – the Basics of Java Programming

At the Start of the Session:

- Create a directory on your computer called `MyJavaFiles`.
- Save all work (design and source code) to this folder on your local computer.
- At the end of the session connect to, and upload, your files to your `GitHub`.

The "Hello World!" Example

```
//HelloWorld.java
/*This program sends a simple "Hello World!" message to the screen*/

public class HelloWorld {
    public static void main(String args[])
    {
        System.out.println("Hello World!"); //the message being displayed
    }
}
```

Try It

Exercise 1: write a program `Lab1Ex1.java` that outputs the following message to the screen:

```
General Output
-----Configuration: <Default>-----
My name is Paul and I live in Cork
Process completed.
```

Add comments at the top of your code to indicate what the purpose of your program is. Save it as **Exercise1.java** in the folder **Lab1** on your X: drive and then compile and run it.

Try the following code in JCreator, compile and see what happens.



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```
// LotsOfComments.java
// Paul Collins - Lab1
/* This is a multi-line comment
 *
 *
 *
 * because it runs over multiple lines.
 */

// The single line comments work too
public class LotsOfComments{

    public static void main(String args[]){

        System.out.println("Does nothing - shows different comments");
    }
}
```

Type the following in JCreator, compile and see what happens.

```
// LongText.java
// Paul Collins - Lab 1
/* Concatenate strings (or using + to add them together */

public class LongText{

    public static void main(String args[]){

        System.out.println("The rain in Spain " +

            "falls in Spain, mainly");
    }
}
```

Now try the following variation:

```
// NewLines.java
// Paul Collins - Lab 1
/* How do separate println() statemens work? */

public class NewLines{

    public static void main(String args[]){

        System.out.println("The rain in Spain ");
        System.out.println("falls in Spain, mainly");
    }
}
```



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What is the difference between this program and the last program?

Now try the following variation:

```
// NewLinesCharacters.java
// Paul Collins - Lab 1
/* Using \n to control new lines in the output */

public class NewLinesCharacters{

    public static void main(String args[]){

        System.out.println("Believe you can \nand you are half way there\nTheodore Roosevelt");
    }
}
```

Now try the following variation:

```
// DoubleQuotes.java
// Paul Collins - Lab 1
/* How to use \n and display double quotation "" points */

public class DoubleQuotes {

    public static void main(String args[]){

        System.out.println("\"Believe you can \nand you are half way there\" \nTheodore Roosevelt");
    }
}
```

Exercise 2: Write a Java program Lab1Ex2.java that produces the following output **exactly as indicated** in the screenshot below. Use **one** `println()` **method** along with the various special characters, also include comments.

```
"Fear is the path to the dark side.
Fear leads to anger.
Anger leads to hate.
Hate leads to suffering."
    Master Yoda
```

[The original quote is "Fear is the path to the dark side. Fear leads to anger. Anger leads to hate. Hate leads to suffering." Master Yoda]

At the end of the session transfer all your code to your GitHub repository.