Task:

* Java Basics
* HelloWorld (IDE)

It's time to write your first application! To write your first program, you'll need the Java SE Development Kit (JDK). It is usually best to use the official latest version. <https://www.oracle.com/java/technologies/downloads/>

It is possible to use older versions of the JDK for compatibility, JDK version 8 is very popular for this reason. There are alternatives to the Oracle JDK such as OpenJDK.

What version is on your current computer? To find out open a command prompt (CMD) from the start menu and types the following command: **java -version**

Text

Description automatically generated

If this command does not work, you may not have the JDK installed, or you may have a to set the path variable. The path variable tells windows where the JDK and all the important java files are located.

The path variable is usually set automatically during the JDK installation, more information can be found here: <https://www.java.com/en/download/help/path.html>

To write your program, you'll need an IDE. There are lots to choose from, NetBeans and Eclipse are among the more popular IDE’s. As always it is usually best to use the latest version from an official website. Most IDE’s come in “different flavours” meaning they may be best suited or setup in a particular way for a specific project or language.

Table

Description automatically generated

<https://netbeans.apache.org/download/index.html>

<https://www.eclipse.org/downloads/>

It is possible to use older versions of an IDE for compatibility but not recommended unless necessary.

Some IDE’s come pre bundled with the JDK. If this is not the case, you must install the JDK first.

It is up to you to decide and keep track of which version of an IDE to use as well as which version of a JDK to use. This course will use NetBeans and utilize the swing GUI framework.

From the start menu open NetBeans, select File -> New Project -> Java with Ant -> Java Application

Graphical user interface, text, application

Description automatically generated

Our project is called HelloWorld. The project will use a dedicated folder for storing any necessary libraries, this folder is found within the project, it is usually called .\lib. There will also be a Main.

Graphical user interface, text, application, email

Description automatically generated

Modify the HelloWorld.java file and add the following code. This file is located inside the HelloWorld application.

Graphical user interface, text, application

Description automatically generated

**package helloworld;**

**import javax.swing.\*;**

**/\*\***

**\***

**\* @author gavin**

**\*/**

**public class HelloWorld {**

**/\*\***

**\* @param args the command line arguments**

**\*/**

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

**javax.swing.SwingUtilities.invokeLater(new Runnable() {**

**public void run() {**

**createAndShowGUI();**

**}**

**});**

**}**

**private static void createAndShowGUI() {**

**//Create and set up the window.**

**JFrame frame = new JFrame("CDCFE - Computer Science Y2");**

**frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);**

**//Add the ubiquitous "Hello World" label.**

**JLabel label = new JLabel("Hello Computer Science Class");**

**frame.getContentPane().add(label);**

**//Display the window.**

**frame.pack();**

**frame.setVisible(true);**

**}**

**}**

When you have completed the code modification you can run the code. In the toolbar select run -> run project (HelloWorld). You should see the following on your screen:

Graphical user interface, text, application

Description automatically generated

Congratulations! Your program works! If you encounter problems it’s time to troubleshoot.