

1 **Java Console Applications**

CST141

3 **The javac Compiler (Page 1)**

- Sun Microsystem's Java compiler is named "javac.exe" and may be run from implicitly from an IDE or from the command line
 - Compiler probably is located in folder:
 - "c:\Program Files\Java\jdk1.8.0\bin"
 - The "jdk" numbers will vary base upon your version of Java
- Successfully compiling the java source file (.java file) creates a class file (.class file)
 - *Compile errors* are displayed in console window

4 **The javac Compiler (Page 2)**

- At command prompt, type javac followed by the filename including the ".java" extension
- Format:
 - path:\javac SourceFileName.java*
 - *SourceFileName* is case sensitive
 - The path environmental variable may need an entry naming the location of the compiler
- Examples:
 - javac Console1.java
 - c:javac Console1.java
 - c:\Program Files\Java\jdk1.8.0\bin\javac Console1.java

5 **JVM (Page 1)**

- Sun Microsystem's Java Virtual Machine is the runtime system (application) which *executes* the compiled Java class file
- The JVM is named "java.exe"
 - JVM probably also is located in folder:
 - "c:\Program Files\Java\jdk1.8.0\bin"
 - The "jdk" numbers will vary based upon your version of Java

6 **JVM (Page 2)**

- To run a Java application from the console, type java followed by the class filename
 - The ".class" extension should not be included
- Format:
 - path:\java ClassFileName*
 - *ClassFileName* is case sensitive
- Examples:
 - java Console1
 - c:java Console
 - c:\Program Files\Java\jdk1.8.0\bin\java Console1

7 **The Path Environmental Variable (Page 1)**

- The path to a file is basically its address on the computer (the drive plus any directories and sub-directories where file is located)
- The PATH environment variable specifies the *command search path*
- Any file in a directory listed in the PATH variable can be found by direct reference to the name of the file
 - You do not have to specify the file's path

8 **The Path Environmental Variable (Page 2)**

- To permanently change the PATH variable:
 1. Right-click on "MyComputer" (or simply "Computer" in Vista or Windows 7 or Windows 10) and select Properties
 2. Click the "Advanced" tab and then the <Environment Variables> button

9 **The Path Environmental Variable (Page 3)**

- To permanently change the PATH variable (con.):
 3. Scroll through "System variables" window at the bottom and click "Path" when you find it; then click the <Edit> button

10 **The Path Environmental Variable (Page 4)**

- To permanently change the PATH variable (con.):
 4. Type a semicolon (;) and then enter then the added path, e.g.
 - "c:\Program Files\Java\jdk1.8.0\bin"
 - The "jdk" numbers will vary base upon your version of Java

13 **The String[] args Parameter (Page 1)**

- In the header for the main() method:


```
public static void main(String[] args)
```
- ... the parameter args is an *array* of type String and dynamic (undeclared) size
- Method main() is the first method that executes in a Java application
 - *It never is called* by another method ...
- So how can arguments be passed to it?

14 **The String[] args Parameter (Page 2)**

- One method is when argument values are passed to application from the *console* when the program is executed by the JVM, e.g.


```
java Console3 m 34
```

 - In this instance, m and 34 are the arguments ...
 - So before method main() begins to execute, args would be instantiated as "String args[2]" with the following assignments:
 - args[0] = "m"
 - args[1] = "34"

15 **The length Property of an Array**

- As with any *array*, the length property stores the size of (number of elements in) the

array

□ Format:

arrayObject.length

□ Example:

```
if (args.length != 2)
```

```
{ ...
```