

Rajalakshmi Engineering College

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NeoColab_REC_CS23221_Python Programming

REC_Python_Week 6_CY

Attempt : 1
Total Mark : 40
Marks Obtained : 32.5

Section 1 : Coding

1. Problem Statement

A shopkeeper is recording the daily sales of an item for N days, where the price of the item remains the same for all days. Write a program to calculate the total sales for each day and save them in a file named sales.txt that can store the data for a maximum of 30 days. Then, read the file and display the total earnings for each day.

Note: Total Earnings for each day = Number of Items sold in that day × Price of the item.

Input Format

The first line of input consists of an integer N, representing the number of days.

The second line of input consists of N space-separated integers representing the

number of items sold each day.

The third line of input consists of an integer M, representing the price of the item that is common for all N days.

Output Format

If the number of days entered exceeds 30 ($N > 30$), the output prints "Exceeding limit!" and terminates.

Otherwise, the code reads the contents of the file and displays the total earnings for each day on separate lines.

Contents of the file: The total earnings for N days, with each day's earnings appearing on a separate line.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: 4
5 10 5 0
20
Output: 100
200
100
0

Answer

```
try:
    n = int(input())
    if n > 30:
        print("Exceeding limit!")
    else:
        items = list(map(int, input().split()))
        price = int(input())
        with open("data.txt", "w") as f:
            for item in items:
```

```
f.write(str(item * price) + "\n")
with open("data.txt", "r") as f:
    for line in f:
        print(line.strip())
except:
    print("Invalid input for earnings program")
```

Status : Correct

Marks : 10/10

2. 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

try:

```
a = int(input())
```

```
b = int(input())
```

```
c = int(input())
```

```
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:
```

```
    print("It's a valid triangle")
```

```
else:
```

```
    print("It's not a valid triangle")
```

```
except ValueError as e:
```

```
    print("ValueError:", e)
```

Status : Correct

Marks : 10/10

3. Problem Statement

Alex is creating an account and needs to set up a password. The program prompts Alex to enter their name, mobile number, chosen username, and desired password. Password validation criteria include:

Length between 10 and 20 characters. At least one digit. At least one special character from !@#\$%^&* set. Display "Valid Password" if criteria are met; otherwise, raise an exception with an appropriate error message.

Input Format

The first line of the input consists of the name as a string.

The second line of the input consists of the mobile number as a string.

The third line of the input consists of the username as a string.

The fourth line of the input consists of the password as a string.

Output Format

If the password is valid (meets all the criteria), it will print "Valid Password"

If the password is weak (fails any one or more criteria), it will print an error message accordingly.

Refer to the sample outputs for the formatting specifications.

Sample Test Case

Input: John

9874563210

john

john1#nhøj

Output: Valid Password

Answer

```
name = input()
mobile = input()
username = input()
password = input()
if len(password) < 10 or len(password) > 20:
    raise Exception("Length should be between 10 and 20")
has_digit=False
has_special=False
for ch in password:
    if ch.isdigit():
        has_digit=True
    if ch in "@#$%^&":
        has_special=True
if not has_digit:
    raise Exception("Should contain at least one digit")
if not has_special:
    raise Exception("It should contain at least one special character")
print("Valid Password")
```

Status : Partially correct

Marks : 2.5/10

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

```
names = []
while True:
    name = input()
    if name == 'q':
        break
    names.append(name)
names.sort()
with open("sorted_names.txt", "w") as f:
    for n in names:
        print(n)
        f.write(n + "\n")
```

Status : Correct

Marks : 10/10