

```
"""
```

```
#Add two number
```

```
#first_number=15#number (int)
```

```
#second_number=20#number (int)
```

```
#addition=first_number+second_number
```

```
#print(addition)
```

```
#Sub of Two no.
```

```
x=100
```

```
y=10
```

```
z=x-y
```

```
print("Subtraction:",z)
```

```
#Multiplication and division of two number
```

```
a=10
```

```
b=2
```

```
c=a/b#c=a*b
```

```
print(c)
```

```
"""
```

```
#26/01/2025
```

```
"""
```

```
#Formula
```

```
#circle (parameter[2*pi*r], area[pi*r*r], radius[d/2])
```

```
r=6
```

```
para=2*3.14*r
```

```
print("Parameter:",para)
```

```
r=10
```

```
area=3.14*r*r
print("Area:",area)
"""
```

```
"""
```

```
a=int(input("Enter the number a:"))
b=int(input("Enter the number b:"))
print(a+b)
print(type(a))
print(type(b))
```

```
#concatenation=merging or two or more string
a=2
b=3
c=4
d=a+b+c #addition
print(d)
```

```
m="Ankita "
n="Shreya "
o="Prachi"
p=m+n+o#merge ,concatenation
print(p)
"""
"""
```

```
#rectangle (area[h*l],diagonal[2(h+l)])
```

```
h=int(input("Enter the heighth:"))
```

```
l=int(input("Enter the length:"))
```

```
area=h*l
```

```
print("Area:",area)
```

```
#homework (radius,diagonal)
```

```
"""
```

```
#backward indexing:-
```

```
#Syntax: <strobj>[begin:end:step]
```

```
#slicing
```

```
"""
```

```
a="concatenation"
```

```
c=-13
```

```
o=-12
```

```
n=-11
```

```
c=-10
```

```
a=-9
```

```
t=-8
```

```
e=-7
```

```
n=-6
```

```
a=-5
```

```
t=-4
```

```
i=-3
```

```
o=-2
```

n=-1

print(a[::-1])

"""

#by default value

"""

forward:

begin:0

end:length of string

step:+1

Backward:

begin:-1

end:length

"""

#noitanetacnoc

#Q:- write a python program to get

#substring from a string. that is given by-

string->"python is easy to learn"

#substring->"is easy"

"""

a="python is easy to learn"

print(a[-7:-14:-1]) #is easy

print(a[2:9:1])

print(a[-2:-9:-1])

#Q:- write a python program to get

#substring from a string. that is given by-

```
# string->"python is easy to learn"
#substring->"ot ysae","thon is","rael ot"
```

```
"""
```

```
"""
```

```
#rectangle:
```

```
#parameter:  $(2(h+w)) \rightarrow 2*h+2*w$ 
```

```
h=int(input("enter the height:"))
```

```
w=int(input("enter the width:"))
```

```
para=2*h+2*w
```

```
print("Parameter:",para)
```

```
#square:
```

```
#area[s*s]
```

```
s=int(input("enter the side:"))
```

```
a=s*s
```

```
print("area: ",a)
```

```
#triangle area[(b*h)/2]
```

```
h=int(input("enter the height:"))
```

```
b=int(input("enter the base:"))
```

```
area=(b*h)/2
```

```
print("Area of triangle:",area)
```

```
"""
```

```
"""
```

```
#arthmatic operation:-
```

```
x=17
```

```
y=5
```

```
print("x+y",x+y)
```

```
print("x-y",x-y)
print("x*y",x*y)
print("x/y",x/y)#quotient
print("x%y",x%y)#remainder / modulus
print("x**y",x**y)#exp
print("x//y",x//y)#floor division
"""
```

```
#circle,ellipse,triangle,rectangle,square,hexagon,pentagon (area)
#sphere,elipsoid,cuboid,cube,cylinder,(area+volume)
"""
```

```
#write a python program to reverse of two numbers.(with 3rd variable)
```

```
a=6 #b->8
```

```
b=8 #a->6
```

```
c=a
```

```
a=b
```

```
b=c
```

```
print("A:",a)
```

```
print("B:",b)
```

```
"""
```

```
"""
```

```
import math
```

```
s=9
```

```
area=(3*math.sqrt(3)*s*s)/2
```

```
print(area)
```

```
print(math.pow(2,3))
```

```
a=8
b=3
a=a+b #a=11
b=a-b #b=8
a=a-b #a=3
print("a:",a)
print("b:",b)
"""

"""

a=19
if(a>=18):
    print("you are eligible for vote.")
else:
    print("Not eligible")
"""

"""

a=100
b=100
if(a>b):
    print("A is greater")
elif(a==b):
    print("equal")
else:
    print("B is greater")

"""

"""
```

```
age=int(input("Enter the Number: "))
```

```
if(age>18):
```

```
    print("You are slected")
```

```
elif(age==18):
```

```
    print("Equal")
```

```
else:
```

```
    print("Not Selected")
```

```
"""
```

```
"""
```

```
val=input("Enter the Character: ")
```

```
if(val=='Shreya'):
```

```
    print("Shreya is selected")
```

```
elif(val=="Prachi"):
```

```
    print("Prachi is selected")
```

```
elif(val=="Ankita"):
```

```
    print("Ankita is selected")
```

```
else:
```

```
    print("Someone else is selected")
```

```
"""
```

```
#greater and smaller
```

```
#positive and negative
```

```
"""
```

```
a=int(input("Enter the Value of a: "))
```

```
b=int(input("Enter the Value of b: "))
```

```
if(a>b):
```

```
    print("A is greater")
```

```
elif(b>a):
```

```
    print("B is greater")
```



```
else:
    print("Both are Equal.")
    """
    """

x=int(input("Enter the number: "))
if(x>0):
    print("Positive")
elif(x<0):
    print("negative")
else:
    print("neutral")
    """

#check the number is even or odd.
    """

number=int(input("Enter the number: "))
if(number%2==0):
    print("Even")
else:
    print("Odd")
    """

#check the year is leap or not.
    """

year=int(input("Enter the year: "))
if(year%4==0):
    print("Leap year.")
else:
    print("Not leap year.")
    """
```

#Loop:-(Repeat)

#while loop

#for loop

"""

for i in range(1,6):

print("sumit ",end="")

"""

"""

#marksheet:-

chm=int(input("Enter the number: "))

math=int(input("Enter the number: "))

phy=int(input("Enter the number: "))

total=chm+math+phy

print("Total:",total)

per=total/3

print("Per: ",per)

if(per>=100):

print("Top")

elif(per>=60):

print("Second")

elif(per>=40):

print("Third")

else:

print("Fail")

"""

```
"""
```

```
for i in range(0,5):
```

```
    for j in range(0,5):
```

```
        print("*",end=' ')
```

```
    print()
```

```
"""
```

```
"""
```

```
a=float(input("Enter the number: "))
```

```
if(a>0):
```

```
    print("Number is Positive")
```

```
    print("COLOR")
```

```
    print("Computer")
```

```
elif(a<0):
```

```
    print("Number is Negative")
```

```
else:
```

```
    print("Number is Neutral")
```

```
"""
```

```
"""
```

```
Fruits=["Apple","Banana","Kiwi","Cherry"]
```

```
for i in Fruits:
```

```
    if(i=="Kiwi" or i=="Apple"):
```

```
        pass
```

```
    else:
```

```
        print(i)
```

```
"""
```

```
"""
```

```
x=5
```

```
assert x>10,"x should be greater than 10."
```

```
"""
```

```
#18/02/2025
```

```
"""
```

```
#Q:- Write a program to find the series of numbers
```

```
i=50
```

```
while(i<=100):
```

```
    print(i,end=";")
```

```
    i+=1 #i=i+1
```

```
for i in range(1,101):
```

```
    print(i)
```

```
"""
```

```
#Q;- write a program to find the table of any number.
```

```
"""
```

```
x=19
```

```
while(x<=190):
```

```
    print(x)
```

```
    x=x+19
```

```
"""
```

```
#write a program to find the sum of digit.[57143=20]
```

```
"""
```

```
i=int(input("Enter the number: "))
```

```
Sum=0
```

```
while(i>0):
```

```
    Sum=Sum+i%10
```

```
    i=i//10
```

```
print("Sum of Digit=",Sum)
```

```
"""
```

```
"""
```

```
#Q:- write a program to get the factorial of the number
```

```
#6!=6*5*4*3*2*1=720
```

```
#5!=120=5*4*3*2*1
```

```
x=int(input("Enter the number:"))#3
```

```
fact=1
```

```
while(x>0):
```

```
    fact=fact*x
```

```
    x=x-1
```

```
    print("Factorial:",fact)
```

```
"""
```

```
#20/02/2025
```

```
#print series of even numbers:
```

```
"""
```

```
for i in range(2,101,2):
```

```
    print(i)
```

```
"""
```

```
#print series of odd numbers:
```

```
"""
```

```
for i in range(1,101,2):
```

```
    print(i)
```

```
"""
```

```
#palindrome number: [19891,2354532]
```

```
#Reverse of digit: [1234 => 4321,8542=>2458]
```

```

"""

i=int(input("Enter the number:"))#5871
rev=0
num=i
while(i>0):
    rev=(rev*10)+i%10 #sum=sum+i%10  1
    i=i//10 #587
print(rev)
if(rev==num):
    print("Palindrome Number")
else:
    print("Not Palindrome number")
"""

```

#using break and continue keyword:

```

"""

for i in range(1,11):
    if(i==6):
        continue #break
    else:
        print(i)
"""

```

#Neon number: $[9^{**2}=81=9]$

```

"""

n=int(input("Enter the number:")) #9
Sum=0

```

```

i=n
sqr=n**2
#print(sqr)
while(sqr>0):
    Sum=Sum+sqr%10
    sqr=sqr//10
if(Sum==i):
    print("Neon number")
else:
    print("Not neon number")

```

```

"""

```

```

#Sum of digit

```

```

#reverse of digit

```

```

#palindrome number

```

```

#Neon number

```

```

#21/02/2025

```

```

#Star Patterns:-

```

```

#Nested loops: (The loop inside another loop is called nested loop)

```

```

"""

```

```

for i in range(1,6):

```

```

    for j in range(1,6):

```

```

        print("*",end=' ')

```

```

    print()

```

```

"""

```

```

"""

```

```

* * * * *

```

```

* * * * *

```

* * * * *

* * * * *

* * * * *

*

**

```
for i in range(1,6):
```

```
    for j in range(1,i+1):
```

```
        print("*",end="")
```

```
    print()
```

```
for i in range(5,0,-1):
```

```
    for j in range(1,i+1):
```

```
        print("*",end="")
```

```
    print()
```

**

*

"""

"""

1

22

333

4444

55555

"""

"""

```
for i in range(1,6):
```

```
    for j in range(1,i+1):
```

```
        print(i,end="")
```

```
    print()
```

"""

"""

1

12

123

1234

12345

"""

"""

```
for i in range(1,6):
```

```
    for j in range(1,i+1):
```

```
        print(j,end="")
```

```
    print()
```

"""

```
"""
```

```
11111
```

```
2222
```

```
333
```

```
44
```

```
5
```

```
"""
```

```
"""
```

```
for i in range(1,6):
```

```
    for j in range(5,i-1,-1):
```

```
        print(i,end="")
```

```
    print()
```

```
"""
```

```
#22/02/2025
```

```
"""
```

```
1
```

```
2 3
```

```
4 5 6
```

```
7 8 9 10
```

```
11 12 13 14 15
```

```
"""
```

```
"""
```

```
k=1
```

```
for i in range(1,6):
```

```
    for j in range(1,i+1):
```

```
        print(k,end=' ')
```

```
        k=k+1
```

```
    print()
```

"""

"""

 *

 * *

 * * *

 * * * *

 * * * * *

"""

"""

for i in range(0,5):

 for j in range(5,i,-1):

 print(" ",end="")

 for k in range(1,i+1):

 print("*",end=' ')

 print()

"""

"""

* * * * *

* * * *

* * *

* *

*

"""

#24/02/2025

"""

0

10

010

1010

01010

""""

""""

for i in range(1,6):

for j in range(1,i+1):

if((i+j)%2==0):

print("0",end="")

else:

print("1",end="")

print()

""""

#h.w.

""""

01010

10101

01010

10101

01010

""""

""""

1 1 1 1 1

2 2 2 2 2

3 3 3 3 3

4 4 4 4 4

5 5 5 5 5

""""

```
"""
```

```
for i in range(1,6):  
    for j in range(1,6):  
        print(i,end=' ')  
    print()
```

```
"""
```

```
"""
```

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

```
"""
```

```
"""
```

```
for i in range(1,6):  
    for j in range(1,6):  
        print(j,end=' ')  
    print()
```

```
"""
```

```
#h.w.
```

```
"""
```

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

5 4 3 2 1

5 4 3 2 1

5 4 3 2 1

5 4 3 2 1

5 4 3 2 1

""""

""""

A A A A A

B B B B B

C C C C C

D D D D D

E E E E E

""""

""""

```
for a in range(1,6):
```

```
    print("A",end=' ')
```

```
print()
```

```
for b in range(1,6):
```

```
    print("B",end=' ')
```

```
print()
```

```
for c in range(1,6):
```

```
    print("C",end=' ')
```

```
print()
```

```
for d in range(1,6):
```

```
    print("D",end=' ')
```

```
print()
```

```
for e in range(1,6):
```

```
    print("E",end=' ')
print()
"""

#H.W.
"""

E E E E E
D D D D D
C C C C C
B B B B B
A A A A A
"""

"""

A B C D E
A B C D E
A B C D E
A B C D E
A B C D E
"""

"""

for i in range(1,6):
    for a in range(1,2):
        print("A",end=' ')
    for b in range(1,2):
        print("B",end=' ')
    for c in range(1,2):
        print("C",end=' ')
    for d in range(1,2):
        print("D",end=' ')
```

```

    for e in range(1,2):
        print("E",end=' ')
    print()
"""

#H.W.
"""

A A A A A
B B B B
C C C
D D
E
"""

#25/02/2025

#math module (library,package=> set of functions,instructions,statements)
"""

import math

print(math.sqrt(25))
print(math.pow(2,3))
print(round(45.7))
print(math.ceil(51.5))
print(math.floor(45.1))
print(math.factorial(6))
print(math.pi)

print(dir(math))
"""

#calendar module
"""

```



```
import calendar

print(calendar.month(2025,2))

print(calendar.calendar(2063))

"""
```

```
#datetime module
```

```
"""
```

```
from datetime import date
```

```
today=date.today()
```

```
print(today.day)
```

```
print(today.month)
```

```
print(today.year)
```

```
print(today.weekday())
```

```
import datetime
```

```
today=datetime.datetime.now()
```

```
print(today)
```

```
print(dir(datetime))
```

```
"""
```

```
#26/02/2025
```

```
#List: (seqn data type ,list dynamic,list mutable h)
```

```
"""
```

```
#How to create a list
```

```
integer=[1,2,3,4,5,6,7,8,9,10,11,12,13]
```

```
Float=[1.25,2.35,25.6,45.9]
```

```
String=["Sumit","Shreya","Ankita","Ankita","Prachi","Aryan","Priya"]
```

```
Bool=[True,False]
```

```
Complex=[2+6j,5-8j]
```

```
Mix=[1,2.5,"Aryan",True]
```

```
#How to access the value
```

```
print(Mix[3])
```

```
num=[5,2,18,5,6]
```

```
print(num)
```

```
print(num[0])
```

```
print(num[1])
```

```
print(num[2])
```

```
print(num[3])
```

```
print(num[4])
```

```
#To Change the value of a list:
```

```
num[0]=10
```

```
num[1]=20
```

```
num[2]=30
```

```
num[3]=40
```

```
num[4]=50
```

```
print(num)
```

```
#To add the value in a list:
```

```
#append(),insert(),extend()
```

```
#append(): add a single value at a time at last
```

```
num.append(60)
```

```
print(num)
```

```
num.append(70)
```

```
num.append(80)
```

```
print(num)
```

#insert(): add a single value in a specific position/index

```
num.insert(2,"Sumit")
```

```
num.insert(4,"Apple")
```

```
print(num)
```

#extend(): add a multiple values at last

```
num.extend(["hi","Hello","hlo","hey","Hola"])
```

```
print(num)
```

```
print(len(num))
```

```
rep=[10,10,20,30,10,20,30,50]
```

```
print(rep.count(30))
```

#to delete a value

#remove(),pop()

#remove(): removes a specific value from list

```
print(num)
```

```
num.remove("Apple")
```

```
print(num)
```

```
print(rep)
```

```
rep.remove(10)
```

```
print(rep)
```

```
rep.remove(10)
```

```
print(rep)
```

```
rep.remove(10)
```

```
print(rep)
```

#pop(): removes a value from last

```
print(num)
```

```
num.pop()
```

```
print(num)
```

```
print(num[4:7])
```

```
print(num[::-1])
```

```
for i in num:
```

```
    print(i)
```

```
"""
```

```
"""
```

```
number=[10,20,30,40,50,60]
```

```
print(number[0]+number[1])#30
```

```
#h.w.
```

```
#Q-1: number[-5]+number[5] 80
```

```
#Q-2: print(num[6]-number[3]) Error
```

```
#Q-3: print(number[2]*number[-3]) 1200
```

```
"""
```

```
#prolist:
```

```
"""
```

```
num=[25,67,85,25,45,24,65,89]
```

```
for i in num:
```

```
    if(i%2==0):
```

```
        print("Even",i)
```

```
    else:
```

```
        print("Odd",i)
```

```
"""
```

```
"""
```

```
#dynamic user input list:
```

```
n=int(input("How many element in the list?:"))
```

```
num=[] #empty list
```

```
for i in range(n):
```

```
    val=int(input("Enter the value:"))
```

```
    num.append(val)
```

```
print("Elements are:",num)
```

```
"""
```

```
#find the binary number of decimal
```

```
"""
```

```
binnum=[]
```

```
num=int(input("Enter the number:")) #7
```

```
while num>0:
```

```
    i=num%2
```

```
    binnum.append(i)
```

```
    num=num//2
```

```
print(binnum[::-1])
```

```
"""
```

```
#H.W.
```

```
"""
```

```
#find the octal and hex of decimal
```

```
print(bin(10))
```

```
print(oct(14))
```

```
print(hex(15))
```

```
"""
```

```
"""
```

```
num=[34,12,34,45,77,65,89,32,15,12]
```

```
oddlist=list(filter(lambda x:(x%2==1),(num)))
```

```
print(oddlist)
```

```
"""
```

```
#04/03/2025
```

```
#tuple:-
```

```
"""
```

```
tpl=(10,20,30)
```

```
print(tpl)
```

```
print(type(tpl))
```

```
print("tpl[0]:",tpl[0])
```

```
print("tpl[1]:",tpl[1])
```

```
print("tpl[2]:",tpl[2])
```

```
"""
```

```
"""
```

```
#tuple packing:
```

```
a=10
```

```
b=2.2
```

```
c="hello"
```

```
d=3+4j
```

```
e=True
```

```
tpl=(a,b,c,d,e)
```

```
print(tpl)
```

```
#tuple unpacking
```

```
tuple=(11,2.25,6+7j,"CWS IT",False)
```

```
a,b,c,d,e=tuple
```

```
print("a=",a,"b=",b,"c=",c,"d=",d,"e=",e)
```

```
#f_string
```

```
print(f"a={a} \nb={b} \nc={c} \nd={d} \ne={e}")
```

```
r=5
```

```
area=3.14*r*r
```

```
print(f"Area {area}")
```

```
"""
```

```
"""
```

```
#tuple comprehension:
```

```
tpl=(x*5 for x in range(1,11))
```

```
for x in tpl:
```

```
    print(x)
```

```
print(type(tpl))
```

```
"""
```

```
#count the number of elements in tuple without using len():
```

```
"""
```

```
tpl=(10,20,30,40,50,60)
```

```
counter=0 #0+1=1,1+1=2,2+1=3,.....,5+1=6
```

```
for i in tpl: #i=iteration
```

```
    counter=counter+1
```

```
    print(i)
```

```
print(f"Total Number of element is:{counter}")
```

```
"""
```

```
#check the element is exist in the given tuple or not?
```

```
"""
```

```
tup=(23,45,56,16,95,36,24,56,16,35,75)
```

```
sval=int(input("Enter the element to search: ")) #53
```

```

idx=0
for i in tup:
    if(i==sval):
        print("Found on index:",idx)
        break
    idx=idx+1
else:
    print("Not found")

"""

#type conversion:-
#number <--> str,list <--> tuple,set
"""

list()
tuple()
set()
dict()
int()
float()
str()
bool()
"""

"""

a=5
print("Value=",a,type(a))
b=float(a)
print("Value=",b,type(b))
c=str(a)

```



```
print("Value=",c,type(c))
```

```
List=[10,50,20,6,30]
```

```
print("Value=",List,type(List))
```

```
tpl=tuple(List)
```

```
print("Value=",tpl,type(tpl))
```

```
Set=set(List)
```

```
print("Value=",Set,type(Set))
```

```
"""
```

```
#Dictionary:-
```

```
"""
```

```
dct={1:"Amit","Name":"Sumit",3:"Dipanshu",4:"Zaheer"}
```

```
print(dct)
```

```
print(dct["Name"])
```

```
dct[5]="Gaurav"
```

```
print(dct)
```

```
#delete
```

```
print(dct.pop(3))
```

```
print(dct)
```

```
print(dct.popitem())
```

```
print(dct)
```

```
print(dct.clear())
```

```
print(dct)
```

```
"""
```

```
"""
```

```
#find the maximum value in the list:-
```

```
List=[(2,3,8),(4,7,1),(8,11,12),(3,6,8)]
```

```
print("The list is:"+str(List))
```

```
print("The max of index 0:",max(List[0]))
```

```
print("The max of index 1:",max(List[1]))
```

```
print("The max of index 2:",max(List[2]))
```

```
print("The max of index 3:",max(List[3]))
```

```
"""
```

```
#08/03/2025
```

```
#dict:- collection of items(key and value)
```

```
#key must be unique,key can not be duplicate
```

```
#use braces {} and comma to separate items
```

```
"""
```

```
ADCA={
```

```
    "Amit":{
```

```
        "ID":1001,
```

```
        "NAME":"AMIT BADAL",
```

```
        "COURSE":"ADCA",
```

```
        "ADD":"URUWA",
```

```
        "MOB":6598563241
```

```
    },
```

```
    "Prachi":{
```

```
        "ID":1002,
```

```
        "NAME":"PRACHI",
```

```
        "COURSE":"ADCA",
```

```
        "ADD":"URUWA",
```

```
        "MOB":6598543241
```

```
    },
```

```
    "Ankita":{
```

```
        "ID":1003,
```

```
        "NAME":"ANKITA GUPTA",
```

```
        "COURSE":"ADCA",
```

```

        "ADD":"URUWA",
        "MOB":9856343241
    }
}
print(ADCA)
print("Details:-")
print(ADCA["Ankita"])
"""
"""

name=["Priya","Preeti","Shreya","Mahima"]
age=[18,19,18,19]
course=['BCA','B.TECH','MCA','M.TECH']
contact=[9632587456,8563256985,5698524569,8598745236]
Student={'Name':name,"Age":age,"Course":course,"Contact":contact}
print(Student)
for data in Student.values():
    for val in data:
        print(val)
    print()
"""

#Set:- collection of items,duplicates are not allowed,indexing is not allowed
#==== RESTART: C:\Users\Sumit\OneDrive\Desktop\Python CWS IT\Batch1_CWSIT.py
====
"""

Set1={10,20,30,40,50}
Set2={10,15,20,25,30}
Set1
{50, 20, 40, 10, 30}

```

Set2

{20, 25, 10, 30, 15}

Set1.union(Set2)

{40, 10, 15, 50, 20, 25, 30}

Set1.intersection(Set2)

{10, 20, 30}

Set2.difference(Set1)

{25, 15}

Set1.difference(Set2)

{40, 50}

Set1|Set2

{40, 10, 15, 50, 20, 25, 30}

Set1&Set2

{10, 20, 30}

Set1-Set2

{40, 50}

Set2-Set1

{25, 15}

Set1*Set2

""""

#Prime number:

#Functions:-

""""

def my_function():

print("Hello world")

```
my_function()
```

```
def my_fun(fname):  
    print("Hello "+fname)
```

```
my_fun("Shreya")
```

```
my_fun("Ankita")
```

```
my_fun(input("Enter the name:"))
```

```
"""
```

```
#Add two number
```

```
"""
```

```
def add(a,b):  
    print(a+b)
```

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

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

```
add(x,y)
```

```
def area(r):  
    area=3.14*r*r  
    print(area)
```

```
area(5)
```

```
"""
```

```
"""
```

```
def info():
```

```
    print("Sumit")
```

```
    print("A level")
```

```
    print("630771")
```

```
info()
```

```
info()
```

```
def python():
```

```
    print("Easy to use and learn.")
```

```
    print("Expressive lang or interpreter based")
```

```
    print("Free and open source")
```

```
    print("GUI")
```

```
python()
```

```
info()
```

```
"""
```

```
#18/03/2025
```

```
"""
```

```
def sumValue(a,b,c,e,f,g):
```

```
    d=a+b+c+e+f+g
```

```
    print(d)
```

```
sumValue(2,3,4,4,5,6)
```

```
def area_of_circle(r):
```

```
    a=3.14*r*r
```

```
    print("Area of circle:",a)
area_of_circle(6)
```

```
def area_of_rectangle(h,l):
    a=h*l
    print("Area of Rectangle:",a)
area_of_rectangle(4,6)
```

```
"""
```

```
#Converter:
```

```
"""
```

```
def ktm(k):
    m=k*1000
    print(m,"meter")
ktm(float(input("Enter the kilometre:")))
```

```
def fti(f):
    i=f*12
    print(i,"inch")
fti(float(input("Enter the fit:")))
```

```
def dtr(d):
    r=d*87.06
    print(r,"Rupees")
dtr(float(input("Enter the Doller:")))
```

```
"""
```

```
"""
```

```
def mtk(m):  
    k=m/1000  
    print(k,"km")  
mtk(500)
```

```
def itf(i):  
    f=i/12  
    print(f,"fit")  
itf(36)
```

```
"""
```

```
#function with arguments with no return value
```

```
#function with arguments with return value
```

```
#function with no arguments with no return value
```

```
#function with no arguments with return value
```

```
"""
```

```
def fti(f):  
    i=f*12  
    return i  
print(fti(6))
```

```
def sqr(n):  
    return n*n  
print(sqr(9))  
"""
```

```
"""
```

```
def maxValue(a,b):  
    if (a>b):
```



```
    print(a)
elif(b>a):
    print(b)
else:
    print(f"{a} and {b} are Equal.")
maxValue(9,9)
```

```
"""
```

```
#19/03/2025
```

```
"""
```

```
def maxthree(a,b,c):
    if(a>b and a>c):
        print("A is Large.")
    elif(b>a and b>c):
        print("B is Large.")
    else:
        print("C is Large.")
```

```
x=int(input("Enter the value of a:"))
y=int(input("Enter the value of b:"))
z=int(input("Enter the value of c:"))
```

```
maxthree(x,y,z)
```

```
"""
```

```
"""
```

```
if(4>8 and 4>10):
    print("True")
else:
```

```
print("False")
```

```
"""
```

```
"""
```

T and T ->T

T and F ->F

F and T ->F

F and F ->F

T or T->T

T or F->T

F or T->T

F or F->F

```
"""
```

```
"""
```

```
if(4>8 or 4>10):
```

```
    print("True")
```

```
else:
```

```
    print("False")
```

```
"""
```

```
"""
```

1->True,On

0->False,Off

And Gate:

Y=A.B,'->and gate

A.B=Y

$$1.1=1$$

$$1.0=0$$

$$0.1=0$$

$$0.0=0$$

or Gate:

$Y=A+B$, '+'->or Gate

$$A+B=Y$$

$$1+1=1$$

$$1+0=1$$

$$0+1=1$$

$$0+0=0$$

not Gate:

A Y

0 1

1 0

"""

#Reverse of digit

"""

def reverse(num):

 i,rev=0,0

```

while(num>0):
    i=num%10
    rev=rev*10+i
    num=num//10
print(rev)
reverse(1234)
"""

```

```

#Accessing the module/package/library in the program
"""

```

```

import testfunction
print("meter",testfunction.ktm(5))
print("inch",testfunction.fti(10))
"""

```

```

#21/03/2025
#lambda function:iss fuction m ek line m code ko likha ja skta h
"""

```

```

add=lambda a,b,c:a+b+c
print(add(2,5,3))

```

```

#print table:
def table(n):
    return lambda a:a*n
tab=table(5)
for i in range(1,11):
    print(tab(i))
"""
"""

```

```
#print the table from 1 to 20
```

```
for i in range(1,21):
```

```
    print("Table no.=",i)
```

```
    for j in range(1,11):
```

```
        print(f"{i}x{j}={i*j}")
```

```
    print()
```

```
"""
```

```
#prolist:
```

```
"""
```

```
num=[25,66,85,22,45,24,65]
```

```
even=[]
```

```
odd=[]
```

```
for i in num:
```

```
    if(i%2==0):
```

```
        even.append(i)
```

```
    else:
```

```
        odd.append(i)
```

```
print(even)
```

```
print(odd)
```

```
"""
```

```
"""
```

```
n=int(input("How many element you want in the list?:"))
```

```
num=[]
```

```
for i in range(n):
```

```
    num.append(int(input("Insert the value:")))
```

```
print("Element are:",num)
```

```
"""
```

#28/03/2025

#Access mode:

"""

r=Read the file

w=write the data

a=append the data

r+=read and write data

w+=write and read data

a+=append,read and write data

x=create data.

"""

#read the data from the file:

"""

file=open("prachi.txt","r")

print(file.readline())

print(file.readline())

print(file.readline())

print(file.readline())

file.close()

"""

#write the data onto the file

"""

file=open("my_student.txt","w")

file.write("Ankita gupta is a Good student.\n")

```

file.write("Amit is a Good student.\n")
file.write("Ankita is a Good student.\n")
file.write("Preeti is a Good student.\n")
file.write("Prachi is a Good student.\n")
file.write("Shreya is a Good student.\n")
file.close()

print("Data written successfully")

"""

#append/add data onto the file:

"""

file=open("my_student.txt","a")
file.write("This line will be added to your existing file.")
file.close()

"""

#create the file:-

"""

file=open("new_file.txt","x")
print("File created.")

"""

#read the data from loop:

"""

file=open("my_student.txt","r")
for i in file:
    print(i)
file.close()

"""

#29/03/2025

#readlines:-

```

```
"""
```

```
file=open("my_student.txt","r")
```

```
print(file.readlines())#returns the list of lines
```

```
file.close()
```

```
"""
```

```
#writelines:
```

```
"""
```

```
Car=["BMW ","AUDI ","MINI COOPER ","VOLKSWAGON ","MERCEDES "]
```

```
file=open("mycars.txt","w")
```

```
file.writelines(Car)
```

```
file.close()
```

```
f=open("mycars.txt","r")
```

```
for i in f:
```

```
    print(i)
```

```
f.close()
```

```
"""
```

```
"""
```

```
file=open("mycars.txt","r")
```

```
print(file.tell()) #return the cursor position in a file
```

```
print(file.read(10))
```

```
print(file.read(2))
```

```
print(file.tell())
```

```
print(file.read(8))
```

```
print(file.tell())
```

```
#cursor position is 20
```

```
#seek()->set the cursor position in a file
```



```

print("Old Cursor position:",file.tell())

file.seek(15)

print("New cursor position:",file.tell())

file.close()

"""

"""

alphabets=["A","B","C","D","E","F","G","H","I","J","K","L","M","N","O","P","Q","R"]

file=open("alpha.txt","w")

file.writelines(alphabets)

file.close()

"""

"""

f=open("alpha.txt","r")

for i in f:

    print(i)

print(f.tell())

f.seek(0)

print(f.tell())

print(f.read(4))

print(f.tell())

f.seek(2)

print(f.tell())

print(f.read(5))

f.close()

#write a python program to write a list to a file.

lang=["python ","java ","Net ","HTML ","C++"]

```

```

with open("language.txt","w") as mylang:
    for i in lang:
        mylang.writelines(lang)
content=open("language.txt")
print(content.read())
"""

#01/04/2025

#prime numbers
"""

Num=int(input("Enter the number:"))#21
if Num>1: #21 prime ho bhi skta h or nhi bhi
    for i in range(2,int(Num/2)+1):#2,3,4,5,6,7,8,9,10
        if(Num%i==0):#21%2==0
            print(Num,"is not a prime number.")
            break
    else:
        print(Num,"is a prime number.")
else:
    print(Num,"is not a prime number")
"""

"""

#check the character is vowel or not?

#intermediate

def isVowel(ch):
    str="aeiouAEIOU"
    return (str.find(ch)!=-1)
print(isVowel('U'))

```

```
#easy
```

```
vowel=['a','e','i','o','u','A','E','I','O','U']
```

```
user=input("Enter the character:")
```

```
for v in vowel:
```

```
    if(v==user):
```

```
        print("Vowel")
```

```
        break
```

```
else:
```

```
    print("Consonent")
```

```
"""
```

```
#02/04/2025
```

```
#recursion fuction: when a function calls iteself is called recusion fuction
```

```
"""
```

```
def abc():
```

```
    print("Shreya is a good girl.")
```

```
    abc() #recursive call
```

```
abc() #function call
```

```
"""
```

```
"""
```

```
def Series(val):
```

```
    if(val>=11):
```

```
        return 1
```

```
    else:
```

```
        print(val)
```

```
        val=Series(val+1)
```

```
Series(1)
```

```
"""
```

```
#factorial
```

```
"""

def fact(a):
    if(a<=1):
        return 1
    else:
        return a*fact(a-1)
print("factorial:",fact(5))

"""
```

```
#03/04/2025
```

```
#local Scope
```

```
"""

x=20 #global
def abc():
    print("Local:",x)
abc()
print("global:",x)

"""
```

```
"""

def abc():
    x=10 #local
    print("Local:",x)
abc()
print("Global:",x)

"""
```

```
#nonlocal scope
```

```
"""
```

```
def outer():
```

```
    x=30
```

```
    def inner():
```

```
        nonlocal x
```

```
        x=40
```

```
        print("Inner x:",x)
```

```
    inner()
```

```
    print("Outer x:",x)
```

```
outer()
```

```
"""
```

```
#07/04/2025
```

```
#BMI Calculator:- (Body mass index)=w/h*h
```

```
"""
```

```
weight=float(input("Enter your weight in kg:"))
```

```
height=float(input("Enter your height in meter:"))
```

```
bmi=weight/height**2
```

```
print("You BMI is:",bmi)
```

```
if(bmi<=18):
```

```
    print("You are underweight")
```

```
elif(bmi>18 and bmi<25):
```

```
    print("Your are normal")
```

```
else:
```

```
    print("You are overweight.")
```

```
"""
```

```
#Love Calculator:-
```

```
"""
```

```
name1=input("What's your name?")
```

```
name2=input("What's your partner name?")
```

```
name=name1+name2
```

```
t=name.count("t")
```

```
r=name.count("r")
```

```
u=name.count("u")
```

```
e=name.count("e")
```

```
true=t+r+u+e
```

```
l=name.count("l")
```

```
o=name.count("o")
```

```
v=name.count("v")
```

```
e=name.count("e")
```

```
love=l+o+v+e
```

```
true_love=str(true)+str(love)
```

```
love_score=int(true_love)
```

```
if(love_score<10 or love_score>=80):
```

```
    print(f"Your score is {love_score}%. and you go together like coke and mentos")
```

```
elif(love_score>=40 and love_score<=50):
```

```
    print(f"Your score is {love_score}%. and you are alright together.")
```

```
else:
```

```
    print(f"Your score is {love_score}%.")
```

```
"""
```

```
#numpy
```

```
#08/04/2025
```

```
import numpy as np
```

```
#array():-
```

```
"""
```

```
age=np.array([10,20,30,40,50])
```

```
print(age)
```

```
"""
```

```
#arange():
```

```
"""
```

```
even=np.arange(0,20,2)
```

```
print(even)
```

```
print(np.arange(0,10,2))
```

```
"""
```

```
#linspace():-
```

```
"""
```

```
x=np.linspace(0,1,10)
```

```
print(x)
```

```
"""
```

```
#09/04/2025
```

```
#Single dimensional array:
```

```
#print(np.array([10,20,30]))
```

```
#Two dimensional array:
```

```
#print(np.array([[10,20,30],[40,50,60]]))
```

```
#Three dimensional array:
```

```
#a=np.array([[10,20,30],[40,50,60],[70,80,90]])
```

```
#print("The Original Matrix is:\n",a)
```

```
#print("The Transpose of a Matrix is:\n",a.T)
```

```
import numpy as np

"""

print(np.array([10,20,30],dtype=int))

print(np.zeros(6))

print(np.ones((3,3)))

print(np.full((3,3),5))

print(np.eye(3))

print(np.empty(3))
```

```
num=np.array([[10,20,30],[40,50,60]])

print(num)

print(num.reshape(3,2))

"""
```

#random:-

```
import random

#a=random.randint(1,5)

#print("Random Number:",a)

#a=random.randrange(1,6)

#print("Random Number:",a)

#print("Random Number:",random.random())

#a=random.uniform(1,5)

#print("Random Number:",a)

"""
```

Random Module-

```
a=randint(x,y) #x<=a<=y x,y are integer #1-a-10

a=randrange(x,y) #x<=a<y x,y are integer #1,6

a=random() #0.1<=a<1.0

a=uniform(x,y) #give random floating number
```



```
choice(x)

shuffle(x)

"""

#shuffle()

"""

import random

a=["Stawberry","Dragon fruit","Kiwi","Black grapes"]

print("Original:",a)

random.shuffle(a)

print("Shuffle:",a)

"""
```

```
#Game 1:- (Head or Tail)

#coin=["Head","Tail"]

#print("Coin:",random.choice(coin))
```

```
#Game 2:- (Choose Dice)

#dice=[1,2,3,4,5,6]

#print("Dice:",random.choice(dice))
```

```
#Game 3:- Rock Paper Scissor:

import random

com=["Rock","Paper","Scissor"]

user=["Rock","Paper","Scissor"]

random.shuffle(com)

random.shuffle(user)

#print("Com:",com)
```

```
#print("User:",user)

c=random.choice(com)

u=input("Enter Your Choice:")

if(c=="Rock" and u=="Rock"):

    print("Draw\n","Computer choice:",c,"\nand\n","User choice:",u)

elif(c=="Rock" and u=="Paper"):

    print("User wins\n","Computer choice:",c,"\nand\n","User choice:",u)

elif(c=="Rock" and u=="Scissor"):

    print("Computer wins\n","Computer choice:",c,"\nand\n","User choice:",u)

elif(c=="Paper" and u=="Rock"):

    print("Computer wins\n","Computer choice:",c,"\nand\n","User choice:",u)

elif(c=="Paper" and u=="Paper"):

    print("Draw\n","Computer choice:",c,"\nand\n","User choice:",u)

elif(c=="Paper" and u=="Scissor"):

    print("User wins\n","Computer choice:",c,"\nand\n","User choice:",u)

elif(c=="Scissor" and u=="Rock"):

    print("User wins\n","Computer choice:",c,"\nand\n","User choice:",u)

elif(c=="Scissor" and u=="Paper"):

    print("Computer wins\n","Computer choice:",c,"\nand\n","User choice:",u)

elif(c=="Scissor" and u=="Scissor"):
```

```
print("Draw\n","Computer choice:",c,"\nand\n","User choice:",u)
```

```
else:
```

```
    pass
```

```
print("Thanks For playing\n Never come again ")
```