
System Programming

Instructions:

Work on this assignment individually, **NO COLLABORATION** with other students is allowed.
Read the statements carefully and then perform each of the tasks on **LINUX** shell.

Use command line interface only, **DO NOT USE GUI** of Linux at all.

After doing all the tasks make a **folder**, paste all your **.py** files there.

Name of the folder **MUST BE** in the following format: **<your rollNumber>_SP_Assignment#03**

When done, **compress** the folder and **email** at the specified email id for your course.

Deadline: Sunday; May 13, 2018 (11:59 pm)

Python Scripting:

Problem 01: Write a python script that downloads last 26 mp3 files of all Qaris from given link:

<https://download.quranicaudio.com/quran/>

When done with the recitations of a specific Qari, merge all 26 mp3 files and make a single file with the name of second_Half.mp3

To get the names of all Qaris: <https://download.quranicaudio.com/quran/>

To get the list of all mp3 files of a specific Qari:

https://download.quranicaudio.com/quran/abdul_basit_murattal

Steps:

1. Make a folder with the name of given Qari
2. Download last 26 mp3 files in that folder
3. Merge all 26 mp3 files to make a single file
4. Create a log file, and show your processing in that file
5. Format of the log file:
2017-05-14 08:57:09 Total Qari 32
2017-05-14 08:57:09 Start Processing 1 out 32
2017-05-14 08:57:09 QARI_NAME
2017-05-14 08:57:11 Qari_NAME FILE_NAME START
2017-05-14 08:57:45 Qari_NAME FILE_NAME END
2017-05-14 08:59:45 Merging the Files of Qari_NAME
START 2017-05-14 08:59:45 Merging the Files of
Qari_NAME END 2017-05-14 08:57:09 Start Processing 2 out
32 2017-05-14 08:57:09 QARI_NAME
2017-05-14 08:57:11 Qari_NAME FILE_NAME START
2017-05-14 08:57:45 Qari_NAME FILE_NAME END
2017-05-14 08:59:45 Merging the Files of Qari_NAME START
2017-05-14 08:59:45 Merging the Files of Qari_NAME END

Hint: [Modules Required]

requests
os
BeautifulSoup
datetime

Problem 02: Write a script to find given word(s) from a website <https://propakistani.pk/>

Your script will just find out the given word(s) from the "LATEST NEWS" section of the website. Your script will parse just first 5 pages of the "LATEST NEWS" section.

At the End, your script will return the URL(s) of that article containing that/those given word(s).

Problem 03: Find 2 by 2 matrix from 8 by 8 matrix

Input:

Any 2 by 2 Matrix

Output:

Given 2 by 2 Matrix found at (row,col) i.e. the starting point of the 2 by 2 matrix.

Note:

Generate OR hardcode any 8 by 8 matrix.

Problem 04: Write a script that displays detailed info of a given process by using the PID(s) (passed as command line argument(s)).

Output:

Process ID : 5756
Process Name : bash
Process Status : running
Process Parent ID : 5745
Process Parent Name : init
Process Creation Time : Sat May 13 11:53:40 2017
Files opened by the process info :
Memory Info (In Bytes) :

Hint:

Use psutil and time modules and any other module you want.