Rajalakshmi Engineering College

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NeoColab_REC_CS23221_Python Programming

REC_Python_Week 2_CY

Attempt : 1
Total Mark : 40
Marks Obtained : 37.5

Section 1 : Coding

1. Problem Statement

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

```
N=int(input(" "))
if N==1:
    print(1)
else:
    num=N
    while True:
        is_divisible=True
        for i in range(1,N+1):
            if num%i!=0:
                is_divisible=False
                break
        if is_divisible:
            print(num)
            break
        num+=N
```

Status : Partially correct ***Marks : 7.5/10***

2. 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.

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(" "))
c=0
S=str(N)
def non_prime(n):
    if n<=1:
        return True
    if n<=3:
        return False
    if n%2==0 or n%3==0:
        return True
    i=5
    while (i*i)<=n:
```

```
        if n%i==0 or n%(i+2)==0:
            return True
        i+=6
    return False
for x in range(len(S)):
    if non_prime(int(S[x]))==True:
        c+=int(S[x])
print(c)
```

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

3. 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 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

```
n=int(input(" "))
m=float(input(" "))
if n==1:
    print(f"Intensity: {m*1.5:.2f}")
elif n==2:
    print(f"Intensity: {m*2.0:.2f}")
elif n==3:
    print(f"Intensity: {m*1.8:.2f}")
else:
    print("Invalid")
```

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

4. Problem Statement

Max is fascinated by prime numbers and the Fibonacci sequence. He wants to combine these two interests by creating a program that outputs the first n prime numbers within the Fibonacci sequence.

Your task is to help Max by writing a program that prints the first n prime numbers in the Fibonacci sequence using a while loop along with the break statement to achieve the desired functionality.

Input Format

The input consists of an integer n, representing the number of prime Fibonacci numbers to generate.

Output Format

The output displays space-separated first n prime numbers found in the Fibonacci sequence.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: 5

Output: 2 3 5 13 89

Answer

```
def is_prime(number):
    if number<=1:
        return False
    if number<=3:
        return True
    if number%2==0 or number%3==0:
        return False
    i=5
    while i*i<=number:
        if number%i==0 or number%(i+2)==0:
            return False
        i+=6
    return True
def generate_fib():
    fib_series=[2,3]
    while True:
        next_fib=fib_series[-1]+fib_series[-2]
        if next_fib<0:
            break
        fib_series.append(next_fib)
        if len(fib_series)>100:
            break
    return fib_series
def find_n_prime_fibonacci(n):
    primes=[]
    fib_numbers=generate_fib()
    for num in fib_numbers:
        if is_prime(num):
            primes.append(num)
```

```
        if len(primes)==n:
            break
    return primes
n=int(input(" "))
prime_fibs=find_n_prime_fibonacci(n)
for i in range(len(prime_fibs)):
    print(prime_fibs[i],end=' ')
```

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