

## **Document Summary:**

This document will cover how to get your computer ready to code on and how to write a simple program. Coding is a great skill to acquire. First off, coding is writing instructions for a computer to follow. One can write code to do something as simple as output text all the way up to writing an operating system for a computer. Coding allows one to make a computer perform different operations. Why would one want to do this? First of all coding will allow the individual to understand how computers work in a clearer way. So rather than just using a computer, one could understand what is happening behind the scenes to a degree. Secondly coding is very fun and rewarding. A career can easily be made out of obtaining this skill.

I will start by instructing the reader on where to go to download a coding environment and the compiler necessary to start coding. Then I will instruct the reader on how to output text. If an individual has not coded before but is interested in getting a basic feel for it, this document may help that individual see if they have any interest in coding. They should remember that as they get better and better at coding,

## **Glossary:**

**Compiler:** A program which translates code into machine language. This means that the code that one writes cannot be directly read by the computer. The computer needs to read 1's and 0's, and a compiler translates a program into 1's and 0's for programmers.

**IDE:** An integrated development environment. These have coding tools in them and are made for writing programs in.

**Java:** A programming language. Java is one of the most used programming languages right now.

**Method:** A method is a subroutine associated with an object. It basically makes an object do something.

**Object:** A place in memory with value which is being referenced.

**Program:** A set of instructions for a computer. A program makes the computer act. A program can be as simple as just outputting text all the way up to an operating system running the computer.

**Programming Language:** A language designed to instruct a computer as to what it should do. There are many programming languages (C, Java, Python). Different languages have different strengths and weaknesses. Some are designed for heavy mathematical computation, while others are designed for allowing the user to directly communicate with hardware.

**Unzip:** When a file is compressed, unzipping it decompresses it. The point of this is to save space on websites and to make downloads faster.

## Instructions:

1) You will need to begin by downloading JDK to your computer. This is the compiler that will allow you to translate your program so the computer can perform the instructions. Go to this link: <http://www.oracle.com/technetwork/java/javase/downloads/jdk7-downloads-1880260.html>. Here you will see that you have to choose which one to download. Choose the appropriate link depending on your operating system. If you have Windows and you are unsure of what operating system that you have, go to the start menu, right click on my computer, and click properties. At the top it should say which edition that you have. IF you are still having trouble figuring out what operating system that you are running, go to this link and follow these instructions:

<http://www.wikihow.com/Check-a-PC-Operating-System>

2) Once the file is downloaded, click on it and the compiler should automatically install.

3) Next you need to download an IDE to code in. Go here and download eclipse: <https://www.eclipse.org/downloads/>. Choose the correct version based on your operating system.

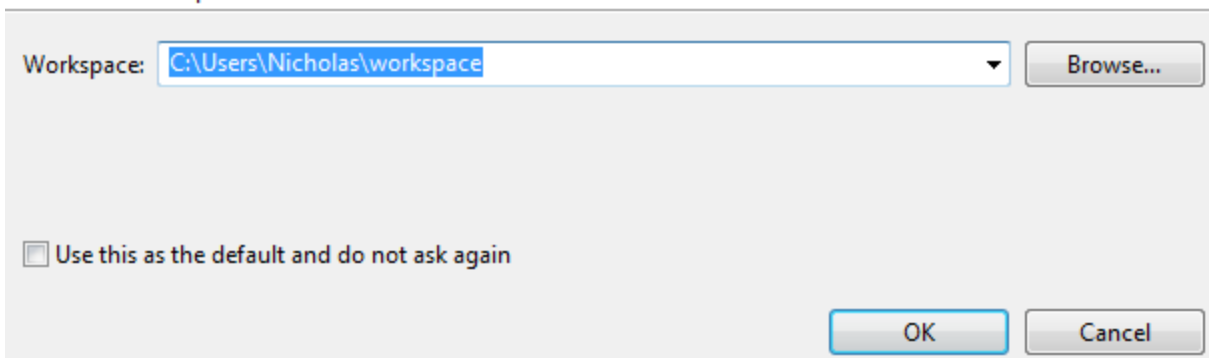
4) When eclipse downloads, go to where it was downloaded and unzip the folder. To unzip you need an unzip program, such as 7zip. Go here and download it: <http://www.7-zip.org/>. Now you will be able to double click or right click the eclipse download and unzip it. Choose a destination and remember where it is.

5) After unzipping the folder, go to where you unzipped it and click on the eclipse.exe file in the folder.

6) Once opened, it will ask you about creating a folder called workspace. This is the default place the programs that you write will be stored. Change the location if you wish, or just leave it. Then press ok.

### Select a workspace

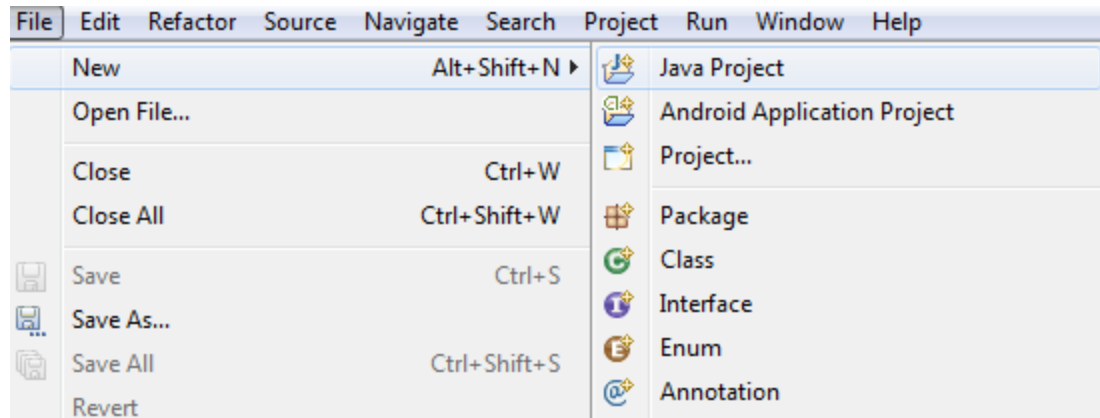
ADT stores your projects in a folder called a workspace.  
Choose a workspace folder to use for this session.



Workspace:

Use this as the default and do not ask again

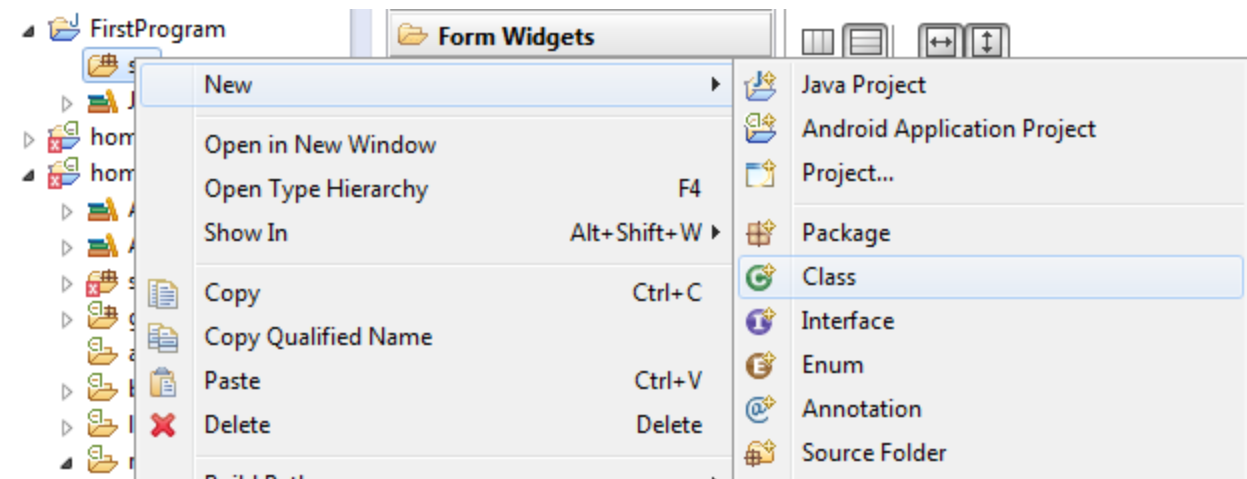
7) Click on file, then new, then Java project.



8) Give the project a name, such as FirstProgram. Then press ok.

9) Now look on the left. You will see your program with a small arrow next to it. Click on the arrow.

10) Now right click the src folder. Choose new class. Name the class Program and click Finish.



12) Now the class will appear on your screen. We need to write the program inside of the brace ({}). There is a beginning and end brace, all of the code needs to go in here. If something is inside of the braces, the computer knows that those instructions are included in the program.

```
1  
2 public class Program {  
3  
4 }  
5
```

13) Inside of the braces, type:

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

```
}
```

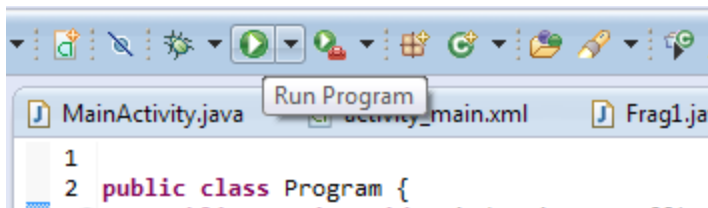
This is the main method. In Java, the main runs when the program is called. So this is where we will type for simplicity.

14) Inside of the main braces, type

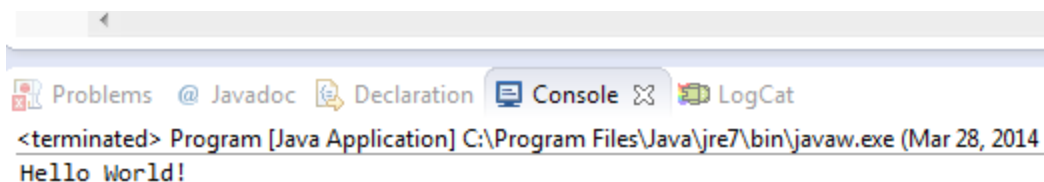
```
System.out.println("Hello World!");
```

```
1
2 public class Program {
3     public static void main(String args[]) {
4         System.out.println("Hello World!");
5     }
6 }
7
```

15) Click the Run icon at the top as shown in the picture below:



16) You should see something like this output in the console (which is by default at the bottom of eclipse)



17) This is the generic first program that most individuals tend to write. So what is this doing? This is calling a method which is already written by someone else. The instructions tell the computer to output whatever text you put in the quotations in the standard output of the computer (in eclipse, the standard output is the console). Try typing some other phrases in the quotations. If you are receiving an error, most likely you misspelled System.out.println or you forgot the semi colon at the end of the line. This is a

very trivial program and it should not be difficult to make it work correctly. I hope that you found this guide helpful and that maybe you will consider programming as a possible option for yourself.