

File: HW1-Answers

This file contains answers to the questions specified in the PR1.pdf

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1. What command line is used to create the javadoc documentation in HW1/doc?

```
javadoc -author -version -d doc Counter.java
```

2. What command-line flag is used to create the author and version entries for the class

```
-author  
-version
```

3. Tell us if the following properly run unit tests

```
java -cp './usr/share/java/junit4.jar' org.junit.runner.JUnitCore CounterTest  
It properly runs the code.
```

```
java -cp './usr/share/java/*' org.junit.runner.JUnitCore CounterTest  
It properly runs the code.
```

```
java -cp './usr/share/java' org.junit.runner.JUnitCore CounterTest  
Error: Could not find or load main class org.junit.runner.JUnitCore  
(Explanation) The file under the classpath is not properly specified.  
/usr/share/java should be followed by files in the class path, i.e.  
the entire directory of .jar files in the class path must be specified.
```

```
java -cp './usr/share/java/junit4.jar' JUnitCore CounterTest  
Error: Could not find or load main class org.junit.runner.JUnitCore  
(Explanation) JUnitCore is a class. And the org.junit.runner is a  
package, that provides the JUnitCore to run the tests. Thus, to run  
tests from the command line, we must include the package name.
```

```
java -cp './usr/share/java/junit.jar' JUnitCore CounterTest  
Error: Could not find or load main class org.junit.runner.JUnitCore  
(Explanation) The cause of error is the same as the fourth one.  
JUnitCore is a class. And the org.junit.runner is a  
package, that provides the JUnitCore to run the tests. Thus, to run  
tests from the command line, we must include the package name.
```

4. -cp and -classpath are "command-line switches" the java and javac command to set Java's classpath.

What is another way to set the classpath without using a command-line switch?

Besides the command-line switch, we can also use shell script to do this.

For example, for C shell (csh), we can use

```
set path=(/usr/share/java/junit4.jar $path)
```

And there are other specifications for bash, ksh, sh, etc.

5. Why must the main method of a java program be declared static?

main() is called by the JVM before any objects are made. It should be

declared static because it should be invoked directly via the class.

6. Suppose you are given a program in the current directory called a.out, Assume that the PATH environment variable has contents /bin:/usr/local/bin:/usr/bin, give command lines to do the following

a. execute a.out and redirect standard error (stderr) to a file called "outerr.log"

```
./a.out 2>> outerr.log
```

b. execute a.out and redirect stdout and stderr to a file named "combined.log"

```
./a.out >> combined.log 2>&1
```