Ex. No. : 7.1

Register No.: 230401023 Date: 6/6/2024

Name: CAROLINE

Abundant Number

An abundant number is a number for which the sum of its proper divisors is greater than the number itself. Proper divisors of the number are those that are strictly lesser than the number.

Input Format:
Take input an integer from stdin
Output Format:
Return Yes if given number is Abundant. Otherwise, print No

```
def abundant(n):
    s=0
    for i in range(1,n):
        if (n%i==0):
            s+=i
    if (s>n):
        return('Yes')
    else:
        return('No')
```

Ex. No. : 7.2

Register No.: 230401023 Date: 6/6/2024

Name: CAROLINE

Automorphic number or not

An automorphic number is a number whose square ends with the number itself. For example, 5 is an automorphic number because 5*5 =25. The last digit is 5 which same as the given number.

If the number is not valid, it should display "Invalid input".
If it is an automorphic number display "Automorphic" else display "Not Automorphic".

```
def (automorphic (number)):
if number <0:
    return "Invalid input"
b= number * number.
number_str = str (number)
b_str = str (b)
if b_str. endswith ( number_str):
    return "Automorphic"
else:
    return " Not Automorphic"
```

Ex. No. : 7.3

Register No.: 230401023 Date: 6/6/2024

Name: CAROLINE

Check Product of Digits

Write a code to check whether product of digits at even places is divisible by sum of digits at odd place of a positive integer.

```
def productDigits(n):
    n = str(n) ; e = 1 ; o = 0
    for i in range(len(n)):
        if i%2 != 0:
            e *= int(n[i])
        else:
            o += int(n[i])
    if e%o == 0:
        return('True')
    else:
        return('False')
```

Ex. No. : 7.4

Register No.: 230401023 Date: 6/6/2024

Name: CAROLINE

Christmas Discount

An e-commerce company plans to give their customers a special discount for Christmas. They are planning to offer a flat discount. The discount value is calculated as the sum of all the prime digits in the total bill amount.

Write an python code to find the discount value for the given total bill amount.

Constraints

$1 <= \text{orderValue} < 10e^{100000}$

```
def christmasDiscount(n):
    s=0
    for i in str(n):
        if i in "2357":
            s+=int(i)
    return(s)
```

Ex. No. : 7.5

Register No.: 230401023 Date: 6/6/2024

Name: CAROLINE

Coin Change

complete function to implement coin change making problem i.e. finding the minimum number of coins of certain denominations that add up to given amount of money. The only available coins are of values 1, 2, 3, 4

```
def coinChange(n):
    a = n//4
    b = n%4
    c = b//3
    d = b%3
    e = d//2
    f = d%2
    g = f//1
    return (a+c+e+g)
```

Ex. No. : 7.6

Register No.: 230401023 Date: 6/6/2024

Name: CAROLINE

Difference Sum

Given a number with maximum of 100 digits as input, find the difference between the sum of odd and even position digits.

```
def differenceSum(n):
    n = str(n) : e = 0 ; o = 0
    for i in range (len(n)):
        if (i%2! =0):
            e += int (n[i])
        else:
            o += int (n[i])
    d = abs (o-e)
    return (d)
```

Ex. No. : 7.7

Register No.: 230401023 Date: 6/6/2024

Name: CAROLINE

Ugly number

A number is considered to be ugly if its only prime factors are 2, 3 or 5.
[1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 15, ...] is the sequence of ugly numbers.
Task:
complete the function which takes a number n as input and checks if it's an ugly number. return ugly if it is ugly, else return not ugly
Hint:
An ugly number U can be expressed as: U = 2^a * 3^b * 5^c, where a, b and c are nonnegative integers.

```
def check ugly (n):
  if n<=0:
     return "not ugey"
  if n==1
     return "ugey"
  if n%2 ==0 :
     return check ugly (n//2)
  if n%3 ==0:
     return check ugy (n//3)
  if n%5 ==0 :
     return check agly (n//5)
     return "not ugly"
```