

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 is", 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 nth 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 multiplies 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 multiplies 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 d1 by 5.

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")
```