Rajalakshmi Engineering College

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NeoColab_REC_CS23221_Python Programming

REC_Python_Week 2_CY

Attempt : 1
Total Mark : 40
Marks Obtained : 40

Section 1 : Coding

1. Problem Statement

John is tasked with configuring the lighting for a high-profile event, where different lighting modes affect the ambiance of the venue. He can choose from three distinct lighting modes, each requiring a specific adjustment to the initial light intensity:

Ambient Lighting (Mode 1): The intensity level is multiplied by 1.5.Stage Lighting (Mode 2): The intensity level is multiplied by 2.0.Spotlight (Mode 3): The intensity level is multiplied by 1.8.

In the event that an invalid mode is provided, the program should output an error message indicating the invalid selection.

Your task is to write a program that reads the selected lighting mode and the initial intensity level, applies the appropriate adjustment, and prints the

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final intensity.

Input Format

The first line of input is an integer n, representing the lighting mode.

The second line is a floating value m, representing the initial intensity level of the light.

Output Format

The output displays "Intensity: " followed by a float representing the adjusted intensity level, formatted to two decimal places, if the mode is valid.

If the mode is invalid, the output should display "Invalid".

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 1
10.0

Output: Intensity: 15.00

Answer

```
a=int(input())
b=float(input())
if(a==1):
   print("Intensity:%.2f"%(1.5*b))
elif(a==2):
   print("Intensity:%.2f"%(2.0*b))
elif(a==3):
   print("Intensity:%.2f"%(1.8*b))
else:
   print("Invalid")
```

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

2. Problem Statement

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Taylor is tasked with a mathematical challenge that requires finding the smallest positive number divisible by all integers from 1 to n.

Help Taylor to determine the smallest positive number that is divisible by all integers from 1 to n. Make sure to employ the break statement to ensure efficiency in the program.

Input Format

The input consists of a single integer, n.

Output Format

The output displays the smallest positive number that is divisible by all integers from 1 to n.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: 10

Output: 2520

Answer

```
import math
n=int(input())
r=1
for i in range(2,n+1):
   r=(r*i)//math.gcd(r,i)
print(r)
```

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

3. Problem Statement

Students are allowed to work on our computer center machines only after entering the correct secret code. If the code is correct, the message "Logged In" is displayed. They are not allowed to log in to the machine until they enter the correct secret code.

Write a program to allow the student to work only if he/she enters the correct secret code.

Note: Here, secret code means the last three digits should be divisible by the first digit of the number.

Input Format

The input consists of an integer n, which represents the secret code.

Output Format

The output displays either "Logged In" or "Incorrect code" based on the given condition.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: 2345

Output: Incorrect code

Answer

```
n=int(input())
a=int(str(n)[0])
b=n%1000

if(b%a==0):
   print("Logged In")
else:
   print("Incorrect code")
```

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

4. Problem Statement

Alex is practicing programming and is curious about prime and non-prime digits. He wants to write a program that calculates the sum of the non-prime digits in a given integer using loops.

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Help Alex to complete his task.

Example:

Input:

845

output:

12

Explanation:

Digits: 8 (non-prime), 4 (non-prime), 5 (prime)

The sum of Non-Prime Digits: 8 + 4 = 12

Output: 12

Input Format

The input consists of a single integer X.

Output Format

The output prints an integer representing the sum of non-prime digits in X.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 845
Output: 12

Answer

```
n=int(input())
sum=0
while(n>0):
   r=n%10
   cnt=0
   for i in range(1,r+1):
```

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```
        if(r%i==0):
            cnt+=1
    if(cnt!=2):
        sum+=r
    n=n//10
print(sum)
```

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

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