```
# 1.Accept input from user and store it in variable and print the value.
a=100
b=20
c=int(input())
d=int(input())
f=a+b+c+d
print(f)
print(type(f))
# .format
g=123
h=("hello")
print(h.format) #or
val = input("Enter your value: ")
print(val)
```

```
12
29
161
<class 'int'>
<built-in method format of str object at 0x7f5561f91e30>
Enter your value: 28
28
```

```
# 2.Use of print statements and use of (.format )for printing different data types
a=("peacock dances well")
b=(" and they look pretty")
c=a+b
print(c)
a=123
b="hello {}"
print(b.format(a,b))  #or
age =18
name ="sowmya {}"
print(name.format(age))
```

```
peacock dances well and they look pretty
hello 123
sowmya 18
```

```
#3.Take 2 numbers as user input and add, multiply, divide, subtract, remainder and print
#the output (Same operations on floating point input as well)
num1= int(input("Enter First Number: "))
num2= int(input("Enter Second Number: "))
```

```
print("Enter which operation ")
a= input("Enter any of these char for specific operation +,-,*,/: ")

result = 0
if a== '+':
    result = num1 + num2
elif a == '-':
    result = num1 - num2
elif a == '*':
    result = num1 * num2
elif a == '/':
    result = num1 / num2
else:
    print("Input character is not recognized!")

print(num1, a, num2, ":", result)       # or
a=8
b=5
c=a+b
d=a-b
e=a*d
f=a/b
g=a%b
print(c)
print(d)
print(e)
print(f)
print(g)
```

```
 Enter First Number: 12
 Enter Second Number: 30
 Enter which operation
 Enter any of these char for specific operation +,-,*,/: +
 12 + 30 : 42
 13
 3
 24
 1.6
 3
```

```
# 4.Conversion of one unit to another (such as hours to minutes, miles to km and etc)
a=4
min=4*60
print(min)  #and
hours = int(input("Input hours: ")) * 3600
minutes = int(input("Input minutes: ")) * 60
time =hours + minutes
print("The amounts of seconds", time)
                #and
hours = int(input("enter hours:"))
minutes = hours * 60
print(minutes, " Minutes")
```

```
km=int(input("enter number of km"))
meter=km*1000
cm=meter*100
print(meter)
print(cm)
```

```
240
Input hours: 5
Input minutes: 30
The amounts of seconds 19800
enter hours:5
300  Minutes
enter number of km90
90000
9000000
```

```
## 5.Usage of mathematical functions in python like math.ceil, floor, fabs, fmod, trunc,
import math
a=4.567
print(math.ceil(a))
b=-9
print(math.fabs(b))
c=3.67
print(math.floor(c))
d=2**3
print(d)
e=math.sqrt(81)
print(e)
```

```
5
9.0
3
8
9.0
```

```
# 6.Building a mathematical calculator that can perform operations according to user input.
a=2
b=3
print('1="addition",2="subtraction",3="multiplication",4="division"')
c=int(input("enter any number upto 4"))
if c==1:
 print(a+b)
elif c==2:
 print(a-b)
elif c==3:
 print(a*b)
elif c==4:
 print(a/b)
else:
 print("invalid")
```

```
     1="addition",2="subtraction",3="multiplication",4="division"
     enter any number upto 43
     6
```

```
# 7.Accepting 5 different subject marks from user and displaying the grade of the student
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")
```

```
     Enter marks of the first subject: 50
     Enter marks of the second subject: 70
     Enter marks of the third subject: 90
     Enter marks of the fourth subject: 79
     Enter marks of the fifth subject: 80
     Grade: C
```

```
#Printing all even numbers, odd numbers, count of even numbers, count of odd numbers

a=int(input("enter the first number in the range"))
b=int(input("enter the second number in the range"))
for i in range(a,b):
 if i%2==0:
  print("even numbers are",i)
else:
 print("odd numbers are ",i)
```

```
     enter the first number in the range2
     enter the second number in the range10
     even numbers are 2
     even numbers are 4
     even numbers are 6
     even numbers are 8
     odd numbers are  9
```

```
#the factorial of a given number

a=int(input("Enter a number"))
```

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

```
     Enter a number9
     The factorial of 9 is 362880
```

```
#gcd of two numbers

x =int (input ("Enter the first number: "))
y =int (input ("Enter the second number: "))

gcd = 1
for i in range(1, min(x, y)):
  if x % i == 0 and y % i == 0:
        gcd = i
print("GCD of", x, "and", y, "is", gcd)
```

```
     Enter the second number:
```

```
#fibonacci series

num = int(input("Enter the Number:"))
n1, n2 = 0, 1
print("Fibonacci Series:", n1, n2, end=" ")
for i in range(2, num):
    n3 = n1 + n2
    n1 = n2
    n2 = n3
    print(n3, end=" ")

print()
```

```
#palindrome number

a=int(input("enter the number"))
rev=0
temp=a
while temp>0:
             rem=temp%10
             rev=(rev*10)+rem
             temp=temp//10
             if a==rev:
                print("palindrome")
else:
                print("not a plaindrome")
```

```
#perfect number

a=int(input("enter the number"))
sum=0
for i in range (1,a):
  if a%i==0:
    sum=sum+i
    if sum==a:
      print("perfect number")
else:
          print("not a perfect number")


#compound intetrst using loop

import math
p=int(input("enter principle amount"))
t=int(input("enter no of years"))
r=int(input("enter interest amount"))
for i in range(1,t+1):
  si=(p*t*r)/100
  print(i,"yr interest si is",si)
  ci=p*(math.pow(1+r/100,i))
  print(i,"yr interest ci is",ci)


#STRONG NUMBER

num=int(input("enter number"))
sum=0
a=num
while (num):
  i=1
  f=1
  r=num %10
  while(i<=r):
    f=f*i
    i=i+1
    sum=sum+f
    num=num//10
    if (sum==a):
      print("strong number")
    else:
        print("not a strong number")
```