

# SCRIPTING AND COMPUTER ENVIRONMENTS

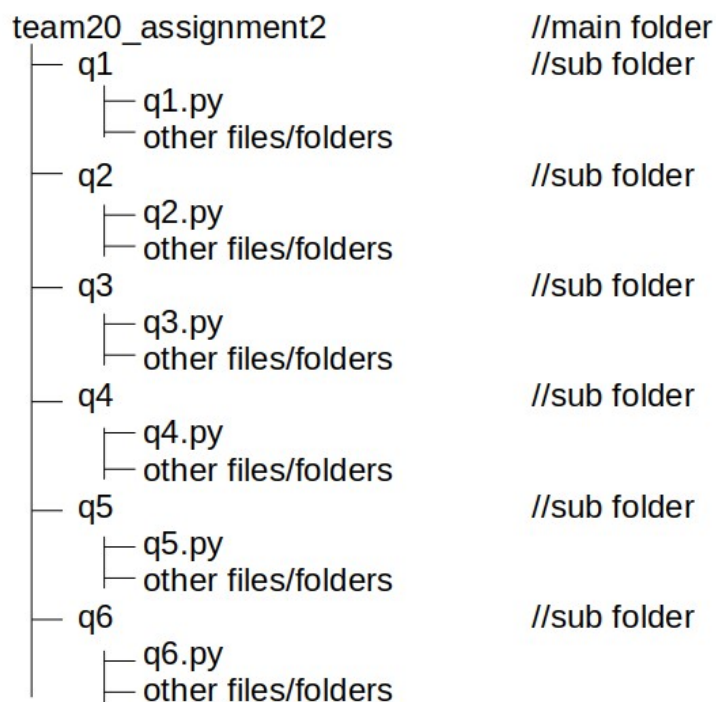
## PYTHON SCRIPTING ASSIGNMENT 2

**ASSIGNMENT DEADLINE: 3rd November, 2019 11:55 AM (Strict Deadline)**

**SUBMISSION FORMAT:** Compress the main folder as

team<team\_no>\_assignment2.tar.gz

and then upload it to your moodle account. Be very particular about format and spellings used. If you are not attempting a question, make sure you create an empty directory and empty python file for it.



### HOW TO GET ZERO IN THE ASSIGNMENT?

1. DEVIATING FROM THE UPLOAD FORMAT will get you a **straight zero**.
2. ANY KIND OF PLAGIARISM will also lead to a **straight zero**.

### WHERE TO GET HELP?

1. Post your doubts on the Assignment Thread on Moodle.
2. Approach the TAs.

## Q1. IPL Auctions

(Marks : 80 Code + 20 Viva)

Indian is the second largest country in terms of population with 1.27 billion people. And these people are captured by the fever of cricket and especially the IPL. Yes, cricket is the most loved sport in India and it is watched, played and witnessed by millions of people. From the children playing gully cricket in your neighborhood to the national cricket team of India, everyone is mesmerized by the beauty of this game.

Next year we will witness the 13<sup>th</sup> edition of Indian Premiere League. Unfortunately, Richard Madley, the IPL Auctioneer is not available next year. So it is now your responsibility to form the teams.

### Rules

- Every Team can have atleast **x** and atmost **y** Overseas Players (not Indian).
- Every team can have atleast **x** and atmost **y** bowlers
- Every team can have atleast **x** and atmost **y** batsmen.
- Every team can have atleast **x** and atmost **y** Wicket Keepers.
- Every team can have atleast **x** and atmost **y** all rounders.
- Any player can be included for only 1 Ability. (Example : Shakib can be included either as a Bowler or All Rounder or Batsman)
- No player can be a part of more than 1 team.
- **The team size is 18 members.**
- Values of **x** and **y** will be specified in the **config.txt** file (read below)

### Input Files :

**dataset.txt** : contains information of players in the following format  
**Player Name:Country:Ability:Fees**

dataset link : [https://web.iit.ac.in/~tarpit.sahu/ipl\\_auctions\\_dataset.txt](https://web.iit.ac.in/~tarpit.sahu/ipl_auctions_dataset.txt)

**config.txt** : contains all the parameters as explained above.

```
overseas:4:7
bowlers:4:6
batsmen:5:7
wicketkeepers:1:2
allrounders:2:4
teams:8
team_names:
Chennai Super Kings
Delhi Capitals
Kings XI Punjab
Kolkata Knight Riders
Mumbai Indians
Rajasthan Royals
Royal Challengers Bangalore
Sunrisers Hyderabad
```

### **Output Files :**

Total **n** files, where **n** is the number of teams specified in the **config.txt** file One text file for each team containing player information in the following format.

#### **Chennai Super Kings.txt**

Team: Chennai Super Kings

Player 1

Name : Sachin Tendulkar

Country : India

Ability : Batsman

Fees : 700000

Player 2

Name : Virendra Sehwag

Country : India

Ability : Batsman

Fees : 600000

**[Bonus : Keep a threshold on amount that a team can spend on purchasing the players. Any team cannot spend more amount than the set threshold. This threshold can be set in the config.txt file.]**

## Q2. ChangeMyWallpaper (Marks : 50 Code)

Write a python script to change the wallpaper of your laptop on the basis of current weather and time. Make sure to handle all the error conditions properly. One possible way is to keep 3-4 wallpers for each season and time in a folder and select one of them by using the weather/time values.

## Q3. Web Scrapping 1 (Marks : 80 Code + 20 Viva)

Tarpit is cricket fan and does not want to miss even a single delivery of a match. But fortunately or unfortunately, Tarpit is in IIIT and has very little time to keep track of the score. Help him to somewhat enjoy the cricket match by writing a cool python script.

Collect Ravi Shashtri's/Danny Morrison's/or any other's commentary samples from internet (this can be done manually). Now write a python script that continously monitors the cricket score from a suitable website and plays respective audio file.

Example: Whenever a six is hit, you can play the audio like <https://youtu.be/sAevuDJFgZ4?t=12> (listen from 0:14 to 0:20).

Example: Whenever a wicket falls, you can play the audio like <https://youtu.be/aUjHgvtyYE4?t=106>

You can keep more than 1 sample for each type and play a random one everytime.

Cases to consider : Boundary (4s), Sixes, Wicket

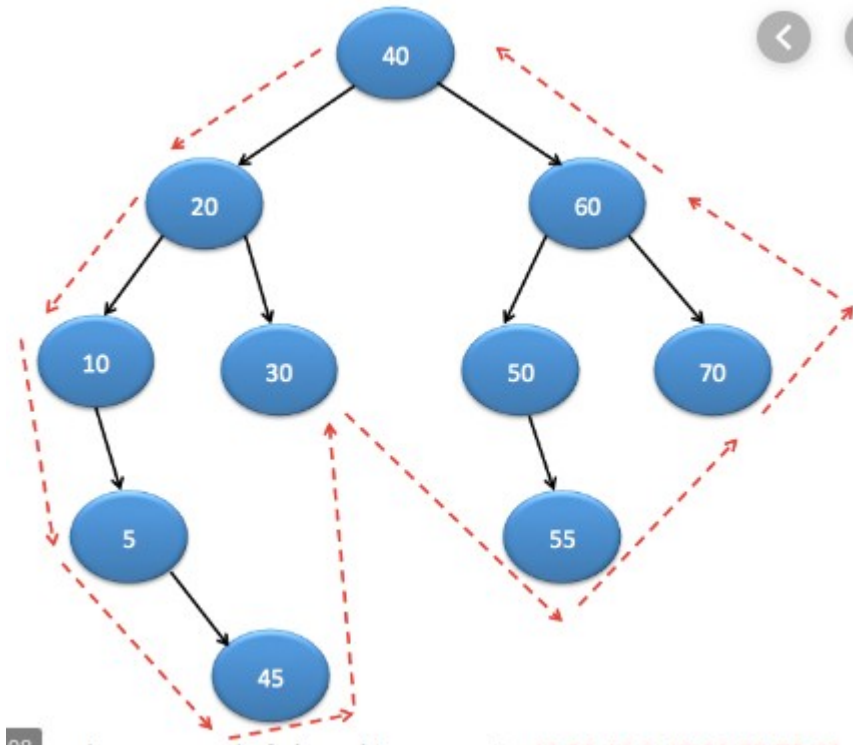
[You are free to implement more functionalities.]

## Q4. Web Scrapping 2 (Marks : 80 Code + 20 Viva)

Himani is going to study SMAI next sem. Being an intelligent student, she is very clear about the project that she is going to do. Himani wants to do some analysis on smartphones but is unable to find a suitable dataset. Help Himani and write a web scrapper that collects data (atleast 10 attributes) of atleast 500 mobile phones from a suitable website.

## Q5. Basic Datastructure (Marks : 50 Code)

Priya has opened a brand new bakery whose building looks like a tree. She cooks really amazing cakes that not only attracts nearby customers but also wild animals too. While browsing the internet, she came across an advertisement telling about animal repellents.



The node of a tree determines the module size of the bakery and the value written inside it determines the amount of repellant to be used. Priya wants to use the repellant on all the nodes that are present on the boundary of the tree.

Write a python program that helps Priya to determine the total amount (in words) of repellant that she needs to buy and the order (in words) in which she needs to apply it (counterclockwise in our case.)

For above picture, answer should be

Total Amount : three hundred seventy five

Order : Forty, Twenty, Ten, Five, Forty Five, Thirty, Fifty Five, Seventy, Sixty, Forty

Input Format :

```
10 //number of nodes
40 20 //edge 40 to 20
40 60
20 10
20 30
60 50
60 70
...
```

## Q6. TestYourImagination (Marks : 80 Code + 20 Viva)

Write a cool python script of your choice.

(Dont simply submit any python script that you have written earlier. Your script should demonstrate some day to day practical application. Try to automate something ! )

**\*Text highlighted in green represents updated content.**