Rajalakshmi Engineering College

Name: SIVAGURU D
Email: 240701517@rajalakshmi.edu.in
Roll no: 240701517
Phone: 9345616842
Branch: REC
Department: I CSE FE
Batch: 2028
Degree: B.E - CSE

Scan to verify results

NeoColab_REC_CS23221_Python Programming

REC_Python_Week 2_CY

Attempt : 1
Total Mark : 40
Marks Obtained : 40

Section 1 : Coding

1. Problem Statement

Nisha is a mathematics enthusiast, eager to explore the realm of twin prime numbers. The objective is to develop a program that enables the discovery and presentation of twin prime pairs.

The program should take an integer 'n' as input and generate 'n' pairs of twin primes, displaying the pairs with a difference of 2 between them.

Input Format

The input consists of a single integer, n.

Output Format

The output displays the 'n' pairs of twin primes, the pairs with a difference of 2 between them.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: 5

Output: 3 5
5 7
11 13
17 19
29 31

Answer

```
def isprime(n):
    if n<=1:
        return False
    if n<=3:
        return True
    if n%2==0 or n%3==0:
        return False
    i=5
    w=2
    while i*i<=n:
        if n%i==0:
            return False
        i+=w
        w=6-w
    return True
a=int(input())
b=0
j=3
while b<a:
    if isprime(j) and isprime(j+2):
        print(j,j+2)
        b+=1
        j+=2
    else:
        j+=2
```

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

2. 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

```
a=int(input())
b=a%1000
c=int(str(a)[0])
if(b%c==0):
    print("Logged In")
else:
    print("Incorrect code")
```

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

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

```
a=int(input())
if a<1 or a>3:
   print("Invalid")
else:
   b=float(input())
   if(a==1 and b<=50) or ((a==2 or a==3)and b>80):
      print("Priority: High")
   else:
      print("Priority: Low")
```

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

4. 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

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

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