

github-1

August 13, 2024

```
[3]: num = int(input("enter a number: "))  
# input: 23  
flag = False  
if num > 1:  
    for i in range(2, num):  
        if (num % i) == 0:  
            flag = True  
            break  
  
if flag:  
    print(num, "is not a prime number")  
else:  
    print(num, "is a prime number")  
# 23 is a prime number
```

enter a number: 4

4 is not a prime number

```
[1]: # This program adds two numbers  
  
num1 = 1.5  
num2 = 6.3  
  
# Add two numbers  
sum = num1 + num2  
  
# Display the sum  
print('The sum of {0} and {1} is {2}'.format(num1, num2, sum))
```

The sum of 1.5 and 6.3 is 7.8

```
[3]: import calendar  
  
year = int(input("Enter a year: "))  
  
if calendar.isleap(year):  
    print(year, " is a leap year")
```

```
else:
    print(year, "is not a leap year.")
```

Enter a year: 2000

2000 is a leap year

```
[7]: # Python program to check if the input number is odd or even.
num = int(input("Enter a number: "))
if (num % 2) == 0:
    print("{0} is Even".format(num))
else:
    print("{0} is Odd".format(num))
```

Enter a number: 2

2 is Even

```
[3]: # Default function to run if else condition
def NumberCheck(a):
    # Checking if the number is positive
    if a > 0:
        print("Number given by you is Positive")
    # Checking if the number is negative
    elif a < 0:
        print("Number given by you is Negative")
    # Else the number is zero
    else:
        print("Number given by you is zero")
    # Taking number from user
    a = float(input("Enter a number as input value: "))
    # Printing result
    NumberCheck(a)
```

Enter a number as input value: 2

Number given by you is Positive

```
[14]: # Python program to find the factorial of a number provided by the user.

num = int(input("Enter a number: "))

factorial = 1

# check if the number is negative, positive or zero
if num < 0:
    print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
    print("The factorial of 0 is 1")
```

```

else:
    for i in range(1,num + 1):
        factorial = factorial*i
    print("The factorial of",num,"is",factorial)

```

Enter a number: 2

The factorial of 2 is 2

[39]: *# Program to display the Fibonacci sequence up to n-th term*

```

nterms = int(input("How many terms? "))

# first two terms
n1, n2 = 0, 1
count = 0

# check if the number of terms is valid
if nterms <= 0:
    print("Please enter a positive integer")
# if there is only one term, return n1
elif nterms == 1:
    print("Fibonacci sequence upto",nterms,":")
    print(n1)
# generate fibonacci sequence
else:
    print("Fibonacci sequence:")
    while count < nterms:
        print(n1)
        nth = n1 + n2
        # update values
        n1 = n2
        n2 = nth
        count += 1

```

How many terms? 10

Fibonacci sequence:

0
1
1
2
3
5
8
13
21
34

```
[2]: # First, we will take the input:
lower_value = int(input ("Please, Enter the Lowest Range Value: "))
upper_value = int(input ("Please, Enter the Upper Range Value: "))

print ("The Prime Numbers in the range are: ")
for number in range (lower_value, upper_value + 1):
    if number > 1:
        for i in range (2, number):
            if (number % i) == 0:
                break
        else:
            print (number)
```

Please, Enter the Lowest Range Value: 2
Please, Enter the Upper Range Value: 100

The Prime Numbers in the range are:

2
3
5
7
11
13
17
19
23
29
31
37
41
43
47
53
59
61
67
71
73
79
83
89
97

```
[40]: # Python program to check if the number is an Armstrong number or not

# take input from the user
num = int(input("Enter a number: "))
```

```

# initialize sum
sum = 0

# find the sum of the cube of each digit
temp = num
while temp > 0:
    digit = temp % 10
    sum += digit ** 3
    temp //= 10

# display the result
if num == sum:
    print(num, "is an Armstrong number")
else:
    print(num, "is not an Armstrong number")

```

Enter a number: 3

3 is not an Armstrong number

```

[32]: # Simple Python program to print the Simple pyramid pattern
n = int(input("Enter the number of rows: "))
for i in range(0, n):
    for j in range(0, i + 1):
        print("* ", end="")
    print()

```

Enter the number of rows: 3

```

*
* *
* * *

```

```

[24]: # Inverted right-angled triangle pattern

rows = int(input("Enter the number of rows"))

for i in range(rows, 0, -1):
    for j in range(1, i + 1):
        print("*", end=" ")
    print("")

```

Enter the number of rows 3

```

* * *
* *
*

```

```
[29]: # Pyramid pattern

rows = int(input("Enter number of rows"))

for i in range(1, rows + 1):
    # Print leading spaces
    print(" " * (rows - i), end="")
    # Print stars
    print("* " * i)
```

Enter number of rows 3

```

    *
  * *
* * *
```

```
[30]: # Diamond pattern

rows = 5

# Upper pyramid
for i in range(1, rows + 1):
    print(" " * (rows - i) + "* " * i)

# Lower inverted pyramid
for i in range(rows - 1, 0, -1):
    print(" " * (rows - i) + "* " * i)
```

```

    *
  * *
* * *
* * * *
* * * * *
* * * *
  * * *
    * *
      *
```

```
[33]: # Number pyramid pattern

rows = 5

for i in range(1, rows + 1):
    for j in range(1, i + 1):
        print(j, end=" ")
    print("")
```

```
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

[34]: *# Pascal's triangle pattern*

```
rows = 5

for i in range(rows):
    for j in range(rows - i + 1):
        print(end=" ")
    coef = 1
    for j in range(1, i + 1):
        print(coef, end=" ")
        coef = coef * (i - j) // j
    print()
```

```
1
1 1
1 2 1
1 3 3 1
```