

CO225: Software Construction

Lab 04: OOP Concepts (Polymorphism and Inheritance)

Objective: Introduce you to the idea of polymorphism and inheritance in Java. You should also note function overloading and how the java compiler deals with dependencies.

Description:

In this laboratory class you are expected to develop a simple Shell application which is capable of executing a few basic commands and can be extended later. The given skeleton code consists of three Java classes:

GenericCommand.java: This represents a generic command. A new command should extend this class and overwrite `handleCommand()` method.

Shell.java: This represents the basic shell class. To add a new command to the shell, you should implement the corresponding class and add the command in this class.

Quit.java: This is an implementation of quit command.

Task:

You are required to get familiar with the given code and extend the application to satisfy below functionalities (they will be marked) :

1. Extend the functionality of *Quit.java* class to print the number of commands executed before exiting. For example before quitting the shell should print "Executed 10 commands since starting".
2. Implement a new command using a class called *Less.java* which prints the content of a text file on the screen. Command should take the file name to be read as an argument and should check if arguments are passed correctly.
3. Implement a new command copy using *Copy.java* which copies a file from source to destination. The command takes two arguments; the source file name followed by the destination file name.

Assessment:

Submit all the files you modified as a zip to moodle before the deadline. We will be testing for correct use of Java keywords and good programming practices. Make sure to perform required tests etc. before executing a command.