CS594: Python Programming Lab

Take Home Assignment (1 Questions, 100 Points)
Submission Dead Line: 21-Aug-2019 23:59 Hours Pages: 2

IIT Guwahati

15 Aug 2019 (Thu)

Question 1: (100 points)

Implement in Python Programming Language the following problems:

Q1. 50 Marks Read the department-wise class time tables available at `http://shilloi.iitg.ernet.in/~acad/intranet/classtt/`. If the class time table (pdf/xls) file for a department/center is not available at the academic section website then visit respective department/center website to download the class time table. You must get all the 17 class time tables.

(a) Design a common input format for each department class time table.

(b) Convert every department class time table (pdf/xls) file into a text file in the above designed input format. The conversion need not be through python program.

(c) Place all the departments class time tables into a single input text file.

Given the above input (one single text file containing 17 class time tables information), write a python program to find *class time table clash* between courses. Design a suitable data structure(s) for the prepared input. In the event there is a class time table clash, your output should involve all the necessary information to trace the clash.

Q2. 50 Marks Read the institute exam time table available at `http://shilloi.iitg.ernet.in/~acad/intranet/tt/ettJanMay2019.htm`

(a) Design input format for exam time table.

(b) Convert the exam time table into the designed input format. The conversion need not be through python program.

Given the above input, write a python program to find

(c) *Exam time table clash* between courses. Your output should involve all necessary information to trace the clash.

(d) All the courses which are in the class time table but not in the exam time table.

Instructions File Naming Convention Create a directory with your roll number. Inside this directory, place all the python programs and input files. Prefix the file name with your roll number followed by "_" followed by question number followed by ".py". Example: 194161000_q1.py.

Input File Naming Convension Prefix the file name with your roll number followed by "_" followed by question number followed by ".txt". Example: 194161000_q1.txt.

README.txt Write a short notes on sequence of steps involved to run the your programs. Include what is the input for the program (with an example) and what will be the output from the program (with an example).

tar gzip Create (roll number).tar.gz file using the above directory. This directory must contain the following:

Q1. The input file as prepared in Q1 (c)

Q1. Python program solution for Q1

Q2. The input file as prepared in Q2 (b)

Q2. Python program solution for Q2 (c)

Q2. Python program solution for Q2 (d)

README Instructions to run your program must be placed in README.txt file.

Submission Email the above tar gzip file to the CS594 TA `vaibhav18@iitg.ac.in` as per the above given dead line

Copying You should avoid indulging in copying. Every submission will be subject to software similarity using the tool `Measure of Software Similarity` available at `https://theory.stanford.edu/~aiken/moss/`. Two submissions having similarity score equal to or more than 40.0% will be declared copied. If you are found involved in copying act, your name will be referred to disciplinary committee. Therefore you are requested to place individual efforts and avoid copying.

Marking Scheme Your implementation will be evaluated as described below.

Q1 15 Marks Input file design

Q1 20 Marks Class time table clash logic

Q1 5 Marks Data structure to read the designed input

Q1 10 Marks Output involving all the necessary information to trace class time table clash

Q2 15 Marks Input file design

Q2 15 Marks Exam time table clash logic

Q2 5 Marks Output involving all the necessary information to trace exam time table clash

Q2 10 Marks Courses not in the exam time table

Q2 5 Marks Output involving all the necessary information to trace the omitted courses in the examination time table