

# CS102A Introduction to Computer Programming

## Fall 2020 Lab 9

### Objective

1. To consolidate the concepts learned in previous lectures.
2. Learn how to read / write files in Java.
3. Learn more String operations.

### 1 Exercise

#### 1.1 Exercise 1

Write a Java program to get a list of all file/directory names on your Desktop. Refer to the lecture note if you don't know how to do this.

#### 1.2 Exercise 2

Write a Java program to read all the content from an input text file, convert all of them into upper-case letters, and write the result into an output file. The output file should be placed at the same folder as the input file. The input file is assumed to contain only English letters, numbers and punctuation marks.

#### 1.3 Exercise 3

Kids always make mistake in English writing. A common mistake is that they always forget to use capital letter at the beginning of a sentence. Write a Java program to help them correct the mistakes.

Usually, the word after a full stop (.) is regarded as the beginning of a new sentence. However, a full stop (.) also means abbreviation. When a word is abbreviated after the first few letters, the traditional rule is to put a full stop after the abbreviation, for example, Dr. and Mr.. We can assume

every abbreviation begins with a capital letter. This indicates whether the current stop means the end of sentence or an abbreviation.

The Java program should first read the text from an input file, and then write the result to an output file.

Sample input and output:

```
today I borrow a book from my neighbor. he come and get it back tomorrow.  
Today I borrow a book from my neighbor. He comes and gets it back tomorrow  
.
```

```
please get the report from BBC. news ASAP. as the boss want to read them  
now. he will not stay here until the evening.  
Please get the report from BBC. news ASAP. as the boss want to read them  
now. He will not stay here until the evening.
```

## 1.4 Exercise 4

Write a Java program to play a music clip. Here is a simple example:

```
1 import java.io.File;  
2 import javafx.scene.media.Media;  
3 import javafx.scene.media.MediaPlayer;  
4 import javafx.embed.swing.JFXPanel;  
5  
6 public class Playmp3 {  
7     public static void main(String[] args) {  
8         final JFXPanel fxPanel = new JFXPanel(); // to initialize JavaFx  
9         File file = new File("C:\\\\Users\\\\todd\\\\Desktop\\\\a.mp3");  
10        final Media media = new Media(file.toURI().toString());  
11        final MediaPlayer mediaPlayer = new MediaPlayer(media);  
12        mediaPlayer.play();  
13    }  
14 }
```

Please prepare a .mp3 file try this piece of code on your own. Now, can the same program play a .wav file? Please figure it out.