

Armstrong Number

$$153 = (1)^3 + (5)^3 + (3)^3$$

$$1634 = (1)^4 + (6)^4 + (3)^4 + (4)^4$$

is a number that is the sum of its own digits each raised to the power of the number of digits.

Example:

Write a program to find input number is armstrong number or not

```
num=int(input("Enter any 3 Digit Number "))
l=len(str(num))
num1=num
```

```
s=0
while num>0:
    d=num%10
    s=s+(d**l)
    num=num//10
```

```
if s==num1:
    print(f'{num1} is armstrong number ')
else:
    print(f'{num1} is not armstrong number')
```

Output

```
Enter any 3 Digit Number 123
123 is not armstrong number
```

```
Enter any 3 Digit Number 153
153 is armstrong number
```

```
Enter any 3 Digit Number 1634
```

1634 is armstrong number

Enter any 3 Digit Number 92727

92727 is armstrong number

Example:

Write a program to reverse number

```
num=int(input("Enter any number "))  
rev=0
```

```
while num>0:  
    d=num%10  
    rev=(rev*10)+d  
    num=num//10
```

```
print(f'Reverse Number {rev}')
```

Output

Enter any number 123

Reverse Number 321

Enter any number 5789

Reverse Number 9875

Example:

Write a program to find input number is pal or not

```
num=int(input("Enter any number "))  
num1=num  
rev=0
```

```
while num>0:  
    d=num%10  
    rev=(rev*10)+d  
    num=num//10
```

```
if rev==num1:
    print("pal")
else:
    print("not pal")
```

Output

Enter any number 121
pal

Enter any number 123
not pal

Example:

Write a program to find input number is perfect number

perfect number, a positive integer that is equal to the sum of its proper divisors.

The smallest perfect number is 6, which is the sum of 1, 2, and 3.

Other perfect numbers are 28, 496, and 8,128.

```
num=int(input("Enter any number "))
s=0
```

```
i=1
while i<num:
    if num%i==0:
        s=s+i
    i=i+1
```

```
if s==num:
    print(f'{num} is perfect number')
else:
    print(f'{num} is not perfect number')
```

Output

Enter any number 6

6 is perfect number

Enter any number 8

8 is not perfect number

Example:

Write a program to find input number is prime number

```
num=int(input("Enter any number "))
```

```
c=0
```

```
i=1
```

```
while i<=num:
```

```
    if num%i==0:
```

```
        c=c+1
```

```
    i=i+1
```

```
if c==2:
```

```
    print(f'{num} is prime')
```

```
else:
```

```
    print(f'{num} is not prime')
```

Output

Enter any number 5

5 is prime

Enter any number 9

9 is not prime

Example:

Write a program to find factorial of input number

```
num=int(input("Enter any number "))
```

```
fact=1
```

```
i=1
```

```
while i<=num:
```

```
fact=fact*i  
i=i+1
```

```
print(f'Factorial is {fact}')
```

Output

Enter any number 5
Factorial is 120

Enter any number 3
Factorial is 6

Enter any number 0
Factorial is 1

Example:

Accept 10 numbers from user and print avg

```
s=0  
i=1  
while i<=10:  
    num=int(input("Enter Number "))  
    s=s+num  
    i=i+1
```

```
a=s/10  
print(f'Avg is {a:.2f}')
```

Output

Enter Number 1
Enter Number 2
Enter Number 3
Enter Number 4
Enter Number 5
Enter Number 6
Enter Number 7
Enter Number 8

Enter Number 9
Enter Number 10
Avg is 5.50

Home Work

<https://csiplearninghub.com/python-if-else-conditional-statement-practice/>