1.print 50 prime number:

```
lower=int(input("Enter lower range:"))
upper=int(input("Enter upper range:"))
for num in range(lower,upper+1):
        if num>1:
        for i in range(2,num):
        if(num%i==0):
                break
        else:
        print(num)
```

```
================ RESTART: C:/Users/NR/Desktop/py/1_prime.py ================
Enter lower range:1
Enter upper range:50
2
3
5
7
11
13
17
19
23
29
31
37
41
43
47
```

2.find sum of series 1+(1/x)+(1/x^2)+(1/x^3)+.....+n

```
n = int(input("Enter the value of n: "))
x = int(input("Enter the value of x: "))
i = 1
sum = 1
while i <= n :
        t= 1/(x ** i)
        sum+=t
        i += 1
print("Sum =", sum)
```

```
============== RESTART: C:\Users\N
Enter the value of n: 3
Enter the value of x: 2
Sum = 1.875
>>>
```

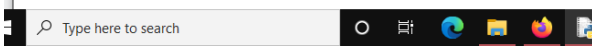
3.Factorial using recursion

```
def fact(n):
```

```
  if n == 1:
        return n
  else:
        return n*fact(n-1)

num =int(input("Enter a number:"))
print("Factorial value:",fact(num))
```

```
================== RESTART: C:/Users/NR/Desktop/py/3_fact.
Enter a number:5
Factorial value: 120
>>>
```



4.GCD of two number

```
num1 = int(input("Enter 1st number: "))
num2 = int(input("Enter 2nd number: "))
i = 1
while(i <= num1 and i <= num2):
  if(num1 % i == 0 and num2 % i == 0):
        gcd = i
  i = i + 1
print("GCD is", gcd)
```

```
================== RESTART: C:/Users/NR/Desktop/py/4_gcd.py ==================
Enter 1st number: 5
Enter 2nd number: 20
GCD is 5
```

5.check given string is palindrome or not

```
s=input("Enter string:")
if(s==s[::-1]):
        print(s," is palindrome")
else:
        print(s," not a palindrome")
```

```
================= RESTART: C:/Users/NR/Desktop/py/5_palin.py =================
Enter string:amma
amma  is palindrome
>>>
================= RESTART: C:/Users/NR/Desktop/py/5_palin.py =================
Enter string:python
python  not a palindrome
>>>
```

6.write a py prgm that input is text fil, prgm should print all of unique words in the file in alphabetical order

```
fname = input("filename: ")
with open(fname, "w") as fh:
```

```
 fh.write(input("Enter file data:"))

fh = open(fname,'r')
unique = list()
words=[]
for line in fh:
        words += line.split()
words.sort()
print("The unique words in  alphabetical order are:")
for word in words:
        if words.count(str(word))==1:
        unique.append(word)
print(unique)
```

```
========= RESTART: C:\Users\NR\Desktop\py\6 unique words in file.py =========
filename: text
Enter file data:india is my country my name is nr
The unique words in  alphabetical order are:
['country', 'india', 'name', 'nr']
>>>
```

7.write a py prgm to count the no.of vowels and consonant in the string

```
string=input("Enter string:")
vowels=0
for i in string:
        if(i=='a' or i=='e' or i=='i' or i=='o' or i=='u' or i=='A' or i=='E' or i=='I' or i=='O' or i=='U'):
        vowels=vowels+1
print("Number of vowels are:")
print(vowels)
```

```
========== RESTART: C:/Users/NR/Desktop/py/7.py ==========
Enter string:im jarvis
Number of vowels are:
3
>>>
```

8.celsius to fahrenheit

```
celsius=float(input("Enter temperature in celsius:"))
fahrenheit=(celsius*9/5)+32
print('%.2f celsius is:%0.2f fahrenheit'%(celsius,fahrenheit))
```

```
========== RESTART: C:/Users/NR/Desktop/py/8.py ==========
Enter temperature in celsius:37
37.00 celsius is:98.60 fahrenheit
>>>
```

9.count no.of words,lines,character in a file

```
def countWords(fileName):
        numwords = 0
        numchars = 0
        numlines = 0

        with open(fileName, 'r') as file:
        for line in file:
        wordlist = line.split()
        numlines += 1
        numwords += len(wordlist)
        numchars += len(line)

        print ("Words: ", numwords)
        print ("Lines: ", numlines)
        print ("Characters: ", numchars)

f=input("Enter file name:")
countWords(f)
```

Output:

Text.txt

india is my country my name is nr

```
========== RESTART: C:\Users\NR\Desktop\py\9_count_words_ch_line.py ==========
Enter file name:text
Words:  8
Lines:  1
Characters:  33
>>>
```

10. Pattern program:

```
rows = 6
for num in range(rows):
        for i in range(num):
        print(num, end=" ")
        print(" ")
```

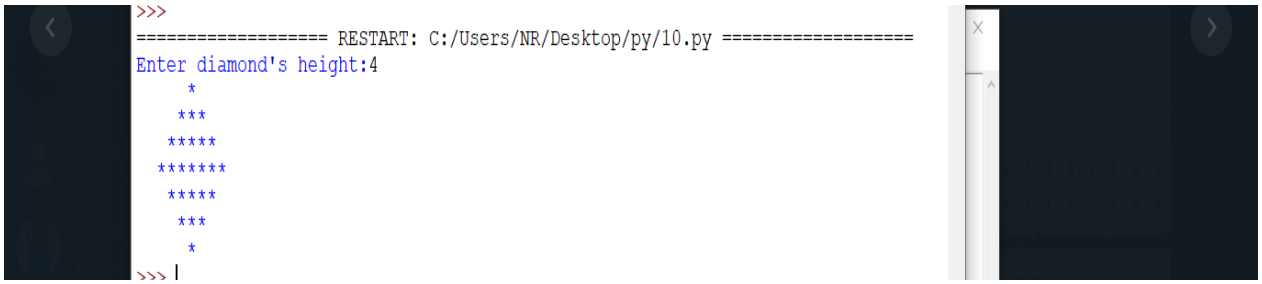
Output:

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

11.

```
h=eval(input("Enter diamond's height:"))
```

```
for x in range(h):
        print(" "*(h-x),"*"*(2*x+1))
for x in range(h-2,-1,-1):
        print(" "*(h-x),"*"*(2*x+1))
```



12.read n names and sort names in alphabetic order

```
3  name=[]
4  n=int(input("enter a range:"))
5  print("enter ",n, " names:")
6  for i in range(n):
7      na=input()
8      name.append(na)
9  print(name)
10 name.sort()
11 print(name)
```

output:

```
enter a range:4
enter  4  names:
jarvis
ultron
Friday
tony
['jarvis', 'ultron', 'Friday', 'tony']
['Friday', 'jarvis', 'tony', 'ultron']
>
```

13.read +tive integer and print all positive divisors of that number

```
n=int(input("Enter an integer:"))
print("The divisors of the number are:")
for i in range(1,n+1):
        if(n%i==0):
        print(i)
```

```
=============== RESTART: C:\Users\NR\Desktop\py\13_divisors.py ===============
Enter an integer:6
The divisors of the number are:
1
2
3
6
```

14.find sum of digits

```
n=int(input("Enter a number:"))
tot=0
while(n>0):
        dig=n%10
        tot=tot+dig
        n=n//10
print("The total sum of digits is:",tot)
```

```
Enter a number:1234
The total sum of digits is: 10
>
```

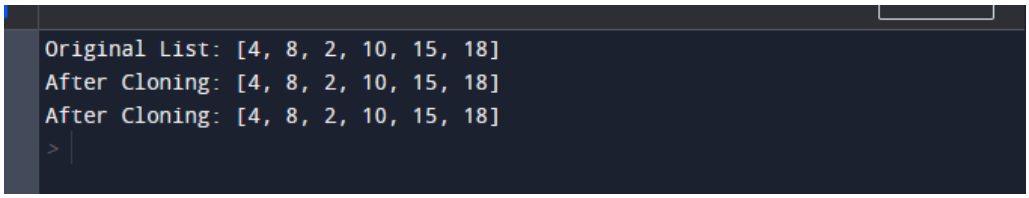
15.fibonacci series

```
def fib(n):
        a = 0
        b = 1
        if n == 1:
        print(a)
        else:
        print(a)
        print(b)
        for i in range(2,n):
        c = a + b
        a = b
        b = c
        print(c)
n=int(input("Enter a number:"))
fib(n)
```

```
================== RESTART: C:\Users\NR\Desktop\py\15_fib.py ==================
Enter a number:5
0
1
1
2
3
>>>
```

16.prgm for cloning the list

```
li1 = [4, 8, 2, 10, 15, 18]
li2 = li1
li3=li1.copy()
print("Original List:", li1)
print("After Cloning:", li2)
print("After Cloning:", li3)
```



17.find the most frequent word in a text read from a file

```
fname = input("filename: ")
with open(fname, "w") as fh:
  fh.write(input("Enter file data:"))


fh = open(fname,'r')
freq = list()
words=[]
for line in fh:
        words += line.split()
words.sort()

print("The most freq words are:")

for word in words:
        if words.count(str(word))>1:
        if word not in freq:
        freq.append(word)
print(freq)
```

```
============== RESTART: C:\Users\NR\Desktop\py\17_most_freq.py ==============
filename: text
Enter file data:i am jarvis i am friday
The most freq words are:
['am', 'i']
```

18.circulate the value of n variables

```
no_of_terms = int(input("Enter number of values : "))
list1 = []
for val in range(0,no_of_terms,1):
        ele = int(input("Enter integer : "))
        list1.append(ele)
print("Circulating the elements of list ", list1)
for val in range(0,no_of_terms,1):
        ele = list1.pop(0)
        list1.append(ele)
        print(list1)
```

```
Enter number of values : 3
Enter integer : 1
Enter integer : 2
3Enter integer : 3
Circulating the elements of list  [1, 2, 3]
[2, 3, 1]
[3, 1, 2]
[1, 2, 3]
>
```

19.find biggest among 3 number

```
num1 = float(input("Enter first number: "))
num2 = float(input("Enter second number: "))
num3 = float(input("Enter third number: "))

if (num1 > num2) and (num1 > num3):
   largest = num1
elif (num2 > num1) and (num2 > num3):
   largest = num2
else:
   largest = num3

print("The largest number is",largest)
```

```
Enter first number: 4
Enter second number: 10
Enter third number: 6
The largest number is 10.0
>
```

20.sum of first n even numbers

```
num = int(input("Print sum of even numbers till : "))
total = 0
for i in range(1, num + 1):
        if((i % 2) == 0):
        total = total + i
print("\nSum of even numbers from 1 to", num, "is :", total)
```

```
========== RESTART: C:\Users\NR\Desktop\py\sum_of
Print sum of even numbers till : 10

Sum of even numbers from 1 to 10 is : 30
>>>
```

21.square root of a number

```
number = int(input("enter a number: "))
sqrt = number ** 0.5
print("square root:", sqrt)
```

```
enter a number: 16
square root: 4.0
>
```

22.Read 5 subject marks and display the grade

```
sub1=int(input("Enter marks of the first subject: "))
sub2=int(input("Enter marks of the second subject: "))
sub3=int(input("Enter marks of the third subject: "))
sub4=int(input("Enter marks of the fourth subject: "))
sub5=int(input("Enter marks of the fifth subject: "))
avg=(sub1+sub2+sub3+sub4+sub4)/5
if(avg>=90):
        print("Grade: A")
elif(avg>=80 and avg<90):
        print("Grade: B")
elif(avg>=70 and avg<80):
        print("Grade: C")
elif(avg>=60 and avg<70):
        print("Grade: D")
else:
        print("Grade: F")
```

```
>>>
================== RESTART: C:\Users\NR\Desktop\py\
Enter marks of the first subject: 76
Enter marks of the second subject: 56
Enter marks of the third subject: 88
Enter marks of the fourth subject: 94
Enter marks of the fifth subject: 77
Grade: B
>>>
```

23.Check given num is armstrong or not

```
number =int(input("Enter a number:"))
temp = number
add_sum = 0
while temp!=0:
        k = temp%10
        add_sum +=k*k*k
        temp = temp//10
if add_sum==number:
        print('Armstrong Number')
else:
        print('Not a Armstrong Number')
```

```
================= RESTART: C:\Users\NR
Enter a number:153
Armstrong Number
>>>
================= RESTART: C:\Users\NR
Enter a number:423
Not a Armstrong Number
>>>
```

24.Sum of odd series

```
num = int(input("Print sum of even numbers till : "))
total = 0
for i in range(1, num + 1):
        if((i % 2) != 0):
        total = total + i
print("\nSum of odd numbers from 1 to", num, "is :", total)
```

```
>>>
================= RESTART: C:\Users\NR\Desktop\py\24_odd.
Print sum of even numbers till : 10

Sum of odd numbers from 1 to 10 is : 25
>>>
```

25.find sum of series using function $1^2+2^2+3^2+....+n^2$

```
def fun(n):
        i = 1
        sum = 0
        while i <= n :
        sum += i ** 2
        i += 1
        print("Sum =", sum)

n = int(input("Enter the value of n: "))
fun(n)
```

```
========== RESTART: C:\Us
Enter the value of n: 4
Sum = 30
>>>
```

26. number palindrome

```
num = input("Enter a number:")
if num == num[::-1]:
   print("Yes its a palindrome")
else:
   print("No, its not a palindrome")
```

```
========== RESTART: C:\Users\NR\Desktop\
Enter a number:121
Yes its a palindrome
>>>
========== RESTART: C:\Users\NR\Desktop\
Enter a number:123
No, its not a palindrome
>>>
```