Practice Problems

Python Program to count the number of digit in a Number

In [46]:
```
x=int(input("Enter the number"))  #intger
y=str(x)   #string -->"1234"
print(len(y))
```

```
Enter the number56789
5
```

In [48]:
```
x=int(input("Enter the number")) #1234
count=0
while x!=0:
    x=x//10
    count=count+1
print(count)
```

```
Enter the number6543
4
```

Python program to Check weather a given Number is Armstrong or Not

In [ ]:
```
153--> 1**3+5**3+3**3==>153  --> 1+125+27 ==>153
Armstrong number: Summation of the cube of the digit is equal to the given number
```

In [ ]:
```
sum=0 --> 153 -->3 --> 153 -->153//10 -->15
Approch x!=0:
    Extract the digit -->  %10 -->x=3   ----->  5 ----> 1%10 -->1
    sum = sum+x**3 --> 0+3**3 -->27 sum=27      #sum=27+125 ==>152    #sum=152+1 ==>153
    x=x//10 --> 15 --> 1    --> x=1//10 --> 0
```

In [50]:
```
num=int(input("Enter the Number"))
sum=0
m=num
while num!=0:
    rem=num%10
    print("Reminder value is",rem)
    sum=sum+(rem**3)
    print("Sum  is",sum)
    print("num is ",num)
    num=num//10
print(num)
print("Original Number is :",m)
if m==sum:
    print("Armstrong number")
else:
    print("Not armstrong number")
```

```
Enter the Number153
Reminder value is 3
Sum  is 27
num is  153
Reminder value is 5
Sum  is 152
num is  15
Reminder value is 1
Sum  is 153
num is  1
0
Original Number is : 153
Armstrong number
```

Python program to Check weather a given Number is Strong or Not

In [ ]:
```
145 --> fact(1)+fact(4)+fact(5)==>1+24+120 ---> 145
summation of factorial of the digit is equal to the orginal number
```

In [52]:
```
import math
num=int(input("Enter the Number"))
sum=0
m=num
while num!=0:
    rem=num%10
    print("Reminder value is",rem)
    sum=sum+math.factorial(rem)
    print("Sum  is",sum)
    print("num is ",num)
    num=num//10
print(num)
print("Original number is :",m)
if m==sum:
    print("Strong number")
else:
    print("Not strong number")
```

```
Enter the Number145
Reminder value is 5
Sum  is 120
num is  145
Reminder value is 4
Sum  is 144
num is  14
Reminder value is 1
Sum  is 145
num is  1
0
Original number is : 145
Strong number
```

Python Program to find the Maximum element from a list

In [53]:
```
x=[1,2,3,4,5]
min(x)
```

Out[53]:
```
1
```

Python Program to find the Product of digits

In [55]:
```
#153 --> 1*5*3-->15
num=int(input("Enter the number"))
prod=1
while num!=0:          #153!=0:                15!=0:       1!=0:
    rem=num%10          #rem=3                 #rem=5        #rem=1
    prod=prod*rem       #prod=1*1=3          prod=3*5=15    #prod=15*1=15
    num=num//10        #num=153//10=15     #num=15//10=1   #num=1//10=0

print(prod)
```

```
Enter the number145
20
```

In [63]:
```
num=input("Enter a number")
prod=1
for i in num:
    ele = int(i)
    prod=prod*ele
print(prod)
```

```
Enter a number154
20
```

Python Program to find the Sum of digits

In [65]:
```
#153 --> 1*5*3-->15
num=int(input("Enter the number"))
sum=0
while num!=0:          #153!=0:                15!=0:       1!=0:
    rem=num%10          #rem=3                 #rem=5        #rem=1
    sum=sum+rem         #prod=1*1=3          prod=3*5=15    #prod=15*1=15
    num=num//10 #num=153//10=15    #num=15//10=1   #num=1//10=0

print(sum)
```

```
Enter the number153
9
```

Python Program for Sum of squares of first n natural numbers

In [67]:
```
sum=0
n=int(input("Enter the number: "))
for i in range(n+1):
    sum=sum+i**2
print(sum)
```

```
Enter the number: 10
385
```

Python Program for cube sum of first n natural numbers

In [68]:
```
sum=0
n=int(input("Enter the number: "))
for i in range(n+1):
 sum=sum+i**3
print(sum)
```

```
Enter the number: 5
225
```

Write a program to display sum of odd numbers and even numbers that fall between 12 and 37

In [69]:
```
sum_odd=0
sum_even=0
for i in range(12,38):
    if i%2==0:
        sum_even=sum_even+i
    else:
        sum_odd=sum_odd+i
print("Sum of even number",sum_even)
print("Sum of odd number",sum_odd)
```

```
Sum of even number 312
Sum of odd number 325
```

Write a program to display all the numbers which are divisible by 11 but not by 2 between 100 and 500.

In [70]:
```
for i in range(100,500):
    if i%11==0 and i%2!=0:
        print(i)
```

```
121
143
165
187
209
231
253
275
297
319
341
363
385
407
429
451
473
495
```

Write a program to print numbers from 1 to 20 except multiple of 2 & 3.

In [71]:
```
for i in range(1,20):
    if i%2!=0 and i%3!=0:
        print(i)
```

```
1
5
7
11
13
17
19
```

Python Program to Find the factors of the given number

In [73]:
```
n=int(input("Enter a number"))
for i in range(1,n):   #1,2,3,4,5,6,7,8,9
    if n%i==0:          #98%1==0 -->1  ---->98%2==0
        print(i)
```

```
Enter a number8
1
2
4
```

Python Program to check a Candidate is eligible for vote or not

In [75]:
```
#x=input("name of the candidate ")
y=int(input("year of the birth of  candidate "))
#z=int(input("month of the birth of condidate "))
#v=int(input("date of the condidate"))
current_age=2022-y
print(current_age)
if current_age>=18:
    print("you are eligible for vote ")
elif current_age>12:
    print("please maintaioned a valid month ")
elif current_age>31:
    print("please maintaioned a valid date ")
elif current_age<18:
    print("you are not eligible for vote ")
```

```
year of the birth of  candidate 2001
21
you are eligible for vote
```

In [ ]:
```

```