LAB 3 – PYTHON INTERMEDIATE

EXERCISE – READ THE TODO LIST

Extend the program developed in the previous laboratory (todo_manager_ex3.py) to make the computer «speak» the first 2 tasks present in the todo list (the list is in alphabetic order). At startup the program will show the following list of possible actions:

1.   insert a new task (a string of text);
2.   remove a task (by typing its content, exactly);
3.   remove all the existing tasks that contain a provided string;
4.   show all existing tasks in alphabetic order;
5.   read the first two tasks;
6.   close the program.

Suggestions:

1.   To read a string you can create an mp3 file using the Voice RSS Text To Speech (Voice RSS TTS) service (www.voicerss.org) and then read it using the mplayer os command.
2.   In Python, to get an mp3 file from the Voice RSS TTS containing the read message
     Use the wget os command through the following instruction:
     os.system('wget -q -U Mozilla -O test.mp3 "http://api.voicerss.org/?key=APIKEY&hl=lang&src=string-to-read"')
     substituting
     - "APIKEY" with the following API key "372c6bee13824fad884ed65442e123bd";
     - "lang" with "it-it" if your tasks are written in Italian or "en-gb" if your tasks are written in English
     - "string-to-read" with the string you want to listen.

Example:

Run the program: > todo_list_tts_ex1 task_list.txt

First screen shown by the program:
Insert the number corresponding to the action you want to perform:

1.   *insert a new task;*
2.   *remove a task (by typing its content, exactly);*
3.   *remove all the existing tasks that contain a provided string;*
4.   *show all existing tasks in alphabetic order;*

5. *read the first 2 tasks;*
6. *close the program.*

Your choice:

EXERCISE – ADD TASKS FROM TWITTER

Extend the program developed in the previous exercise to add some tasks from twitter. Specifically, given a Twitter user(name), add to the todo list the 20 most recent mentions (tweets containing your username in the form @username) that contain:

- the hashtag "#AmI2016".
- the hashtag "#addedTaskFor<YourName>" (substitute <YourName> with your name)

Twitter account and credentials:

- if you don't have a Twitter account, you can exploit the AmI course account (@AmI_course) with the following authentication parameters:
    - consumer key: wIDHvofdfV2QO94s1bjebQ
    - consumer secret: nO0q0Ko8EBQ6Lb8FNLwEsT3r2QLkjWsO02dr9uegU
    - access token: 2408639030-qbEH2eTP5Qc0fJU9NfhDRREBB9F44cxhGSFbV3T
    - access token secret: xPLGzRWpsPeXCFzw6PI98K91XegwKAFFq0JPjgTJRj6ge
- otherwise, to create your own credentials, log in at http://apps.twitter.com and create a new application. Then, generate the access token.

Suggestions:

1. You can exploit the python-twitter library at http://github.com/bear/python-twitter.
2. To install python-twitter in PyCharm you can go to File -> Settings -> Project -> Project Interpreter and click on the "+" button.
3. To get the list of the 20 most recent mentions (tweets containing your username in the form @username) for the authenticated user, you can call the api.GetMentions() method. It returns a list of Statuses, so you can use a loop to check the content of each Tweet (using the .text method).

Example:

Suppose that you have a Twitter account (i.e., username: AmI_course) and that your name is Teo. Using the api.GetMentions() method you obtain the following list of tweets:

- *"@AmI_course Hi! I am the AmI course at the Politecnico di Torino!"*
- *"@AmI_course #AmI2016 #addedTaskForTeo buy a new wheel for my bike"*
- *"@AmI_course #AmI2016 #addedTaskForTeo cut hair"*
- *"@AmI_course #AmI2016 #addedTaskForLuigi book holidays in Japan"*

Your program will add these 2 tasks to the todo list:

- *buy a new wheel for my bike*
- *cut hair*

EXERCISE – TWEET DELETED TASKS

Extend the program developed in the previous exercise to tweet a task every time it is removed from the todo list. Add the following information:

- 2 hashtags "#AmI2016" and "#removedTaskFor<YourName>" (substitute <YourName> with your name)"
- A mention to the AmI course inserting "@AmI_course".

Suggestions: Don't forget that twitter lets you publish at most 140 characters.

Example:

Suppose that the task "buy a new mouse" was just removed. The program will tweet the following message:

@AmI_course #AmI2016 #removedTaskForTeo buy a new mouse