

# Computer Science Revealed

## Clinic #1:

- Installing Java
- Writing, compiling and running a program

# Installing Java

- Mac OS
  - Already installed!
  - Type **javac** in Terminal
- Linux (Ubuntu)
  - `sudo apt-get install openjdk-7-jdk`
- Windows
  - Coming up next...



# What do I need?

- **JRE – Java Runtime Environment**
  - “Java 7 Update 40”
  - Most users (non-programmers) have this
  - Required to run Java programs
- **JDK – Java Development Kit**
  - Tools for developing Java applications
  - Includes JRE



jdk download

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## Java SE Development Kit 7 Downloads

Thank you for downloading this release of the Java™ Platform, Standard Edition Development Kit (JDK™). The JDK is a development environment for building applications, applets, and components using the Java programming language.

The JDK includes tools useful for developing and testing programs written in the Java programming language and running on the Java platform.

### Looking for JavaFX SDK?

JavaFX SDK is now included in JDK 7 for Windows, Mac OS X, and Linux x86/x64.

See also:

- Java Developer Newsletter (tick the checkbox under Subscription Center > Oracle Technology News)
- Java Developer Day hands-on workshops (free) and other events
- Java Magazine

JDK MD5 Checksum

### Java SE Development Kit 7u40

You must accept the Oracle Binary Code License Agreement for Java SE to download this software.

Thank you for accepting the Oracle Binary Code License Agreement for Java SE; you may now download this software.

Product / File Description	File Size	Download
Linux ARM v6/v7 VFP Hard Float ABI	67.62 MB	<a href="#">jdk-7u40-linux-arm-vfp-hflt.tar.gz</a>
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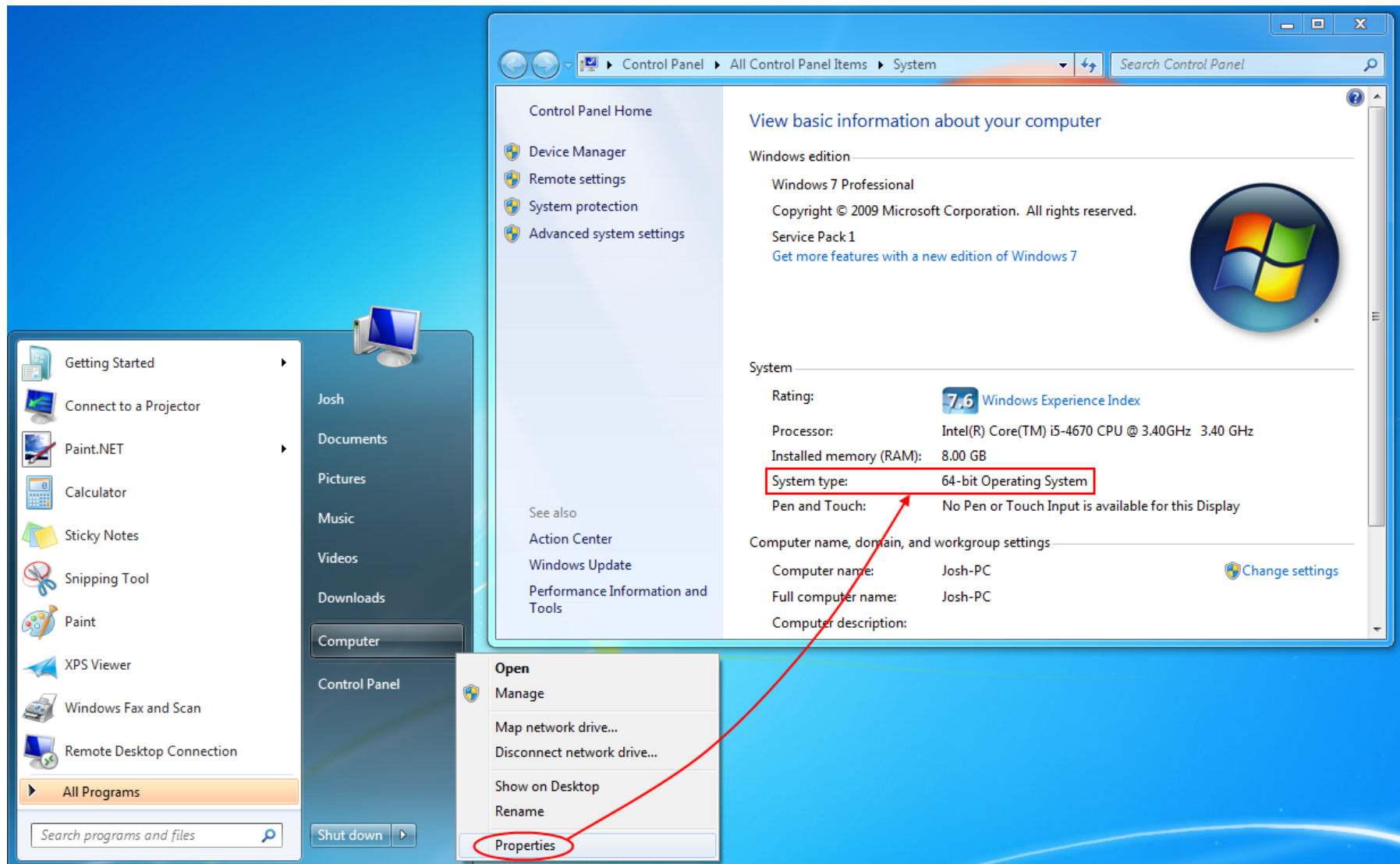
### Java SDKs and Tools

- Java SE
- Java EE and Glassfish
- Java ME
- JavaFX
- Java Card
- NetBeans IDE
- Java Mission Control

### Java Resources

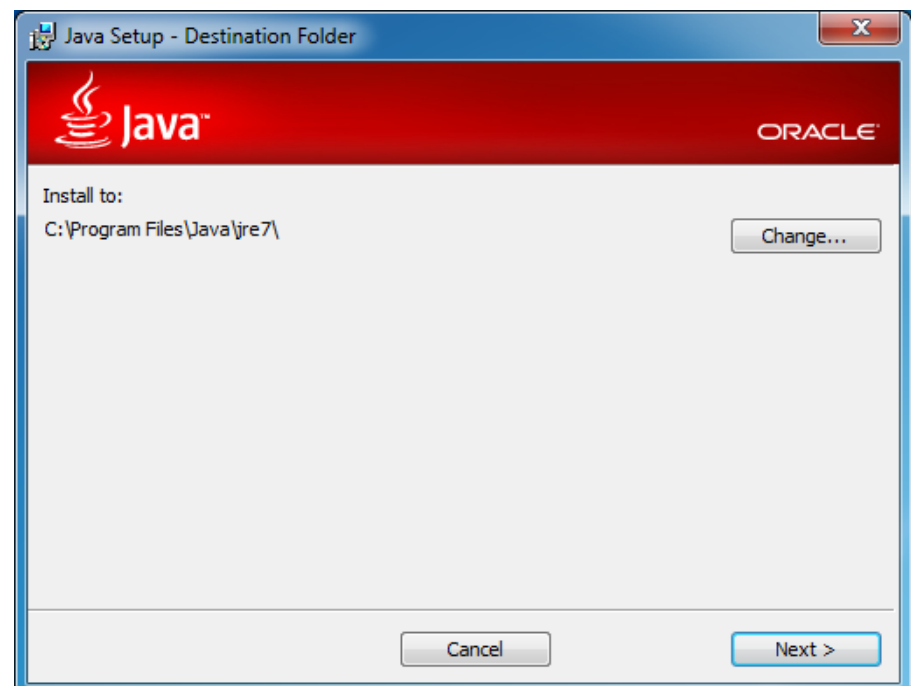
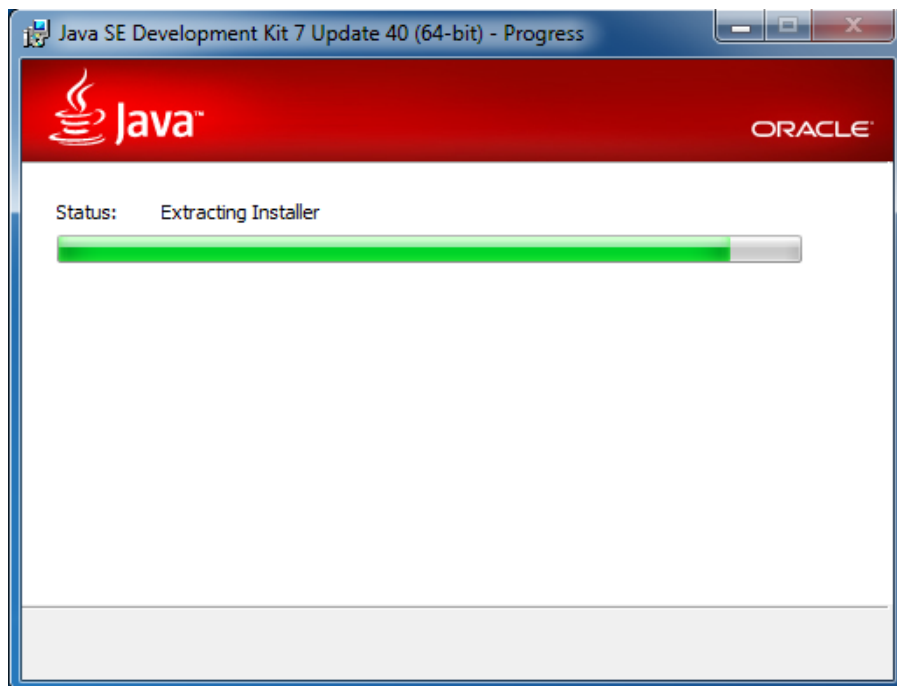
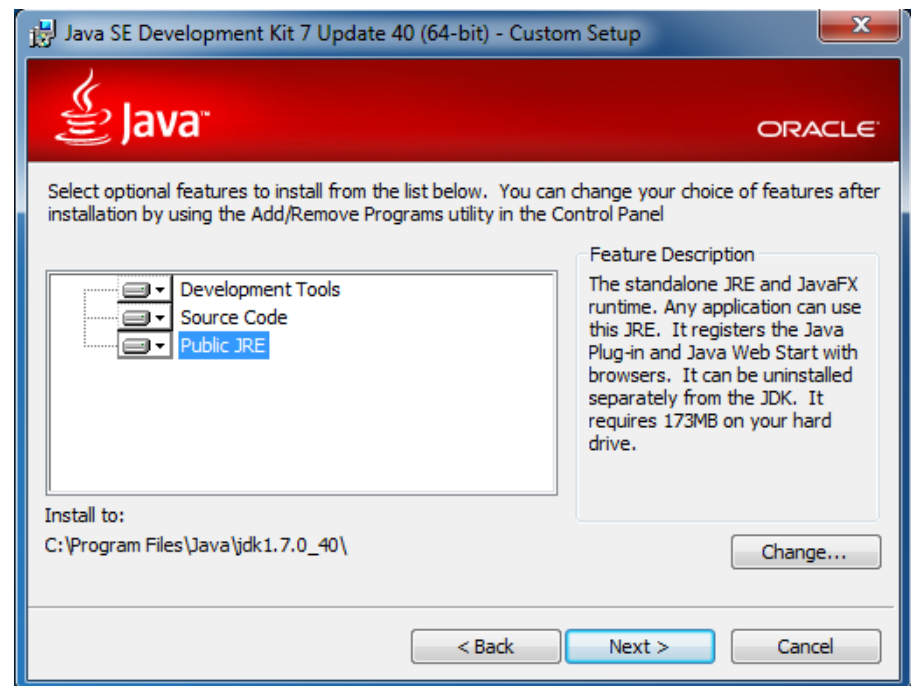
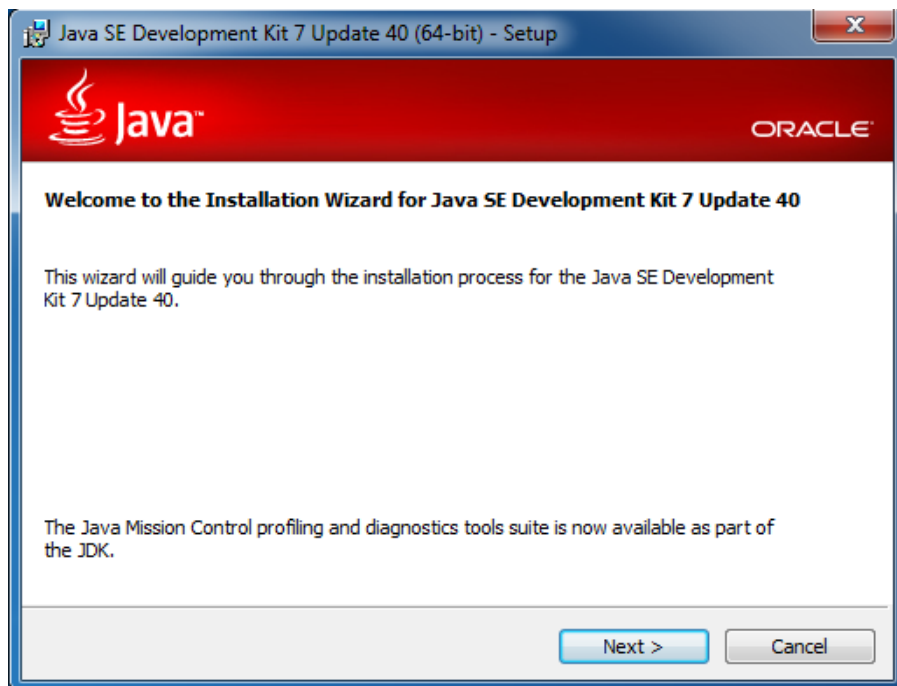
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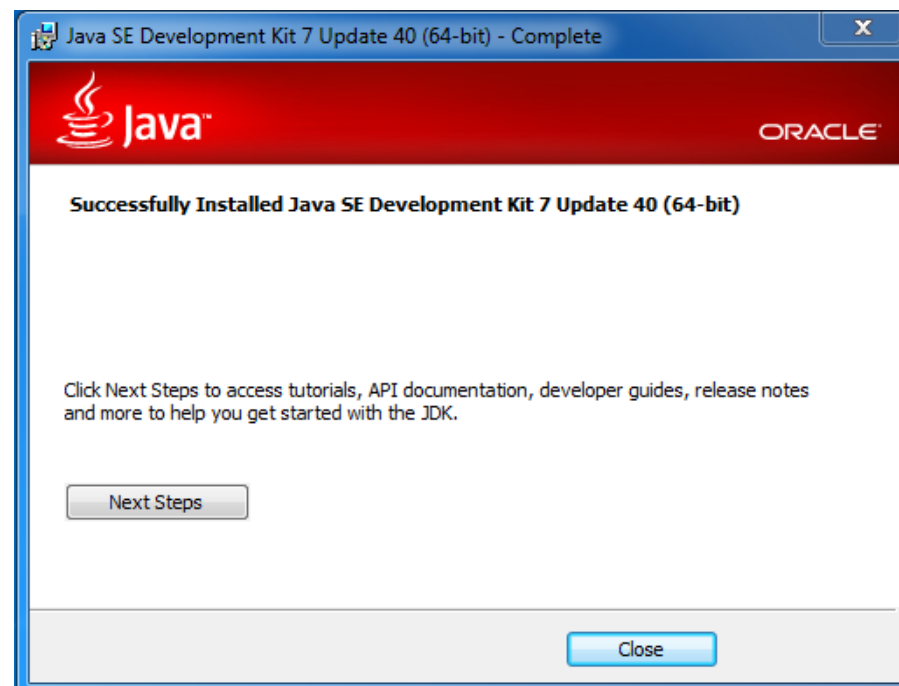




32-bit Operating System = Windows x86

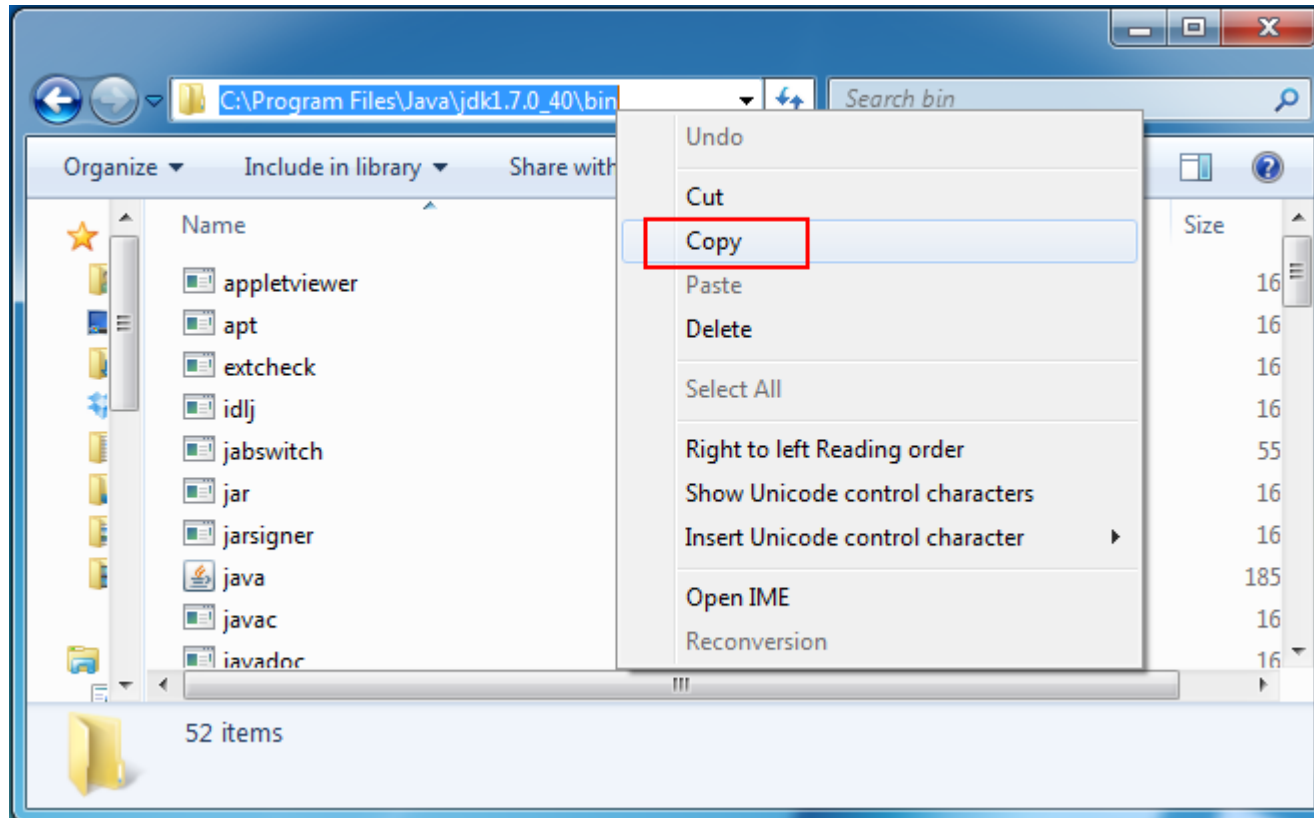
64-bit Operating System = Windows x64





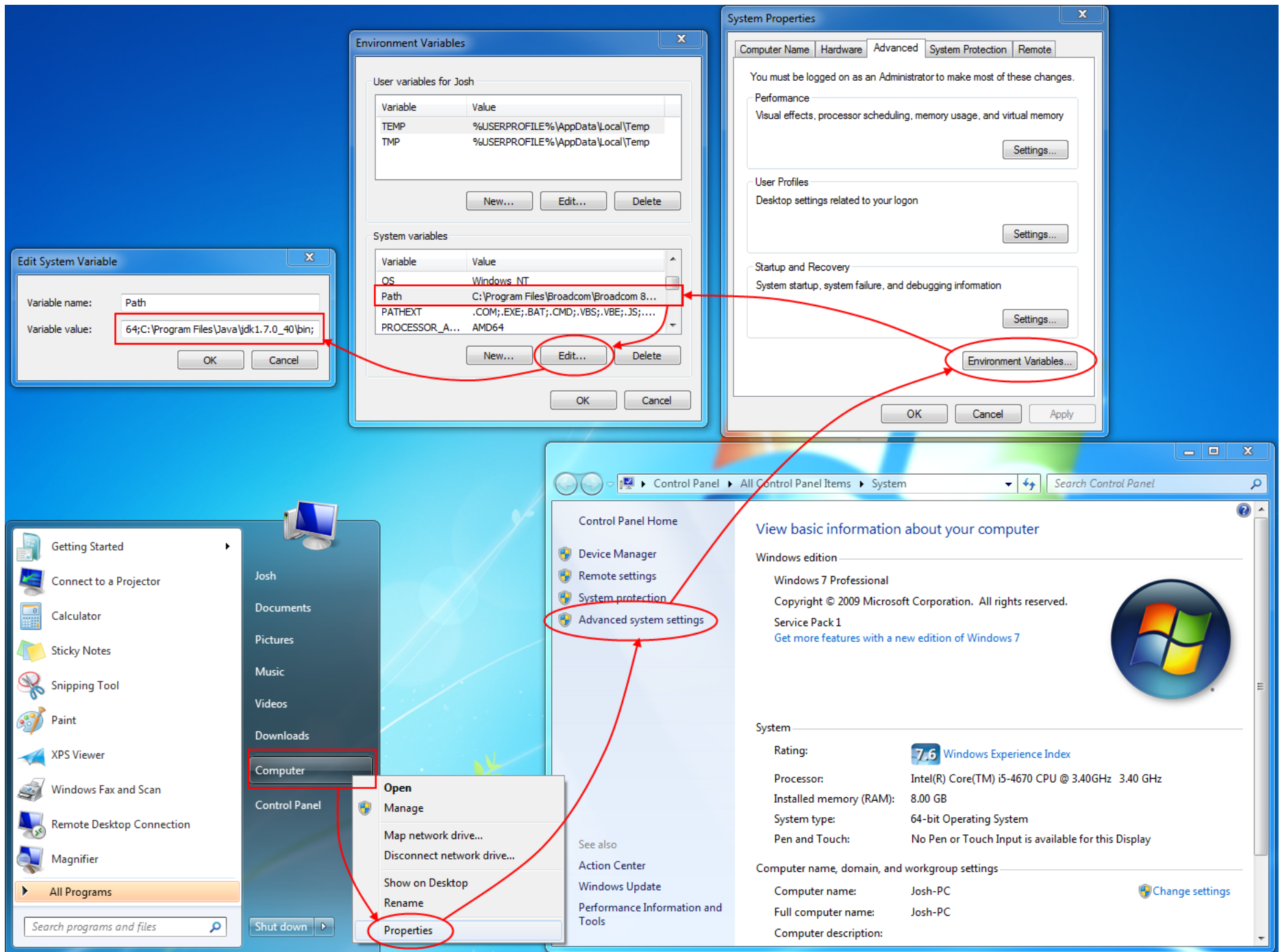


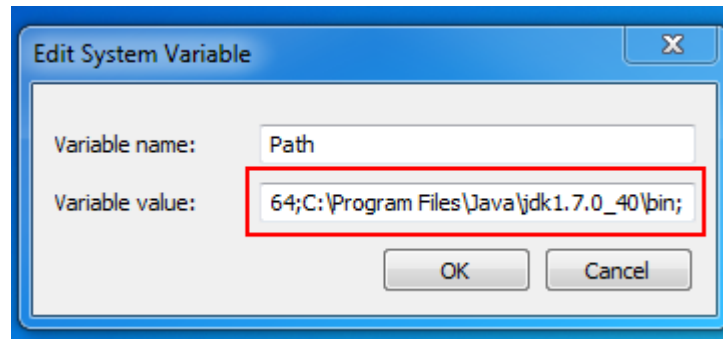
- Find and copy the path to your **JDK bin** folder



Something like...

**C:\Program Files\Java\jdk1.7.0\_40\bin**

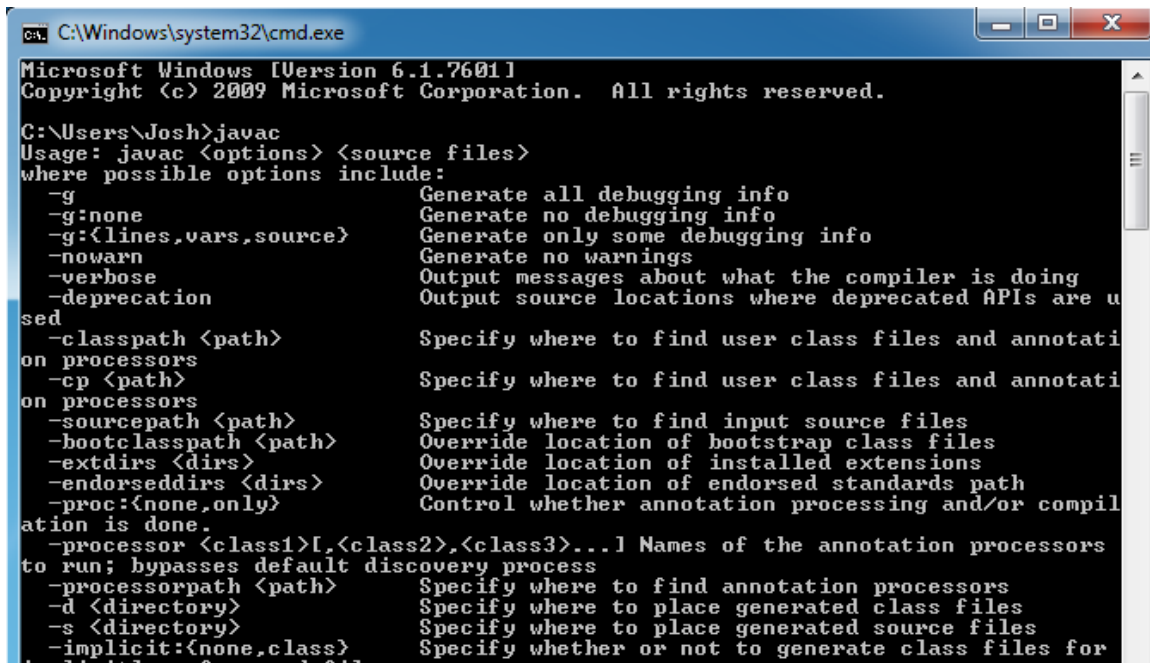




- Paste what you copied before onto the end
- Don't forget to add a **semicolon**
- Should look like this:

**...other stuff...;C:\Program Files\Java\jdk1.7.0\_40\bin;**

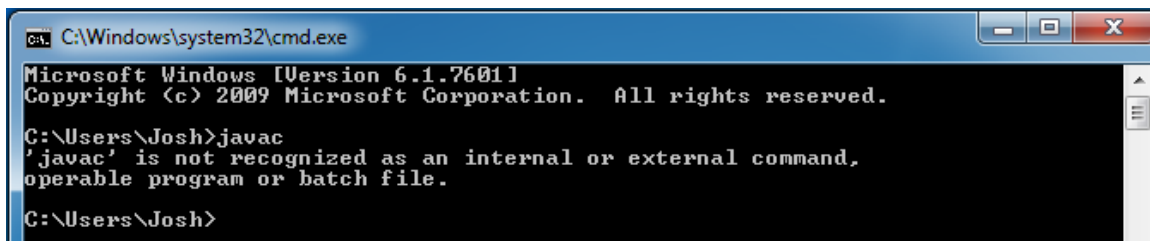
- Open **Command Prompt**
  - search **cmd** in Start Menu
- Type **javac**



```
CA: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Josh>javac
Usage: javac <options> <source files>
where possible options include:
  -g               Generate all debugging info
  -g:none          Generate no debugging info
  -g:{lines,vars,source}  Generate only some debugging info
  -nowarn          Generate no warnings
  -verbose         Output messages about what the compiler is doing
  -deprecation     Output source locations where deprecated APIs are used
  -classpath <path> Specify where to find user class files and annotations
  -cp <path>       Specify where to find user class files and annotations
  -sourcepath <path> Specify where to find input source files
  -bootclasspath <path> Override location of bootstrap class files
  -extdirs <dirs>   Override location of installed extensions
  -endorseddirs <dirs> Override location of endorsed standards path
  -proc:{none,only} Control whether annotation processing and/or compilation is done.
  -processor <class1>[,<class2>,<class3>...] Names of the annotation processors to run; bypasses default discovery process
  -processorpath <path> Specify where to find annotation processors
  -d <directory>     Specify where to place generated class files
  -s <directory>     Specify where to place generated source files
  -implicit:{none,class} Specify whether or not to generate class files for implicitly referenced files
```

Working



```
CA: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Josh>javac
'javac' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\Josh>
```

Not Working

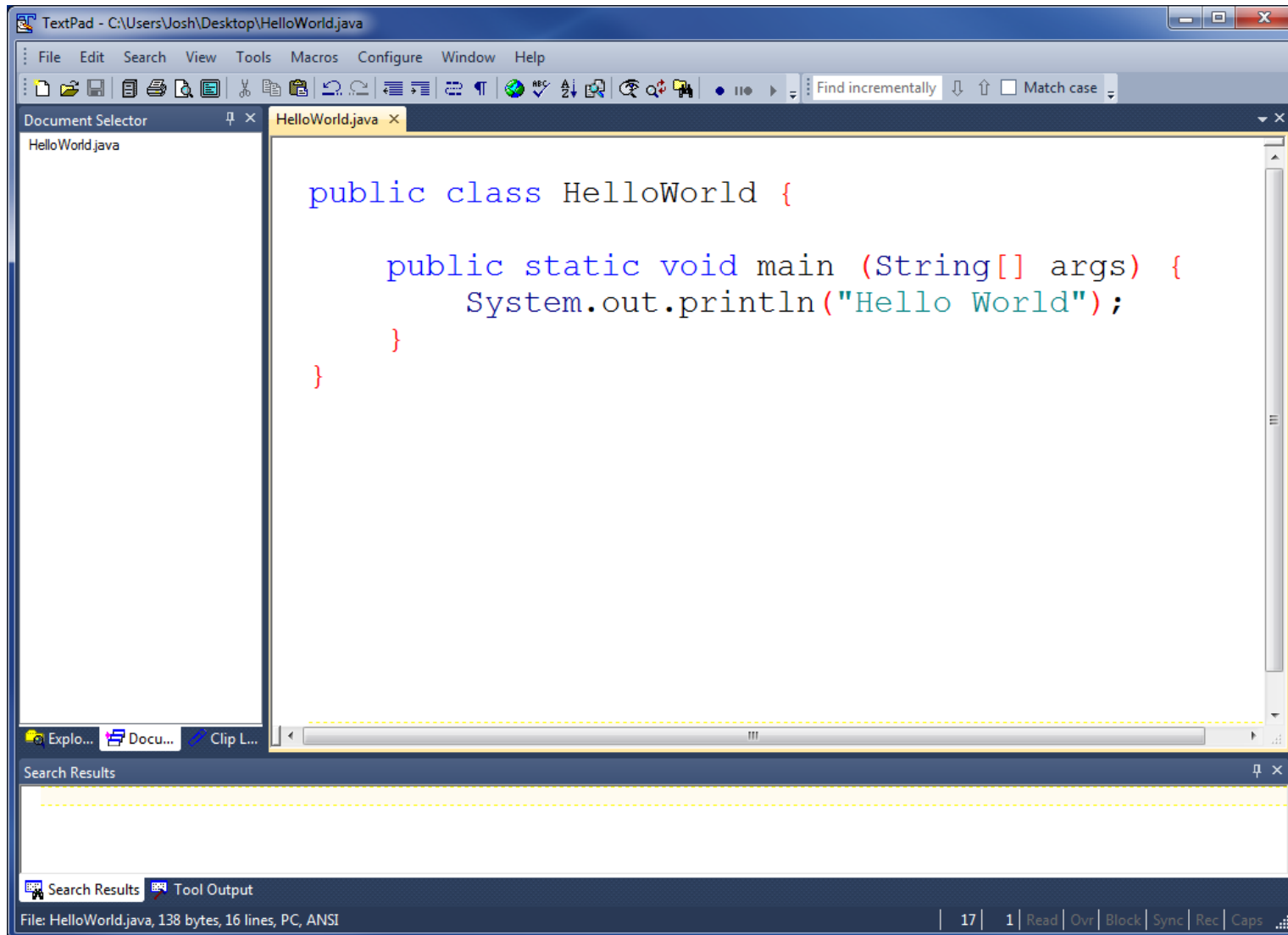


# Writing, compiling and running a Java program



# Open up a text editor

- Windows
  - Notepad – Already installed
  - TextPad – [textpad.com](http://textpad.com)
- Mac OS
  - Sublime Text – [sublimetext.com](http://sublimetext.com)
- Linux (Ubuntu)
  - Gedit – Already installed



Save file as HelloWorld.java

# Command Prompt / Terminal

- **dir** – Windows
- **ls** – Mac OS / Linux
  - show files and folders in current directory
- **cd <target>**
  - change to a new directory

cd Documents

cd ..





# Compiling/Running

- **javac HelloWorld.java**
  - Compiles your source code into bytecode
  - Bytecode is stored in a new file 'HelloWorld.class'
- **java HelloWorld**
  - Java Virtual Machine (JVM) interprets the bytecode and executes your program!

