Rajalakshmi Engineering College

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NeoColab_REC_CS23221_Python Programming

REC_Python_Week 6_CY

Attempt : 1
Total Mark : 40
Marks Obtained : 40

Section 1 : Coding

1. Problem Statement

Write a program to obtain the start time and end time for the stage event show. If the user enters a different format other than specified, an exception occurs and the program is interrupted. To avoid that, handle the exception and prompt the user to enter the right format as specified.

Start time and end time should be in the format 'YYYY-MM-DD HH:MM:SS'If the input is in the above format, print the start time and end time.If the input does not follow the above format, print "Event time is not in the format "

Input Format

The first line of input consists of the start time of the event.

The second line of the input consists of the end time of the event.

Output Format

If the input is in the given format, print the start time and end time.

If the input does not follow the given format, print "Event time is not in the format".

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 2022-01-12 06:10:00
2022-02-12 10:10:12
Output: 2022-01-12 06:10:00
2022-02-12 10:10:12

Answer

```
# You are using Python
from datetime import datetime

try:
    start_time_input = input()
    end_time_input = input()


    start_time = datetime.strptime(start_time_input, "%Y-%m-%d %H:%M:%S")
    end_time = datetime.strptime(end_time_input, "%Y-%m-%d %H:%M:%S")


    print(start_time_input)
    print(end_time_input)

except ValueError:
    print("Event time is not in the format")
```

Status : Correct ***Marks : 10/10***

2. Problem Statement

Bob, a data analyst, requires a program to automate the process of analyzing character frequency in a given text. This program should allow the user to input a string, calculate the frequency of each character within the text, save these character frequencies to a file named "char_frequency.txt," and display the results.

Input Format

The input consists of the string.

Output Format

The first line prints "Character Frequencies:".

The following lines print the character frequency in the format: "X: Y" where X is the character and Y is the count.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: aaabbbccc

Output: Character Frequencies:
a: 3
b: 3
c: 3

Answer

```
# You are using Python
a=input()
ls=""
print("Character frequencies:")
for i in a:
    if i not in ls:
        b=a.count(i)
        ls+=i
        print(f"{i} : {b}")
```

Status : Correct ***Marks : 10/10***

3. Problem Statement

Implement a program that checks whether a set of three input values can form the sides of a valid triangle. The program defines a function is_valid_triangle that takes three side lengths as arguments and raises a ValueError if any side length is not a positive value. It then checks whether the sum of any two sides is greater than the third side to determine the validity of the triangle.

Input Format

The first line of input consists of an integer A, representing side1.

The second line of input consists of an integer B, representing side2.

The third line of input consists of an integer C, representing side3.

Output Format

The output prints either "It's a valid triangle" if the input side lengths form a valid triangle,

or "It's not a valid triangle" if they do not.

If there is a ValueError, it should print "ValueError: <error_message>".

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: 3
4
5
Output: It's a valid triangle

Answer

```
def is_valid_triangle(a, b, c):
    if a <= 0 or b <= 0 or c <= 0:
        raise ValueError("Side lengths must be positive")
```

```
    if a + b > c and a + c > b and b + c > a:
        return True
    else:
        return False


try:
    A = int(input())
    B = int(input())
    C = int(input())

    if is_valid_triangle(A, B, C):
        print("It's a valid triangle")
    else:
        print("It's not a valid triangle")

except ValueError as ve:
    print(f"ValueError: {ve}")
```

Status : Correct **Marks : 10/10**

4. Problem Statement

Alice is developing a program called "Name Sorter" that helps users organize and sort names alphabetically.

The program takes names as input from the user, saves them in a file, and then displays the names in sorted order.

File Name: sorted_names.txt.

Input Format

The input consists of multiple lines, each containing a name represented as a string.

To end the input and proceed with sorting, the user can enter 'q'.

Output Format

The output displays the names in alphabetical order, each name on a new line.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: Alice Smith
John Doe
Emma Johnson
q
Output: Alice Smith
Emma Johnson
John Doe

Answer

```
# You are using Python
i=[]
while True:
    b=input()
    if b.lower()=='q':
        break
    i.append(b)
f=sorted(i)
for j in f:
    print(j)
```

Status : Correct ***Marks : 10/10***