

```
In [3]: #1
num = int(input("Enter a number: "))
mod = num % 2
if mod > 0:
    print("This is an odd number.")
else:
    print("This is an even number.")
```

Enter a number: 2  
This is an even number.

```
In [13]: #2
c = input(" Enter temperature in Centigrade: ")
f = (9*(int(c))/5)+32
print(" Temperature in Fahrenheit is: ", f)
```

Enter temperature in Centigrade: 40  
Temperature in Fahrenheit is: 104.0

```
In [14]: # 3.Python Program to find the area of triangle
```

```
import math
a = float(input("Enter the length of side a: "))
b = float(input("Enter the length of side b: "))
c = float(input("Enter the length of side c: "))
s = (a+b+c)/2
area = math.sqrt(s*(s-a)*(s-b)*(s-c))
print(" Area of the triangle is: ", area)
```

Enter the length of side a: 2  
Enter the length of side b: 4  
Enter the length of side c: 5  
Area of the triangle is: 3.799671038392666

```
In [17]: #4
count = int(input("Enter the count of integers: "))
i = 0
sum = 0
for i in range(count):
    x = int(input("Enter an integer: "))
    sum = sum + x
avg = sum/count
print(" The average is: ", avg)
```

Enter the count of integers: 5  
Enter an integer: 1  
Enter an integer: 2  
Enter an integer: 3  
Enter an integer: 4  
Enter an integer: 5  
The average is: 3.0

```
In [18]: #5
i = 0
product = 1
count = int(input("Enter the number of real numbers: "))
for i in range(count):
    x = float(input("Enter a real number: "))
    product = product * x
print("The product of the numbers is: ", product)
```

```
Enter the number of real numbers: 4
Enter a real number: 1.2
Enter a real number: 1.5
Enter a real number: 2.2
Enter a real number: 3.2
The product of the numbers is: 12.672
```

```
In [19]: #6
import math
r = float(input("Input the radius of the circle: "))
c = 2 * math.pi * r
area = math.pi * r * r
print("The circumference of the circle is: ", c)
print("The area of the circle is: ", area)
```

```
Input the radius of the circle: 2.12
The circumference of the circle is: 13.320352851220724
The area of the circle is: 14.119574022293968
```

```
In [20]: #7
number = int(input("Enter an integer: "))
if(number%5==0):
    print(number, "is a multile of 5")
else:
    print(number, "is not a multiple of 5")
```

```
Enter an integer: 10
10 is a multile of 5
```

```
In [21]: #8
number = int(input("Enter an integer: "))
if((number%5==0)and(number%7==0)):
    print(number, "is a multiple of both 5 and 7")
else:
    print(number, "is not a multiple of both 5 and 7")
```

```
Enter an integer: 12
12 is not a multiple of both 5 and 7
```

```
In [22]: #9
count = 0
sum = 0.0
while(count<10):
    number = float(input("Enter a real number: "))
    count=count+1
    sum = sum+number
avg = sum/10;
print("Average is :",avg)
```

```
Enter a real number: 2
Enter a real number: 3
Enter a real number: 4
Enter a real number: 6
Enter a real number: 8
Enter a real number: 9
Enter a real number: 9
Enter a real number: 4
Enter a real number: 2
Enter a real number: 1
Average is : 4.8
```

```
In [23]: #10
number = int(input("Enter a positive integer: "))
rev = 0
while(number!=0):
    digit = number%10
    rev = (rev*10)+digit
    number = number//10
print(rev)
```

```
Enter a positive integer: 23
32
```

```
In [24]: #11
c = 0
p = 1.0
count = int(input("Enter the number of values: "))
while(c<count):
    x = float(input("Enter a real number: "))
    c = c+1
    p = p * x
gm = pow(p,1.0/count)
print("The geometric mean is: ",gm)
```

```
Enter the number of values: 4
Enter a real number: 2
Enter a real number: 5.2
Enter a real number: 2.3
Enter a real number: 3.1
The geometric mean is: 2.934477049738311
```

```
In [25]: #12
sum = 0
number = int(input("Enter an integer: "))
while(number!=0):
    digit = number%10
    sum = sum+digit
    number = number//10
print("Sum of digits is: ", sum)
```

Enter an integer: 21  
Sum of digits is: 3

```
In [26]: #13
for i in range(10,50):
    if (i%3==0):
        print(i)
```

12  
15  
18  
21  
24  
27  
30  
33  
36  
39  
42  
45  
48

```
In [27]: #14
for i in range(100,200):
    num = i
    sum = 0
    while(num!=0):
        digit = num%10
        sum = sum + digit
        num = num//10
    if(sum%2==0):
        print(i)
```

101  
103  
105  
107  
109  
110  
112  
114  
116  
118  
121  
123  
125  
127  
129  
130  
132  
134  
136  
138  
141  
143  
145  
147  
149  
150  
152  
154  
156  
158  
161  
163  
165  
167  
169  
170  
172  
174  
176  
178  
181  
183  
185  
187  
189  
190  
192  
194  
196  
198

```
In [29]: #15
num = int(input("Enter an integer: "))
isprime = 1 #assuming that num is prime
for i in range(2,num//2):
    if (num%i==0):
        isprime = 0
        break
if(isprime==1):
    print(num, "is a prime number")
else:
    print(num, "is not a prime number")
```

Enter an integer: 21  
21 is not a prime number

```
In [30]: #16
num = int((input("Enter the number of prime numbers required: ")))
count = 0
i = 2
while(count<num):
    isprime=1
    for j in range(2,i//2):
        if(i%j==0):
            isprime = 0
            break
    if(isprime==1):
        print(i)
        count= count + 1
    i = i+1
```

Enter the number of prime numbers required: 5  
2  
3  
4  
5  
7

```
In [3]: #17
import cmath
a = float(input('Enter a: '))
b = float(input('Enter b: '))
c = float(input('Enter c: '))
d = (b**2) - (4*a*c)
sol1 = (-b-cmath.sqrt(d))/(2*a)
sol2 = (-b+cmath.sqrt(d))/(2*a)
print('The solution are {0} and {1}'.format(sol1,sol2))
```

Enter a: 5  
Enter b: 2  
Enter c: 3  
The solution are (-0.2-0.7483314773547882j) and (-0.2+0.7483314773547882j)

```
In [39]: #18
def print_till_zero(n):
    if (n==0):
        return
    print(n)
    n=n-1
    print_till_zero(n)
print_till_zero(8)
```

8  
7  
6  
5  
4  
3  
2  
1

```
In [42]: #19
def fact(n):
    if n==1:
        f=1
    else:
        f = n * fact(n-1)
    return f
num = int(input("Enter an integer: "))
result = fact(num)
print("The factorial of", num, " is: ", result)
```

Enter an integer: 5  
The factorial of 5 is: 120

```
In [1]: #20
numbers = []
num = int(input('How many numbers: '))
for n in range(num):
    x = int(input('Enter number '))
    numbers.append(x)
print("Sum of numbers in the given list is :", sum(numbers))
```

How many numbers: 4  
Enter number 5  
Enter number 6  
Enter number 7  
Enter number 8  
Sum of numbers in the given list is : 26



```
In [46]: #21
numbers = [4,2,7,1,8,3,6]
f = 0 #flag
x = int(input("Enter the number to be found out: "))
for i in range(len(numbers)):
    if (x==numbers[i]):
        print(" Successful search, the element is found at position", i)
        f = 1
        break
if(f==0):
    print(" Search unsuccessful")
```

Enter the number to be found out: 2  
Successful search, the element is found at position 1

```
In [47]: #22
def binarySearch(numbers, low, high, x):
    if (high >= low):
        mid = low + (high - low)//2
        if (numbers[mid] == x):
            return mid
        elif (numbers[mid] > x):
            return binarySearch(numbers, low, mid-1, x)
        else:
            return binarySearch(numbers, mid+1, high, x)
    else:
        return -1
numbers = [ 9,4,6,7,2,1,5 ]
x = 7
result = binarySearch(numbers, 0, len(numbers)-1, x)
if (result != -1):
    print("Search successful, element found at position ", result)
else:
    print("The given element is not present in the array")
```

Search successful, element found at position 3

```
In [48]: #23
numbers = [8,3,1,6,2,4,5,9]
count = 0
for i in range(len(numbers)):
    if(numbers[i]%2!=0):
        count = count+1
print("The number of odd numbers in the list are: ", count)
```

The number of odd numbers in the list are: 4

```
In [49]: #24
numbers = [3,8,1,7,2,9,5,4]
big = numbers[0]
position = 0
for i in range(len(numbers)):
    if (numbers[i]>big):
        big = numbers[i]
        position = i

    print("The largest element is ",big," which is found at position ",position)
```

The largest element is 9 which is found at position 5

```
In [50]: #25
numbers = [3,4,1,9,6,2,8]
print(numbers)
x = int(input("Enter the number to be inserted: "))
y = int(input("Enter the position: "))
numbers.insert(y,x)
print(numbers)
```

```
[3, 4, 1, 9, 6, 2, 8]
Enter the number to be inserted: 12
Enter the position: 5
[3, 4, 1, 9, 6, 12, 2, 8]
```

```
In [51]: #26
numbers = [3,4,1,9,6,2,8]
print(numbers)
x = int(input("Enter the position of the element to be deleted: "))
numbers.pop(x)
print(numbers)
```

```
[3, 4, 1, 9, 6, 2, 8]
Enter the position of the element to be deleted: 4
[3, 4, 1, 9, 2, 8]
```

```
In [53]: #27
def rev(inputString):
    return inputString[::-1]
def isPalindrome(inputString):
    reverseString = rev(inputString)
    if (inputString == reverseString):
        return True
    return False
s = input("Enter a string: ")
result = isPalindrome(s)
if result == 1:
    print("The string is palindrome")
else:
    print("The string is not palindrome")
```

```
Enter a string: amma
The string is palindrome
```

```
In [54]: #28
X = [[8,5,1],
      [9 ,3,2],
      [4 ,6,3]]
Y = [[8,5,3],
      [9,5,7],
      [9,4,1]]
result = [[0,0,0],
          [0,0,0],
          [0,0,0]]
for i in range(len(X)):
    for j in range(len(X[0])):
        result[i][j] = X[i][j] + Y[i][j]
for k in result:
    print(k)
```

```
[16, 10, 4]
[18, 8, 9]
[13, 10, 4]
```

```
In [55]: #29
X = [[8,5,1],
      [9 ,3,2],
      [4 ,6,3]]
Y = [[8,5,3],
      [9,5,7],
      [9,4,1]]
result = [[0,0,0,0],
          [0,0,0,0],
          [0,0,0,0]]
for i in range(len(X)):
    for j in range(len(Y[0])):
        for k in range(len(Y)):
            result[i][j] += X[i][k] * Y[k][j]
for x in result:
    print(x)
```

```
[118, 69, 60, 0]
[117, 68, 50, 0]
[113, 62, 57, 0]
```

```
In [56]: #30
year = int(input("Enter a year: "))
if (year % 4) == 0:
    if (year % 100) == 0:
        if (year % 400) == 0:
            print(year, " is a leap year")
        else:
            print(year, " is not a leap year")
    else:
        print(year, " is a leap year")
else:
    print(year, " is not a leap year")
```

Enter a year: 2020  
2020 is a leap year

```
In [57]: #31
def Fib(n):
    if n<0:
        print("The input is incorrect.")
    elif n==1:
        return 0
    elif n==2:
        return 1
    else:
        return Fib(n-1)+Fib(n-2)
print(Fib(7))
```

8

```
In [58]: #32
a = 0
b = 1
n=int(input("Enter the number of terms in the sequence: "))
print(a,b,end=" ")
while(n-2):
    c=a+b
    a,b = b,c
    print(c,end=" ")
    n=n-1
```

Enter the number of terms in the sequence: 5  
0 1 1 2 3

```
In [4]: #33
phone_book = {
    'bhargav' : [ '8592970000', 'bhargavgmail.com' ],
    'sai ram': [ '7994880000', 'sairam@gmail.com' ],
    'praveen' : [ '9749552647' , 'praveen@gmail.com' ]
}
for k,v in phone_book.items():
    print(k, ":", v)
```

```
bhargav : [ '8592970000', 'bhargavgmail.com' ]
sai ram : [ '7994880000', 'sairam@gmail.com' ]
praveen : [ '9749552647', 'praveen@gmail.com' ]
```

```
In [60]: #34
def add(x,y):
    print(x+y)
def subtract(x,y):
    print(x-y)
def multiply(x,y):
    print(x*y)
def divide(x,y):
    print(x/y)
print("Enter two numbers")
n1=input()
n2=input()
print("Enter the operation +,-,/, ")
op=input()
if op=='+':
    add(int(n1),int(n2))
elif op=='-':
    subtract(int(n1),int(n2))
elif op=='*':
    multiply(int(n1),int(n2))
elif op=='/':
    divide(int(n1),int(n2))
else:
    print(" Invalid entry ")
```

```
Enter two numbers
2
3
Enter the operation +,-,/,
+
5
```

```
In [1]: #35
import turtle
x=turtle.Turtle()

def square(angle):
    x.forward(100)
    x.right(angle)
    x.forward(100)
    x.right(angle)
    x.forward(100)
    x.right(angle)
    x.forward(100)
    x.right(angle+10)

for i in range(36):
    square(90)
```

```
In [ ]:
```