

CSCI 161: Introduction to Programming I
Lab 9: Comparing Files (File I/O)
Due 12/5/08 by 11:59 PM

Goals

Write a program that compares 2 files and prints information about the differences between them.

Overview

1. Start a new **project** in Java – call it “Lab9”
2. Start a new **class** within the new project, call it “CompareFiles”
3. Create 2 .txt files: data1.txt and data2.txt
4. Using **comments** to write your name and information about this class.
5. Ensure you **comment appropriately**. Also notice the indentations that occur after each curly bracket. (control, shift, f)

Input Specifications:

data1.txt contains the following:

```
Some people are destined to be great
While some earn the right to be great
```

```
...I say both are the same because
we earn our destiny
in some way, shape or form
```

data2.txt contains the following:

```
Some pople are destined to be great
while some earn the right to be grate.
```

```
I say both are the same;
We earn our destiny
in some way, shape or form.
```

Code Completion

For this lab, you will be completing code. **Pink is an indication for you to complete the code.** Complete the following program that compares 2 files (data1.txt and data2.txt) and prints information about the differences between them. Your comments will show me that you understand the code - I expect some investigation from your part.

Hint: Look at the entire code first before attempting any part of the code completion.

```

// This program compares two files to find lines that differ.

_____ // import appropriate libraires

_____

public class _____ {
    public static void main(String[] args) _____ //
throws exception
    {
        System.out.println("_____"); // what does this
program do?
        System.out.println();

        Scanner console = _____ // create new Scanner
object
        _____("Enter a first file name: ");
        String name1 = console.nextLine();
        _____("Enter a second file name: ");
        _____ // read the 2nd file name
        System.out.println();

        Scanner infile1 = new Scanner(new File(_____));
        Scanner infile2 = new Scanner(new File(_____));
        compareFiles(_____); // Calling the compareFiles
method
    }

    public static void compareFiles(Scanner _____, _____
infile2) {
        boolean different = false;
        int line = 0;
        while (infile1.hasNextLine() || infile2.hasNextLine()) {
            String line1 = readFrom(infile1);

            _____ // increment line
            if (_____ { // if line1 does not equal line 2
                if (!different) {
                    System.out.println("Differences found:");
                    different = _____;
                }
                System.out.println("Line " _____ ":");
                printLine("<", line1);
                printLine(">", line2);
                System.out.println();
            }
        }
        if (_____) { // if not different
            System.out.println("No differences found.");
        }
    }

    // reads and returns a line of text from the given infile if
possible and returns null if no such line exists
    public static String _____(Scanner infile) {
        if (infile.hasNextLine()) {

```

```

        _____ infile.nextLine();
    } else {
        return null;
    }
}

// prints the given line or prints end-of-file message if line is
null
public static void _____(String prefix, String line) {
    System.out.print(prefix + " ");
    if (_____ ) { // if the line is null
        System.out.println("no such line (end-of-file)");
    } else {
        System.out.println(line);
    }
}
}
}

```

Output:

This program compares two files for differences.

```

Enter a first file name: data1.txt
Enter a second file name: data2.txt

```

Differences found:

Line 1:

```

< Some people are destined to be great
> Some people are destined to be great

```

Line 2:

```

< While some earn the right to be great
> while some earn the right to be grate.

```

Line 4:

```

< ...I say both are the same because
> I say both are the same;

```

Line 5:

```

< we earn our destiny
> We earn our destiny

```

Line 6:

```

< in some way, shape or form
> in some way, shape or form.

```