JAISHMA_CODING_CHALLENGE_3 – 09/06/2020

PYTHON PROGRAM

TASK 1:

Consider a list (list = []). You can perform the following commands:

1. insert i e: Insert integer **e** at position **i**.
2. print: Print the list.
3. remove e: Delete the first occurrence of integer **e** .
4. append e: Insert integer **e** at the end of the list.
5. sort: Sort the list.
6. pop: Pop the last element from the list.
7. reverse: Reverse the list.

Initialize your list and read in the value of **n** followed by **n** lines of commands where each command will be of the **7** types listed above. Iterate through each command in order and perform the corresponding operation on your list.

Input Format

The first line contains an integer, **n** , denoting the number of commands. Each line **i** of the **n** subsequent lines contains one of the commands described above.

Constraints

- The elements added to the list must be *integers*.

Output Format

For each command of type print, print the list on a new line.

Sample Input 0

```
12
insert 0 5
insert 1 10
insert 0 6
print
remove 6
append 9
append 1
```

sort
print
pop
reverse
print

Sample Output 0

[6, 5, 10]
[1, 5, 9, 10]
[9, 5, 1]

Solution:

```
arr = []
for i in range(int(raw_input())):
    s = raw_input().split()
    for i in range(1,len(s)):
        s[i] = int(s[i])

    if s[0] == "append":
        arr.append(s[1])
    elif s[0] == "extend":
        arr.extend(s[1:])
    elif s[0] == "insert":
        arr.insert(s[1],s[2])
    elif s[0] == "remove":
        arr.remove(s[1])
    elif s[0] == "pop":
        arr.pop()
    elif s[0] == "index":
        print arr.index(s[1])
    elif s[0] == "count":
        print arr.count(s[1])
    elif s[0] == "sort":
        arr.sort()
    elif s[0] == "reverse":
        arr.reverse()
    elif s[0] == "print":
        print arr
```

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TASK 2:

Given an integer, n, and n space-separated integers as input, create a tuple, t, of those n integers. Then compute and print the result of hash(t).
Note: hash() is one of the functions in the __builtins__ module, so it need not be imported.

Input Format
The first line contains an integer, n , denoting the number of elements in the tuple.
The second line contains n space-separated integers describing the elements in tuple t.

Output Format
Print the result of hash(t).

Sample Input 0
2
1 2

Sample Output 0
3713081631934410656

Solution:

```
n = input()
str = input()

lst = str.split()
lst = map(int, lst)

t = tuple(lst)
print(hash(t))
```

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TASK 3:

You have a record of **N** students. Each record contains the student's name, and their percent marks in Maths, Physics and Chemistry. The marks can be floating values. The user enters some integer **N** followed by the names and marks for **N** students. You are required to save the record in a dictionary data type. The

user then enters a student's name. Output the average percentage marks obtained by that student, correct to two decimal places.

Input Format
The first line contains the integer **N**, the number of students. The next **N** lines contains the name and marks obtained by that student separated by a space. The final line contains the name of a particular student previously listed.

Constraints
- 2<=N<=10
- 0<=MARKS<=100

Output Format
Print one line: The average of the marks obtained by the particular student correct to 2 decimal places.

Sample Input 0
3
Krishna 67 68 69
Arjun 70 98 63
Malika 52 56 60
Malika

Sample Output 0
56.00

Solution:

```
N = int(raw_input())
results = {}
for i in range(N):
    a = raw_input().split(' ')
    results[a[0]] = [float(x) for x in a[1:]]
student = raw_input()
print "%.2f" %(sum(results[student])/len(results[student]))
```
