Worksheet 3 : Files

Each numbered stage should be attempted by the student. As we progress through the stages we will present the solution to each stage. Document references and hints are offered to help.

Precision in programming is important so pay attention to the names you are instructed to use in the stages.

# Brief

Create a program with two functions, one to read a file and output the contents and one to write an array of Strings to a file. Both functions should use a parameter to specify the filename.

# Stages

1. Create an Eclipse project called worksheet\_javalib\_3, add a class called JavaLib3Files and give it a main function.

* Remember the Eclipse document, this is the same task you have performed for other worksheets.

1. Add a function to JavaLib3Files called readFile, the function should take a single String parameter called filename.

* This is a class function so has the static keyword.
* Parameters go in the brackets, they have a type and a name.

1. In the function readFile declare and create a File object called inputFile using the function parameter filename.

* Look at the document and sample code javalib3\_files.

1. Declare and create a FileReader and BufferedReader to read from the input file.

* Don’t forget the try/catch construct.
* Look at the sample code javalib3\_files.

1. Create a temporary String variable and read the first line from the file.

* Declare a variable and initialise it with the result of calling readLine() on your buffer.

1. Create a loop that tests if the line read from the file is null, the body of the loop will output the line from the file to the console and try to read another line.

* The condition is a boolean expression testing the value of the temporary String variable.
* Each iteration in the loop has to read another line so at some point, when there are no more lines, the loop will exit.

1. Test the function by using the inputfile.txt file provided as the input to the function.

* Call the function Files.readFile from main() with the filename as a parameter.

1. Add a second function to JavaLib3Files called writeFile, the function should take two parameters: a String filename and a String array called content.

* This is a class function so has the static keyword.
* Parameters go in the brackets, they have a type and a name.
* Parameters in the brackets are separated by commas.

1. In the function writeFile declare and create a File object called outputFile using the function parameter filename.

* Test if the file exists and if not create it using createNewFile().
* A try/catch will be required.

1. Declare and create a FileWriter and BufferedWriter to write to the output file.

* Don’t forget the try/catch construct.
* Look at the sample code javalib3\_files.

1. Create a loop to iterate over the String array parameter.

* The condition for this loop is a counter, don’t forget to add to it in the loop body.

1. In the body of the loop use the outputBuffer to write the current String to the file.

* write() is a function of the BufferedWriter object.

1. Add the following String array to the class JavaLib3Files and use it to write the file "res/outputfile.txt" using the Files.writeFile function.

static protected String[] fileContents = {

"The",

" quick",

" brown",

" fox",

" jumps",

" over",

" the",

" lazy",

" dogs",

" tail",

"."

};