

### ASSIGNMENT-3

**1. Function with argument, write a python program using function to find the cube of a number?**

```
def cube(num):  
    cube=num**3  
    return cube  
num=int(input("Enter a number:"))  
res=cube(num)  
print("The cube of ",num,"is :",res)
```

#### OUTPUT

```
C:\Users\User\PycharmProjects\python_cla  
Enter a number:3  
The cube of 3 is : 27  
  
Process finished with exit code 0
```

**2. Using Lambda function, find the area of a triangle. Take base and height as user input?**

```
base=int(input("Enter the base : "))  
height=int(input("Enter the height : "))  
triangle=lambda base,height:0.5*base*height  
area=triangle(base,height)  
print("The area of the triangle:",area)
```

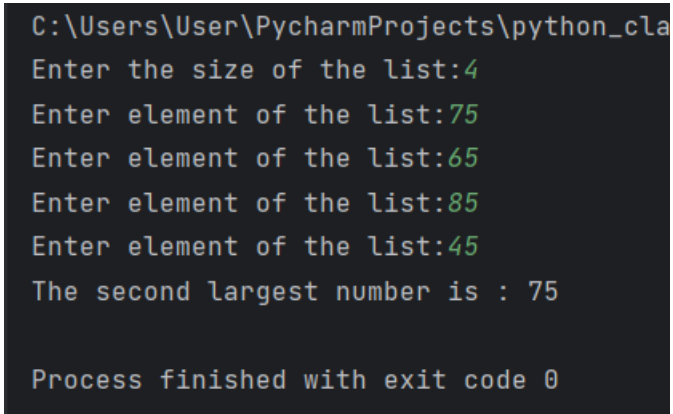
#### OUTPUT

```
C:\Users\User\PycharmProjects\python_cla  
Enter the base : 12  
Enter the height : 10  
The area of the triangle: 60.0  
  
Process finished with exit code 0
```

**3. write a python function that takes list as argument and return the second largest number of that list?**

```
def second_largest(list):  
    list.sort()  
    return list[-2]  
  
li=[]  
  
n=int(input("Enter the size of the list:"))  
  
for i in range(0,n):  
    n1=int(input("Enter element of the list:"))  
    li.append(n1)  
  
print("The second largest number is :",second_largest(li))
```

#### OUTPUT



```
C:\Users\User\PycharmProjects\python_cla  
Enter the size of the list:4  
Enter element of the list:75  
Enter element of the list:65  
Enter element of the list:85  
Enter element of the list:45  
The second largest number is : 75  
  
Process finished with exit code 0
```

**4. Create a function that accepts a string as an argument and print a new dictionary containing the count of each character in the string?**

```
def character_count(string):  
    char_count={}  
    for char in string:  
        if char in char_count:  
            char_count[char]+=1  
        else:  
            char_count[char]=1  
    for char,count in char_count.items():
```

```
print("Character:",char,"Count:",count)

str=input("Enter the string:")

character_count(str)
```

#### OUTPUT

```
C:\Users\User\PycharmProjects\python_cla
Enter the string:hello python
Character: h Count: 2
Character: e Count: 1
Character: l Count: 2
Character: o Count: 2
Character:   Count: 1
Character: p Count: 1
Character: y Count: 1
Character: t Count: 1
Character: n Count: 1

Process finished with exit code 0
```

#### **5. print Fibonacci series using keyword argument?**

```
def fibonacci(n=5):

    fibonacci_series=[0,1]

    for i in range(2,n):

        next_fibonacci=fibonacci_series[-1]+fibonacci_series[-2]

        fibonacci_series.append(next_fibonacci)

    return fibonacci_series

result=fibonacci(n=10)

print("Fibonacci Series:",result)
```

#### OUTPUT

```
C:\Users\User\PycharmProjects\python_class\venv\Scripts\
Fibonacci Series: [0, 1, 1, 2, 3, 5, 8, 13, 21, 34]

Process finished with exit code 0
```

**6. Calculate the tax amount based on salary find the highest tax payer using arbitrary arguments salary>20000 to <50000 tax-2%, salary>50000 to < 100000 tax-5% and above 100000 tax 10%**

```
def salary(*args):  
    largest_tax=0  
  
    for i in args:  
        if i>20000 and i<50000:  
            tax=i*(2/100)  
            print("Tax for salary",i,"is",tax)  
        elif i>50000 and i<=100000:  
            tax=i*(5/100)  
            print("Tax for salary",i,"is",tax)  
        elif i>100000:  
            tax=i*(10/100)  
            print("Tax for salary",i,"is",tax)  
        if largest_tax<tax:  
            largest_tax=tax  
    print()  
    print("Highest tax is :",largest_tax)  
salary(60000,75000,150000)
```

#### OUTPUT

```
C:\Users\User\PycharmProjects\python_cla  
Tax for salary 60000 is 3000.0  
  
Tax for salary 75000 is 3750.0  
  
Tax for salary 150000 is 15000.0  
  
Highest tax is : 15000.0  
  
Process finished with exit code 0
```