

1. Read two numbers from user and perform arithmetic operations.

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

b=int (input ( " Enter the second number"))

print ("Addition is :", a+b)

print ("subtraction is.", a-b)

print (" Multiplication is : ", a*b)

print ("Division ist", a/b)

print ("floor division is :", a//b)

print ("module is:",a%b)
```

2. Take two float numbers as input and add those float numbers and print the result in terms of integer.

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

b=float (input (" Enter a number: "))

print ("The output is:", int (a+b))
```

3. Write a python program to print grade of a student based on their marks.

Conditions:	Grade
mark>=90 and mark<100	O
mark>=80 and mark<90	A
mark>=70 and mark<80	B
mark>=60 and mark<70	C
mark>=50 and mark < 60	D
mark>=40 and mark<50	E
Otherwise, print invalid mark	

```
a=int(input("Enter your mark"))

if a>=90 and a<100:
    print("O")

elif a>=80 and a<90:
    print("A")

elif a>=70 and a<80:
    print("B")

elif a>=60 and a<70:
    print("C")

elif a>=50 and a<60:
    print("D")

elif a>=40 and a<50:
    print("E")

else:
    print("Invalid marks")
```

4. Write a python program to check whether the given number is odd or even.

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

if a%2==0:
    print("The given number is even")

else:
    print("The given number is odd")
```

5. Write a python program to check whether the given number is divisible by both 4 and 8.

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

if a%4==0 and a%8==0:

    print("div by 4 and 8")

else:

    print("not div by 4 and 8")
```

6. Write a python program to display all the even numbers from 1 to n.

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

for i in range (1,a+1):
    if i%2==0:
        print(i)
```

7. Write a python program to print the even index position character in a string.

```
a=input("Enter a string")

for i in range (len(a)):

    if i%2==0:

        print(a[i])
```

8. Write a python program to remove  $n^{\text{th}}$  index character from a string.

```
a=input("Enter a string")

b=(len(a))-1

c=a [:b]

print(c)
```

9. Write a python program to perform heron's formula.

```
import math  
  
a=int(input("Enter A "))  
  
b=int(input("Enter B "))  
  
c=int(input("Enter C "))  
  
s=(a+b+c)/2  
  
ans=math.sqrt(s*(s-a)*(s-b)*(s-c))  
  
print("Area=",ans)
```

10. Write a python program to print multiplication table of a given number.

```
n=int(input("Enter the number for table "))  
  
print("The multiplication table of :",n)  
  
for count in range(1,11):  
  
    print(n,'x',count,'=',n*count)
```

(or)

```
num=int(input("Enter the number"))  
  
i=1  
  
while i<=5:  
  
    print("%d * %d = %d\n" %(num,i,num*i))  
  
    i=i+1
```

**11. Write a python program to print asterisk triangle.**

Code:

```
rows = int(input("Enter the no of rows - "))

for i in range(rows):

    print('*'*(i+1))
```

**12. Write a python program to find the length of a string without using len function.**

Code:

```
string = str(input("Enter a string - "))

count = 0

for i in string:

    count += 1

print('Length of the given string - ',count)
```

**13. Consider a list and print the list in reverse order.**

Code:

```
#create a list of elements in which you enter the elements in a row

list_1 = input("Enter a List - ").split()

print("list without reversing - ",list_1)

print("list after reversing - ",list_1[::-1])
```

**14. Consider a list to remove all the multiples of 2 from the list and print the new list.**

Code:

```
#create a list of elements in which you enter the elements in a row  
list_1 = input('enter list elements - ').split()  
  
print("The list you entered - ",list_1)  
  
#The elements stored in the list as string when you use this input function  
  
for i in list_1:  
  
    num = int(i)  
  
    if( num % 2 == 0):  
  
        st = str(num)  
  
        list_1.remove(st)  
  
print("The list after removing the multiples of *2* - ",list_1)
```

**15. Consider a list to increasing each element by 10.**

Code:

```
list_1 = input("Enter elements - ").split()  
  
list_2 = []  
  
for i in list_1:  
  
    num = int(i)  
  
    list_2.append(num+10)  
  
print('List after adding *10* to each elements - ',list_2)
```

**16. Consider a tuple and perform slicing of tuple and find the index of particular element.**

Code:

```
tupl = tuple(input("enter elements - ").split())
print(tupl)
li = list(tupl)
value = int(input("which element position do you want? - "))
print("The position of",value,'is - ',li.index(str(value)))
tupl2 = input("enter start position and end position - ").split()
print("Tuple after slicing - ",tuple(li[int(tupl2[0]):int(tupl2[1])]))
```

**17. Find how many times 5 is upcoming inside the tuple and insert new value into tuple [1,2,3,4,5,5,5,6,5,5,5,7,8].**

Code:

```
tupl = (1,2,3,4,5,5,5,6,5,5,5,7,8)
count = 0
for i in tupl:
    if( i == 5):
        count += 1
print(count,'times "5" is upcoming inside the tuple')
lis_t = list(tupl)
value = input("enter a value to insert - ")
lis_t.append(value)
print("after inserting the value - ",tuple(lis_t))
```

**18. Consider two sets a and b perform union, intersection, set difference, symmetric difference, subset and superset.**

Code:

```
set_A = set(input("Enter set A elements - ").split())
set_B = set(input("Enter set B elements - ").split())
print("Set operations")
print('union - ', set_A | set_B)
print('Intersection - ', set_A&set_B)
print('difference - ', set_A - set_B)
print('symmetric difference - ', set_A ^ set_B)
print('subset - ', set_A | set_B)
print('superset - ', set_A | set_B)
```

**19. Consider a dictionary d1 point a new dictionary d2 by incrementing each value of d1by5.**

Code:

```
d1 = {'a':5,'b':3,'c':4,'d':9,'e':10,'f':15}
d2 = {}
for k,v in d1.items():
    d2[k] = v+5
print('Before increment - ',d1)
print('After increment - ',d2)
```

**20. Consider a dictionary d2 and print a new dictionary in which the value is even replace the value with a word “even” or else replace it with a word “odd”.**

Code:

```
var = int(input("enter length of a dic - "))

d1 = {}

d2 = {}

for i in range(var):

    l = input("enter key and value - ").split()

    d1[l[0]] = l[1]

for k,v in d1.items():

    num = int(v)

    if( num % 2 == 0):

        d2[k] = 'even'

    else:

        d2[k] = 'odd'

print(d2)
```

**21. Consider a dictionary and display a list only with the keys in dictionary and another list with only values.**

Code:

```
d1 = {'a':1,'b':3,'c':7,'d':9,'e':0}

keys = d1.keys()

values = d1.values()

print(keys)

print(values)
```

**22. Write a python program to perform swapping of two numbers using functions.**

Code:

```
def swap(a,b):  
    t = a  
    a = b  
    b = t  
    return a,b  
  
a = input("enter 'a' value - ")  
b = input("enter 'b' value - ")  
print("Before Swapping = ",a, b)  
c,d = swap(a,b)  
print("after swapping - ",c,d)
```

**23. Write a python program to find whether the given number is Adam number or not using functions.**

```
def rev(num):  
    rem=0  
    sum=0  
    while(num>0)  
        rem=num%10  
        sum=sum*10+rem  
        num=num//10  
    return (sum)  
  
num=int(input("enter a number"))  
sqr1=num**2
```

```
rev1=rev(num)
rev2=rev1**2
sqr2=rev(rev2)
if(sqr1==sqr2):
    print("adam no")
else:
    print("not a adam no")
```

24. Write a python program to find the factorial of a given number using functions

```
def fact(n):
    if n==1:
        return 1
    else:
        return (n*fact(n-1))
n=int(input("enter the number"))
z=fact(n)
print(z)
```

25. Write a python program to print the Fibonacci series of a given number using functions.

```
def fibo(n):
    if n<=1:
        return n
    else:
        return fibo(n-1)+fibo(n-2)
n=int(input("enter how many digits you want to print"))
```

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

```
    z=fibo(i)
```

```
    print(z)
```

26. Write a python program to perform implicit type conversion.

```
n_int = 123
```

```
n_flo = 1.23
```

```
n_new = n_int + n_flo
```

```
print("datatype of num_int:",type(n_int))
```

```
print("datatype of num_flo:",type(n_flo))
```

```
print("Value of num_new:",n_new)
```

```
print("datatype of num_new:",type(n_new))
```

27. Write a python program to perform explicit type conversion.

```
n_int= 123
```

```
n_str= "456"
```

```
print("Data type of n_int :", type(n_int))
```

```
print("Data type of n_str before Type Casting:", type(n_str ))
```

```
n_str= int (n_str )
```

```
print("Data type of n_str after Type Casting:", type(n_str ))
```

```
n_sum= n_int + n_str
```

```
print("Sum of n_int and n_str:", n_sum )
```

```
print("Data type of the sum:", type(n_sum))
```

28. Write a python program to check whether the number is positive or negative.

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

if a>0:
    print("The given number is positive")

else:
    print("The given number is negative")
```