# Rajalakshmi Engineering College

Name: Sujit S
Email: 240701545@rajalakshmi.edu.in
Roll no: 240701545
Phone: 9444081254
Branch: REC
Department: I CSE FF
Batch: 2028
Degree: B.E - CSE

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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

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*

```python
# You are using Python
a=int(input())
b=float(input())
if a==1:
    print("Intensity: %.2f"%round(b*1.5,2))
elif (a==2):
    print("Intensity: %.2f"%round(b*2.0,2))
elif (a==3):
    print("Intensity: %.2f"%round(b*1.8,2))
else:
    print("Invalid")
```

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

2.  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

```python
# You are using Python
n=int(input())
a,b=0,1
count=0
while count<n:
    if a>1:
        is_prime= True
        for i in range(2,int(a**0.5)+1):
            if a%i==0:
                is_prime=False
                break
        if is_prime:
            print(a,end=" ")
            count+=1
```

```
a,b=b,a+b
```

3.  Problem Statement

Rohith is a data analyst who needs to categorize countries based on their population growth rates. Each country is assigned a unique code. Rohith will receive a code and corresponding data based on the code. If the data falls within specific thresholds, he needs to classify the country's priority level.

Your task is to write a program that reads a country code and its associated data, and then determines if the priority is "High" or "Low."

Thresholds:France: Priority is "High" if the percentage < 50, else "Low".Japan: Priority is "High" if life expectancy > 80, else "Low".Brazil: Priority is "High" if the urban population > 80, else "Low".

*Input Format*

The first line of input consists of an integer, representing the country code (1 for France, 2 for Japan, 3 for Brazil).

If the country code is 1,

- The second line consists of a floating-point value N, representing the percentage of the English-speaking population.

If the country code is 2,

- The second line consists of a floating-point value A, representing the average life expectancy in years.

If the country code is 3,

- The second line consists of a floating-point value P, representing the percentage of the urban population.

*Output Format*

The first line of output displays "Priority: High" or "Priority: Low" based on the

input data.

If the country code is invalid, print "Invalid".

Refer to the sample output for formatting specifications.

*Sample Test Case*

Input: 1
30.0
Output: Priority: High

*Answer*

```python
# You are using Python
code=int(input())
if code==1:
    percentage=float(input())
    if percentage<50:
        print("Priority : High");
    else:
        print("Priority : Low")
elif code==2:
    life=float(input())
    if life>80:
        print("Priority : High");
    else:
        print("Priority : Low")
elif code==3:
    urban=float(input())
    if urban>80:
        print("Priority : High");
    else:
        print("Priority : Low")
else:
    print("Invalid")
```

*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.

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*

```python
# You are using Python
a=input()
prime={'2','3','7','5'}
sum=0
for i in a:
    if i not in prime:
        sum+=int(i)
print(sum)
```

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