

Packages and Quotation

Due Date

This assignment is due Friday, 2012-01-20 *at the beginning of lecture.*

Purpose

To become familiar with string quotation and packaging concepts.

Hello "Magnus"

Your goal in this section is to write a very short `Hello.java` program so that

```
java lab1.Hello Magnus
```

prints

```
Magnus says "Hi" back.
```

The technical detail that you require is how to produce quotation marks inside strings. Look in *Big Java* for the appropriate information.

- ⇒ Write a program that works as specified above. Note that you will require a package statement in `Hello.java` in order to make this work.
- ⇒ Include in the comments for the program the page numbers of *Big Java* that document how to put quotation marks in strings.

Uncompiling Strings

Your goal in this section is to write a program `JavaString.java` program so that

```
java lab1.JavaString cat dog\ and]\ mouse bil\"l
```

prints

```
"cat "  
"dog and mouse "  
"bil\"l"
```

That is, each shell argument is quoted *as a Java string* and echoed back to standard output. Be very careful. Exactly how quotation marks and backslashes work with your shell depend very much on the shell and its setting, and are not to be the same as how `JAVA` does it.

The output should be designed so that it can be pasted into a `JAVA` program where strings are allowed. That is, it should deal correctly with enclosed `"`, `\`, `'`, and new-line characters. Furthermore, the output string should be entirely printable ASCII: that is, `java lab1.JavaString soufflé` should produce `"souffl\u00e9"`.

⇒ Write a program that works as specified above. Your program must contain a method

```
public static String quote(String x) { ... }
```

that computes the quoted version of a `JAVA` string. For A^+ -credit use the `StringBuffer` or `StringBuilder` class inside this method to build the answer efficiently.

Program programs

This question is deliberately head-bending. Your goal is to write a program that that writes a program. More specifically,

```
java lab1.WriteSayHello Fred
```

produces a file named “lab1/HelloFred.java”, so that, after “lab1/HelloFred.java” is compiled,

```
java lab1.HelloFred
```

produces

```
Fred says "Hi".
```

- ⇒ Write a program that works as specified above. You may assume that `WriteSayHello` is passed exactly one argument that is legally part of a class name.
- ⇒ Look at the comic at <http://xkcd.com/327/>, and explain how it is relevant to this assignment. Put your explanation in `/* ... */` comment in the `WriteSayHello` program.