Assignment_Python

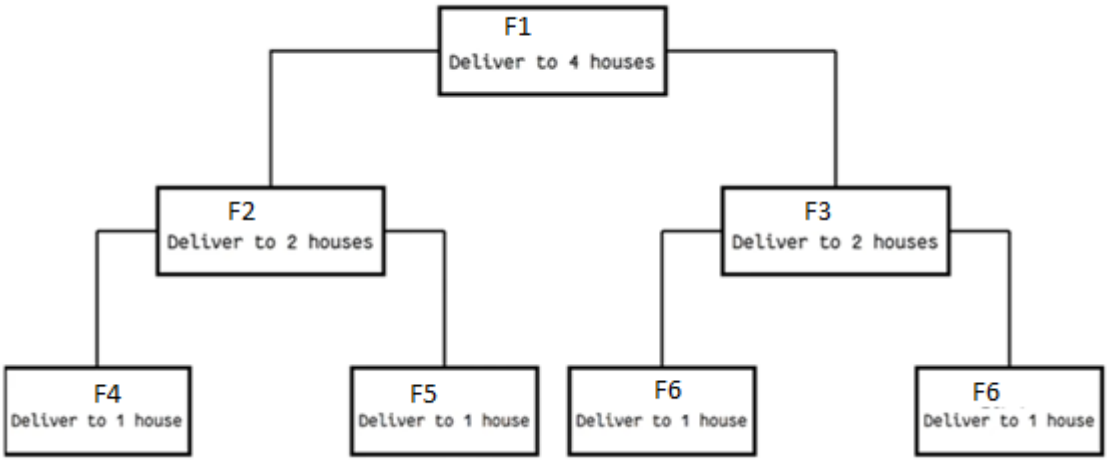
Q1) "Jingle bell, jingle bell jingle all the way! Santa Clause is coming along.." but wait, Santa is too old now to deliver all the gifts on himself. Santa gives an algorithm to deliver the gifts in the following manner:

1) Appoint a friend (F1) and give all the work to him

F1 assign titles and responsibilities to the other friends based on the number of houses(H) for which they are responsible:

2) H > 1 F1 is a manager and can appoint two Friends and divide his work among them
3) H= 1 F1 is a worker and has to deliver the presents to the house assigned to him
4) H=0, the print "No house to deliver"

Take the number of houses and address of houses where the gifts are to be delivered and display the sequence in which gifts are delivered.



Test Case 1:

Input:

0

Output:

No. where to deliver

Test Case 2:

Input:

4

H1

H2

H3

H6

Output:

['H1', 'H2', 'H3', 'H6']

Test Case 3:

Input:

1

h89

Output:

['h89']

Test Case 4

Input:

8

H8

H7

H6

H5

H1

H2

H3

H4

Output:

['H8', 'H7', 'H6', 'H5', 'H1', 'H2', 'H3', 'H4']

Q2) Kareen Kapoor Khan, is again back to zero figure! For this, she has shared her diet plans with her fans. She added in her blog fruits smoothies were an important element in her diet. If she has ‘n’ number of fruits then in how many ways she can take ‘r’ fruits to make the smoothie (where n>=r). If n<0 or n<r display “Wrong Input”.

Test Case:

Input:

7

3

Output:

Total number of ways she can prepare smoothies are: 210

Test Case 2

Input:

-3

Output:

Wrong Input

Input:

4

7

Output:

Wrong Input

Q3) Being a great fan of the legend Asrani, a computer programmer plans to pay tribute to him by implementing his famous dialog from the movie Sholay :“Aadhe idhar jaao, aadhe udhar jaao” using recursive function. Names Of soldiers are stored dynamically in a list as soon as name=’end’ or ‘End’ is encountered, the list is done. The list is then splitted into two halves (Left List and Right List) till all the final list contains single element.

Test Case 1:

Input:

Anil

Mukesh

Raj

suresh

ramesh

end

Output:

Splitting['Anil', 'Mukesh', 'Raj', 'suresh', 'ramesh']

Left List=['Anil', 'Mukesh'] Right List=['Raj', 'suresh', 'ramesh']

Splitting['Anil', 'Mukesh']

Left List=['Anil'] Right List=['Mukesh']

Splitting['Anil']

Splitting['Mukesh']

Splitting['Raj', 'suresh', 'ramesh']

Left List=['Raj'] Right List=['suresh', 'ramesh']

Splitting['Raj']

Splitting['suresh', 'ramesh']

Left List=['suresh'] Right List=['ramesh']

Splitting['suresh']

Splitting['ramesh']

Test Case 2:

Input:

Eva

Naveen

Manish

Shivendra

End

Output:

Splitting ['Eva', 'Naveen', 'Manish', 'Shivendra']

Left List=['Eva', 'Naveen'] Right List=['Manish', 'Shivendra']

Splitting ['Eva', 'Naveen']

Left List=['Eva'] Right List=['Naveen']

Splitting ['Eva']

Splitting ['Naveen']

Splitting ['Manish', 'Shivendra']

Left List=['Manish'] Right List=['Shivendra']

Splitting ['Manish']

Splitting ['Shivendra']

Q4) Given a class Details, create two classes 'employee' and 'doctor' with following characteristics.

- Detail class has two methods: setdata and showData
- setdata assigns the values of id, name and gender
- showdata displays the values of id,name and gender
- employee class has two methods: setemployee and showemployee. setemployee method sets the values for employee's id, name, gender, company and department (inherited from details class).
- showemployee method call showData() method of Details class and also display the values of company and department of employees
- doctor class has two methods setemployee and showemployee.
- setemployee method in doctor class sets the values of id,name, gender, hospital and dept of the doctor and showemployee method call showData() method of Details class and also display the values of hospital and department of the doctor.

Input:

1

Pankaj Pal

M

AIIMS

Eyes

2

Jayant Kumar

M

Vedanta

Ortho

Output:

Employee Object

Id: 1

Name: Pankaj Pal

Gender: M

Company: AIIMS

Department: Eyes

Doctor Object

Id: 2

Name: Jayant Kumar

Gender: M

Hospital: Vedanta

Department: Ortho

Q5) Define a class Cab having following specifications:

1) Init method that initializes driver name, kms and rate/km.
2) Cab Class had a method rateperkm() that returns the running charges as kms*rate
3) There are 3 drivers (driver1, driver2 and driver3) who have their own rate (rate1, rate2 and rate3) per kms.
4) Create three objects of the class Cab (firstcab, secondcab and thirdcab) and use to get the name of each driver along with the charges.

Input: (kms, driver1,rate1.driver2,rate2,driver3,rate3)

10

Kamal

20

Pankaj

12

Vivek

25

Output:

First Cab Driver: Kamal

First Cab Payment: 200

Second Cab Driver: Pankaj

Second Cab Payment: 120

Third Cab Driver: Vivek

Third Cab Payment: 250

Q6) Define a class family which has the following characteristics:

1) It has a method show_family() that prints “This is our Family”
2) Define a Father class is which inherits Family class. It has show_father method that prints the name of father
3) Define a Mother class which inherits Family class and has a method called show_mother that prints the nae of mother.
4) Define a son class which inherits both Father and Mother classes and has a method my_parents that displays the names of both Father and Mother.
5) Create an object of Son class call the show_family() and show_parents methods to print the final output.

Input:

Mark Louis

Sonia Louis

Output:

This is our family:

Father : Mark Louis

Mother : Sonia Louis