

Program No-1

Aim : Write a python program to find the square of the number entered by the user?

Program

```
num = float(input("please enter your value "))
```

```
square = num * num
```

```
print("The square of the given value is {0} = {1}".format(num, square))
```

Result

The program has been executed and output is

verified

Output

please enter any value 5

The square of the given value is $5.0 = 25.0$

Program No - 2

Aim: Write a python program to return area of a circle using a function?

Program

```
def findarea(r):
```

```
    PI = 3.142
```

```
    return PI * (r * r)
```

```
num = float(input("Enter r value:"))
```

```
print("Area is %.6f" % findarea(num))
```

Result

The program has been executed and output is verified

Program No. 1

Output

Enter r value : 8.3

Area is 216.452380

Program No-3

Aim: Write a python program to find the biggest of the 3 numbers entered by the user?

Program

```
num1 = float(input("Enter first number:"))
num2 = float(input("Enter second number:"))
num3 = float(input("Enter third number:"))
if (num1 > num2) and (num1 > num3):
```

```
    largest = num1
```

```
elif (num2 > num1) and (num2 > num3):
```

```
    largest = num2
```

```
else:
```

```
    largest = num3
```

```
print("The largest number is", largest)
```

Result

The program has been executed and output is verified.

Output

Enter first number : 5

Enter second number : 9

Enter third number : 7

The largest number is 9.0

Program No-4

Aim: List Comprehensions. Square of N numbers.

```
for x in range(100):  
    print(x * x)
```

Result

The program has been executed and output is verified.

Output

0	1024	3844	7921
1	1089	3969	8100
4	1156		8281
9		4096	
16	1225		8464
		4225	
25	1296		8649
		4356	
36	1369		8836
		4489	
49	1444		9025
		4624	
64	1521		9216
		4761	
81	1600		9406
		4900	
100	1681		
			9604
121	1764		
		5041	
144	1849		9801
		5184	
169	1936		
		5329	
196	2025		
		5476	
225	2116		
		5625	
256	2209		
		5776	
289	2304		
		5929	
324	2401		
		6084	
364	2500		
		6241	
400	2601		
		6400	
441	2704		
		6561	
484	2809		
		6724	
529	2916		
		6889	
576	3025		
		7056	
625	3136		
		7225	
676	3249		
		7396	
729	3364		
		7569	
784	3481		
		7744	
841	3600		
900	3721		
961			

Program No - 5

Aim: Form a list of vowels selected from a given word?

Program

```
def check_vow(string, vowels):
    final = [each for each in string if each in vowels]
    print(len(final))
    print(final)

string = 'avaripa palikkunnamukalil'
vowels = 'AaEe.IiOoUu'
check_vow(string, vowels):
```

Result

The program has been executed and output was verified.

Output

11

['a', 'a', 'i', 'a', 'a', 'i', 'a', 'a', 'a', 'a', 'i']

Print (x * 5)

Result

The program has been executed and output is shown below

Program No - 6

Aim: Count the occurrence of each word in a line of text?

Program

```
def word-count(str):
    counts = dict()
    words = str.split()

    for word in words:
        if word in counts:
            counts[word] += 1
        else:
            counts[word] = 1

    return counts

print(word-count('hello avani how are you are you fine'))
```

Result

The program has been executed and output was verified.

Output

$$\{ \text{'bello'} : 1, \text{'ciao'} : 1, \text{'how'} : 1, \text{'are'} : 2, \text{'you'} : 2, \text{'fine'} : 1 \}$$

Program No - 7

Aim: Store a list of first names. Count the occurrence of 'a' within the list?

Program

```
test_str = "avaní pa palikkannanmaikalil kallbottu p o"
count = 0
```

```
for i in test_str:
```

```
    if i == 'a':
```

```
        count = count + 1
```

```
print ("count of a in avaní pa palikkannanmaikalil  
kallbottu p o is: " + str(count))
```

Result

The program has been executed and output is verified.

Output

Count of a in array p a palikkannammakalil kabbottu

p o is : 6

Count of a in array p a palikkannammakalil kabbottu

Count of a in array p a palikkannammakalil kabbottu

Count of a in array p a palikkannammakalil kabbottu

Count of a in array p a palikkannammakalil kabbottu

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Count of a in array p a palikkannammakalil kabbottu

Count of a in array p a palikkannammakalil kabbottu

Program No-8

aim: Enter 2 lists of integers. Check a) whether list are of same length b) whether list sums to same value c) whether any value occur in both?

Program

def lists():

list 1 = []

list 2 = []

list 3 = []

n1 = int(input("total number of elements in list 1:"))

for i in range(n1):

val = int(input("enter a number:"))

list 1.append(val)

n2 = int(input("total number of element is list 2:"))

for i in range(n2):

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

list 2.append(val)

if (n1 == n2):

print("list are of same length")

else:

print("list are not same length")

if (sum(list 1) == sum(list 2)):

print("sum value is same")

else:

```
print("sum value is not same")
```

```
list 3 = [each for each in list 1 if each in list 2]
```

```
print("value in the both lists are :", list 3)
```

Result

The program has been executed and output is verified.

Output

>> lists()

total number of elements in list 1: 3

enter a number: 1

enter a number: 4

enter a number: 5

total number of elements in the list 2: 3

enter a number: 7

enter a number: 8

enter a number: 9

list are same length

Sum value is not same

values in the both lists are: []

>> lists()

total number of elements in list 1: 2

enter a number: 8

enter a number: 9

total number of elements in the list 2: 2

enter a number: 9

enter a number: 7

lists are of same length.

sum value is not same

values in the both lists are: [9]

Program No: 9

Aim: Get a string from an input string where all occurrence of first character replaced with '\$', except first character?

Program

```
def change_char(str1):
```

```
    char = str1[0]
```

```
    str1 = str1.replace(char, '$')
```

```
    str1 = char + str1[1:]
```

```
    return str1
```

```
print(change_char('avani pa palikkannan mukalil'))
```

Result

The program has been executed and output is verified

Output

avfari p. § (pallikunhómakslil)

Handi

Handi... (faint text)

Program No-10

Aim: Create a string from given string where the first and last characters exchanged

Program

```
str = input("Enter a string :")  
new_str = str[-1:] + str[1:-1] + str[:1]  
print(new_str)
```

Result

The program has been executed and output is verified

Output

Enter a string: avani

ivana

avani

Enter a string: avani

ivana

avani

ivana

avani

Enter a string: avani

ivana

Enter a string: avani

Program No-11

Aim: Accept the radius from user and find area of circle?

Program

import math:

r = float(input("Enter the radius of the circle:"))

area = math.pi * r * r

print("%.2f" % area)

Result

The program has been executed and output is verified.

Output

Enter the radius of the circle: 5

78.54

Program No-12.

Aim : Accept an Integer n and compare $n + n + n$?

Program

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

```
temp = str(n)
```

```
t1 = temp + temp
```

```
t2 = temp + temp + temp
```

```
comp = n + int(t1) + int(t2)
```

```
print("The value is:", comp)
```

Result

The program has been executed and output is verified

Output

enter a number 'n': 4

The value is : 492

Program No-13

Aim: Sort dictionary in ascending and descending order?

Program

```
Import operator
```

```
d = {1: 2, 3: 4, 4: 3, 2: 1, 0: 0}
```

```
Print('dictionary:', d)
```

```
s = sorted(d.items(), key = operator.itemgetter(1))
```

```
Print('ascending order:', s)
```

```
s1 = dict(sorted(d.items(), key = operator.itemgetter(1), reverse  
= True))
```

```
Print('descending order:', s1)
```

Result

The program has been verified and Output is verified.

Output

dictionary : $\{1:2, 3:4, 4:3, 2:1, 0:0\}$

ascending order : $[(0,0), (2,1), (1,2), (4,3), (3,4)]$

descending order : $\{3:4, 4:3, 1:2, 2:1, 0:0\}$

Program No - 14

Aim: Merge two dictionaries?

Program

```
x = {'a': 1, 'b': 2}
```

```
y = {'b': 10, 'c': 11}
```

```
z = x.update(y)
```

```
print(z)
```

```
print(x)
```

Result

The program has been executed and output is verified

Output

Note

{ 'a': 1, 'b': 10, 'c': 11 }

11/11/20

Program No -15

Aim: find gcd of two numbers?

Program

```
num1 = int(input("Enter 1st number:"))  
num2 = int(input("Enter 2nd number:"))  
i = 1  
while (i <= num1 and i <= num2):  
    if (num1 % i == 0 and num2 % i == 0):  
        gcd = i  
        i = i + 1  
print("GCD is", gcd)
```

Result

The program has been executed and output was verified.

Output

Enter 1st number : 80

Enter 2nd number : 20

GCD is 20

Program No-16

Aim: Program to find the factorial of a number?

Program

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

```
factorial = 1
```

```
if num < 0:
```

```
    print("Sorry, factorial does not exist for negative numbers")
```

```
elif num == 0:
```

```
    print("The factorial of 0 is 1")
```

```
else:
```

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

```
        factorial = factorial * i
```

```
    print("The factorial of ", num, " is ", factorial)
```

Result

The program has been executed and output is executed

Output:

Enter a number: 9

The factorial of 9 is 362880

Program No-17

Aim: Generate Fibonacci series of N terms?

Program

```

nterms = int(input("How many terms? "))
n1, n2 = 0, 1
count = 0
if nterms <= 0:
    print("Please enter a positive integer")
elif nterms == 1:
    print("Fibonacci sequence upto", nterms):
    print(n1)
else:
    print("Fibonacci sequence:")
    while count < nterms:
        print(n1)
        nth = n1 + n2
        n1 = n2
        n2 = nth
        count += 1

```

Result

The program has been executed and output was verified

Output

How many terms? 5

Fibonacci sequence:

0

1

1

2

3

Program No - 18

Aim: Find the sum of all items in a list?

Program

```
lst = []
```

```
num = int(input('How many number: '))
```

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

```
    numbers = int(input('Enter number'))
```

```
    lst.append(numbers)
```

```
Print('Sum of element in given list is: ', sum(lst))
```

Result

The program has been executed and output is verified

Output

How many numbers : 5

Enter number 4

Enter number 2

Enter number 5

Enter number 3

Enter number 5

Sum of elements in given list is: 19

Program No - 19

Aim: Generate a list of four digit numbers in a given range with all their digits even and the number is a perfect square?

Program

def call():

n=0

for x in range(1000, 10000):

num = str(x)

number = int(x)

first = int(num[0])

second = int(num[1])

third = int(num[2])

fourth = int(num[3])

if first % 2 == 0:

if second % 2 == 0:

if third % 2 == 0:

if fourth % 2 == 0:

for i in range(1, number):

if i * i == number:

print(number)

Result

The program has been executed and Output is verified

Output

→ car (C)

4624

6084

6400

8464

Program No-20

Aim: Display the given pyramid with step number accepted from user?

Eg: N=4

```
1
2 4
3 6 9
4 8 12 16
```

Program

```
def ppn():
    n = int(input("Enter the number:"))
    i = 1
    for i in range(1, n+1):
        j = 1
        for j in range(1, i+1):
            temp = i * j
            print(temp, end=" ")
        print("\n")
```

Result

The program has been executed and output was verified.

Output

>>> pyr()

Enter the number: 5

1

2 4

3 6 9

4 8 12 16

5 10 15 20 25

Program No-21

aim: Count the number of character (character frequency) in a string?

Program

```
test_str = "hai avari how are you"
```

```
count = 0
```

```
for i in test_str:
```

```
    if i == 'a':
```

```
        count = count + 1
```

```
print("count of a string is: " + str(count))
```

Result

The program has been executed and ~~the~~ output has been verified

Output

Count of a string is: 4

Program No-22.

Aim: Add 'ing' at the end of a given string. If it already ends with 'ing', then add 'ly'?

Program

```
def add_string(str1):
```

```
    length = len(str1)
```

```
    if length > 2:
```

```
        if str1[-3:] == 'ing':
```

```
            str1 += 'ly'
```

```
        else:
```

```
            str1 += 'ing'
```

```
    return str1
```

```
print(add_string('av'))
```

```
print(add_string('ava'))
```

```
print(add_string('string'))
```

Result

The program has been executed and Output was

Verified

Program No-23

Aim: Accept a list of words and return length of longest word?

Program

```
a = []
n = int(input("Enter the number of elements in list:"))

for x in range(0, n):
    element = input("Enter element" + str(x+1) + ":")
    a.append(element)

max1 = len(a[0])
temp = a[0]

for i in a:
    if (len(i) > max1):
        max1 = len(i)
        temp = i

print("The word with the longest length is:")
print(temp).
```

Result

The program has been executed and Output is verified.

Output

Enter the number of elements in list: 4

Enter element 1: apple

Enter element 2: avani pa

Enter element 3: palikkannammukali

Enter element 4: kattappana

The word with the longest length is : palikkannammukali

Program No - 24.

Aim: Construct following pattern using nested loop?

```

*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
  
```

Program

n = 5

for i in range(n):

• for j in range(i):

print('*', end = " ")

print("")

for i in range(n, 0, -1):

for j in range(i):

print('*', end = " ")

print("")

Result

The program has been executed and Output was verified

Output

1
*
* *
* * *
* * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *

for (i = 0; i < n; i++)
if (arr[i] > max) max = arr[i];
return max;

for (i = 0; i < n; i++)
if (arr[i] < min) min = arr[i];
return min;

Program No - 25

Aim: Generate all factors of numbers of a number?

Program

```
def print-factors(x):
    print("The factor of ", x, " are:")
    for i in range(1, x+1):
        if x % i == 0:
            print(i)
```

num = 200

print-factors(num)

Result

The program has been executed and Output was Verified

Output

The factors of 200 are:

1
2
4
5
8
10
20
25
40
50
100
200

Program No - 26

Aim: Write lambda functions to find area of Square, rectangle and triangle?

Program

```
import math
```

```
t-peri = lambda p, q, r : p + q + r
```

```
r-area = lambda len, ht : len * ht
```

```
c-peri = lambda rad : 2 * math.pi * rad
```

```
c-area = lambda rad : math.pi * rad * rad
```

```
print("Perimeter of Triangle (10, 20, 15) is: ", t-peri(5, 20, 10))
```

```
print("Area of Rectangle (30, 20) is: ", r-area(20, 10))
```

Result

The program has been executed and Output was verified

75 - 011 10000

Output

Perimeter of Triangle (10, 20, 15) is: 35

Area of Rectangle (30, 20) is: 200

Perimeter of Triangle (10, 20, 15) is: 35
Area of Rectangle (30, 20) is: 200

Program No - 27

Aim: From a list of integers, create a list removing even number?

Program

```
list = [11, 22, 33, 44, 55, 66]
```

```
print ("Original list")
```

```
print (list)
```

```
for i in list:
```

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

```
        list.remove(i)
```

```
print ("list after removing an even number:")
```

```
print (list)
```

Result

The program has been executed and Output was verified.

Output

original list

[11, 22, 33, 44, 55, 66]

list after removing an even numbers :

[11, 33, 44, 55, 66]

list after removing an even numbers :

[11, 33, 55, 66]

list after removing an even numbers :

[11, 33, 55]