**Python Exercise 1**

1.Calculate area of a rectangle.

Code:-

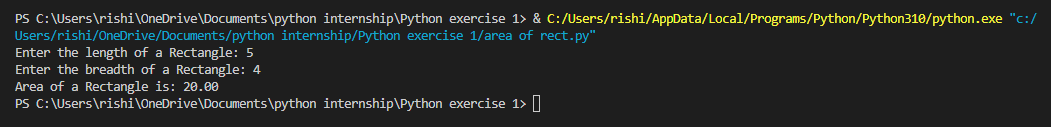
l = float(input('Enter the length of a Rectangle: '))

b = float(input('Enter the breadth of a Rectangle: '))

Area = l \* b

print("Area of a Rectangle is: %.2f" %Area)

Output:-



2.Calculate area of a square.

Code:-

print("Enter the Side Length of Square: ")

l = float(input())

a = l\*l

print("\nArea = ", a)

Output :-

Text

Description automatically generated

3. Calculate area of a circle.

Code:-

PI = 3.14

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

area = PI \* r \* r

print("Area of a circle = %.2f" %area)

Output :-

Text

Description automatically generated

4. Calculate average of 5 numbers.

Code:-

# Python program to find average of five numbers

# take inputs

num1 = float(input('Enter first number: '))

num2 = float(input('Enter second number: '))

num3 = float(input('Enter third number: '))

num4 = float(input('Enter four number: '))

num5 = float(input('Enter fifth number: '))

# calculate average

avg = (num1 + num2 + num3 + num4 + num5) / 5

# print average value

print('The average of numbers = %0.2f' %avg)

Output :-

Text

Description automatically generated

5. Check whether number is even or odd.

Code:-

num = int(input("Enter a Number:"))

if num % 2 == 0:

  print("Given number is Even")

else:

  print("Given number is Odd")

Output :-

Text

Description automatically generated

6. Take a year and check whether it is leap year or not.

Code:-

year = int(input('Enter year : '))

if (year%4 == 0 and year%100 != 0) or (year%400 == 0) :

    print(year, "is a leap year.")

else :

    print(year, "is not a leap year.")

Output :-

Text

Description automatically generated

7. Take a number and check whether it is zero, positive or negative.

Code:-

num = float(input("Input a number: "))

if num > 0:

   print("It is positive number")

elif num == 0:

   print("It is Zero")

else:

   print("It is a negative number")

Output :-

Text

Description automatically generated

8. Take 2 numbers and display greatest number. (Also check equal number condition).

Code:-

a = float(input(" Please Enter the First Value a: "))

b = float(input(" Please Enter the Second Value b: "))

if(a > b):

    print("{0} is Greater than {1}".format(a, b))

elif(b > a):

    print("{0} is Greater than {1}".format(b, a))

else:

    print("Both a and b are Equal")

Output :-

Text

Description automatically generated

9. Take a number and find factorial of that number.

Code:-

def factorial(n):

    if n == 0:

        return 1

    else:

        return n \* factorial(n-1)

n=int(input("Input a number to compute the factiorial : "))

print(factorial(n))

Output :-

Text

Description automatically generated

10 . Write a program to swap 2 numbers using third variable.

Code:-

#Input

num1 = input('Enter value of first number (num1): ')

num2 = input('Enter value of second number (num2): ')

# create a temporary variable and swap the values

temp = num1

num1 = num2

num2 = temp

#Output

print('The value of num1 after swapping: {}'.format(num1))

print('The value of num2 after swapping: {}'.format(num2))

Output :-

Text

Description automatically generated

11 . Take 2 numbers and find smallest number.

Code:-

first = float(input('Enter first number: '))

second = float(input('Enter second number: '))

# Making decision and displaying

if first < second:

    small = first

else:

    small = second

print('Smallest = %d' %(small))

Output :-

Text

Description automatically generated

12 . Take a number check if a number is less than 100 or not. If it is less than 100 then check if it is odd or even.

Code:-

a = int(input("Enter a value : "))

# loop ends if the number is bigger than 100 otherwise it will run forever

if (a<=100):

    if(a%2) == 0:

         print("Given number is Even")

    else:

         print("Given number is Odd")

else:

    print("greater than 100")

Output :-

Text

Description automatically generated

13 . Take a number to print the square of a number if it is less than 10.

Code:-

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

if (a<=10) :

    square = a\*a

    print(square)

Output :-

Text

Description automatically generated

14. Take a number and check whether it is zero, positive or negative using nested IF…ELSE statement .

Code:-

num = float(input("Input a number: "))

if num > 0:

   print("It is positive number")

elif num == 0:

   print("It is Zero")

else:

   print("It is a negative number")

Output :-

Text

Description automatically generated

15. Write a program to swap 2 numbers without taking third variable.

Code:-

x = input('Enter value of first number (num1): ')

y = input('Enter value of second number (num2): ')

temp = x

x = y

y = temp

print('The value of x after swapping: {}'.format(x))

print('The value of y after swapping: {}'.format(y))

Output :-

Text

Description automatically generated

16. Take starting number and ending number from the user and print following series.

Code:-

n = int(input("Please Enter starting Number: "))

a = int(input("Please Enter ending Number: "))

while(n>=0):

    print(n, end='')

    print("/n")

    n = n-1

Output :-

Text

Description automatically generated