CSCI1530 Computer Principles and Java Programming

Tutorial 10
Asg 5: Music String Player

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Task && Aim

- Task:
  - Create a Java program for playing songs, playing MP3 recordings and talking to us!

- Aim:
  - Practice using classes and objects;
  - Practice manipulating strings and characters.

Skeleton

Main.java

1. The main() method shall be defined here, i.e. it is the starting point of the application.

2. Present an Input Dialog to the user to ask for a "music string/voice sentence" text input *repeatedly*. Do null-checking to terminate the program properly.

3. Match (DoReMe, say: or http://) and perform the corresponding function (e.g. using if-else statements)

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Skeleton

MusicStringPlayer.java (to play music notes)

1. Declare an instance field for storing a song string

2. Declare a MusicStringPlayer(String song) Constructor for initializing the instance field

3. Complete the play() method to sing DoReMe according to the song string field

Main determines what to do

- If the user input start with
  - "http://" -- Play the MP3 recording given by a URL

  - "say:" -- Speak out the user input sentence

  - else -- play a song with the 7 music notes DRMFSLT
      Ignoring other characters while playing the music!

  Hint: you may use `userInputString.startsWith("abc")`

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Sample code for Main

```
1   //Play some of the seven music notes
2   String song = "D R M / Do Me So";
3   new MusicStringPlayer(song).play();
4
5   //Play an MP3 recording from an URL
6   String userInputLink = "http://www...";    // for example
7   mp3 = new MP3Player(new URL(userInputLink));
8   mp3.play();
9
10  //Speak out the user input sentence
11  GoogleVoice voice = new GoogleVoice("Hello world");
12  voice.play();
```

Play with 7 music notes

- The seven notes are pre-recorded and given in seven MP3 sound files:
  - D.mp3, R.mp3, M.mp3, F.mp3, S.mp3, L.mp3, T.mp3

- For each character in the string
  - Match and play the corresponding pre-recorded note sound files.
  - Ignore all other unmatched characters silently.

Sample code for MusicStringPlayer

```
1    //Play some of the seven music notes
2    MP3Player mp3;
3    mp3 = new MP3Player("D.mp3");
4    mp3.play();
5
6    String note = 'T' + ".mp3";
7    new MP3Player(note).play();
```

Play with 7 music notes

- In MusicStringPlayer.java
  - Analyze each character in the user input

  Hint: String method **`length()`** returns the number of characters; method **`charAt(i)`** returns a specific character at index i.

  - How to determine a character is matched or not?

  Hint: Use switch-case or if-else statements

Trying the demo

- Online web version (HTML with JApplet)
  - http://www.cse.cuhk.edu.hk/csci1530/asgdemo/MusicStringPlayerDemo
  - It cannot speak out using GoogleVoice due to Internet security constraints

- Offline JAR version (Java Standalone Application)
  - Extract all files in MusicStringPlayerDemo.zip to a folder
  - Double-click on the JAR file to start
  - Proper proxy setting is required, if needed

Have fun

```
"Kum Bah Ya"
D M S S S / L L S / D M S S S / F M R / D M S S S / L L S / S M D / R R D

"Ode to Joy" / <<快樂頌>>
M M F S S F M R / D D R M M R R / M M F S S F M R / D D R M R D D /
R R M D / R M F M D / R M F M R D R S / M M F S S F M R / D D R M R D D

say:Hello, CSCI1530 Assignment due on 8 Apr 2015

http://www.cse.cuhk.edu.hk/csci1530/asgdemo/Cantonese0-9.mp3

http://freepd.com/Classical/Allemande.mp3
```

How to start

- Download MusicStringPlayerKit.zip

- Extract all the files to a folder while preserving the whole folder structure

- Start NetBeans, open the project provided in the folder you just extracted

- Library jLayer has been included

What to do (and not do)

- Work on Main.java as well as MusicStringPlayer.java

- You need NOT change code in other provided files

- You shall read MP3Player.java and GoogleVoice.java to understand how to use them

- Learn from the examples and samples you got.

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[2015] The 11ᵗʰ Annual Concert of the Engineering Faculty CUHK 香港中文大學工程學院音樂會

- 27 Mar (this Friday) 7pm, Free Admission
  @ Lee Hysan Concert Hall, Esther Lee Building

- 三月廿七日(本週五) 七點正 免費入場
  @ 利黃瑤璧樓 利希慎音樂廳

- https://www.facebook.com/ergconcert/timeline

Q & A

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