

Introduction of Data Science

Assignment 1

Total Marks: 25

REAL CHAMPIONS SPORT ACADEMY is one of the fast-growing Sport Centre in Malaysia that employed tens of coach to conduct sport classes on Swimming, Badminton, Football, Archery, Gymnastics, Volleyball, Basketball, Cricket, Tennis and Table Tennis in their various Sport Centers. All the coaches are paid by hourly rate ranged from RM100.00 – RM500.00, depends on the sport they give training. Coaches can be rated by the students on their training performance with a scale rating from 1-5, where 1 is “very poor performance” and 5 is “excellent performance”. The Sport Centre needs a system to store information about their coaches (identified by Coach ID, Name, Date Joined, Date Terminated, Hourly Rate, Phone, Address, Sport Centre Code, Sport Center Name, Sport Code, Sport Name, Rating [a single digit integer number ranging from 1 to 5]). To maintain quality and consistency, one coach is allowed to give training on the sport in their specialized sport only.

Sport Centers are located in various locations and each of the Sport Centre is managed by an admin staff. All the sports’ record, coaches’ record and students’ record are managed and maintained by the Sport Centre Head Quarter Human Resources Department. The current filing system of records is by categorizing the coaches by their respective location. i.e., all coaches’ records are filed together in the Sport Centre location. In each location, the coach’s records are filed alphabetically by the coach’s name. The main problem with this filing system is when searching for a record, the record could not be easily found as it might have been misplaced in another Sport Centre or the record is not placed in the correct alphabet sequence. This problem proves challenging for the Sport Center admin staff when wanting to retrieve a coaches’ record, sports’ record and students’ record quickly.

On the other hand, students need to register online by exploring system and get information about Sport Center, Sports, Coach, Coach performance with stars, Sport fees, Schedule of Sport, etc.

The admin manager of the Sport Center has decided that it is time to computerize the records of Coaches serving, Sports and students in the Sport Center due to the problems with the manual filling system. Since you have some knowledge in developing a computerized system, the Sport Center HR Manager has approaches you to assist them in developing the system.

This requires you to develop Python program for the Sport Academy System which have 2 users and should contains features stated below:

Functionalities of Admin

1. Login to Access System.
2. Add Records of

- a. Coach
 - b. Sport
 - c. Sport Schedule
3. Display All Records of
 - a. Coach
 - b. Sport
 - c. Registered Students
4. Search Specific Records of
 - a. Coach by Coach ID
 - b. Coach by overall performance (Rating)
 - c. Sport by Sport ID
 - d. Student by Student ID
5. Sort and display Record of
 - a. Coaches in ascending order by names.
 - b. Coaches Hourly Pay Rate in ascending order
 - c. Coaches Overall Performance in ascending order
6. Modify Record of
 - a. Coach
 - b. Sport
 - c. Sport Schedule
7. Exit

Functionalities of All Student (Registered / Not-Registered)

1. View details of
 - a. Sport
 - b. Sport Schedule
2. If new student Register to Access other Details
3. Exit

Functionalities of Registered Student

1. Login to Access System
2. View Detail of
 - a. Coach
 - b. Self-Record
 - c. Registered Sport Schedule only
3. Modify Self Record
4. Provide feedback and Star to Coach.
5. Exit

Requirements:

1. Store all the data in the text files. No limit on the number of text files.

2. Clear all your assumptions and use good programming practices such as naming conventions, comments and functions.
3. You can use built in functions and comprehensions. Also, your program should be menu-driven.

Submission:

1. Submit the softcopy of the folder containing:
 - a. Program coded in jupyter notebook file named as your roll number.
 - b. All the text file with proper name format.
2. The deadline is **Sunday April, 9, 2023 till 11:59 PM.**