Assignment 3

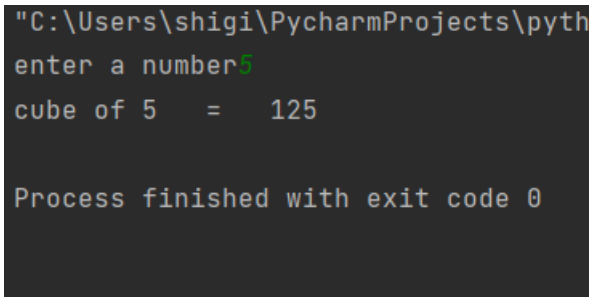
1. Functions without argument Write a python program using function to find the cube of a number.
2. Using the Lambda function, find the area of a triangle. Take base and height as user input.
3. Write a Python function that takes list as argument and return second largest number of that list
4. Create a function that accepts a string as an argument and print a new dictionary containing the count of each character in the string for example: Enter a string: ammu Character counts: {'a': 1, 'm': 2, 'u': 1}
5. print Fibonacci series using keyword argument
6. Calculate the tax amount based on salary find highest tax payers using arbitrary arguments

Answers

1.

```
def cube():
    n = int(input('enter a number'))
    print('cube of %d\t=\t%d'%(n,(n**3)))
cube()
```

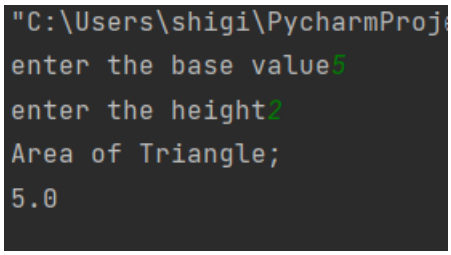
Output



2.

```
x=lambda b,h:1/2*b*h
b=int(input('enter the base value'))
h=int(input('enter the height'))
print('Area of Triangle;')
print(x(b,h))
```

Output



3.

```
def largest(li):
  print('li=',li)
  li.sort()
  return li[-2]
li=[5,6,9,7,2,3,4,32,12]
print('second largest number=',largest(li))
```

output

```
"C:\Users\shigi\PycharmProjects\pythc
li= [5, 6, 9, 7, 2, 3, 4, 32, 12]
Second Largest Number= 12

Process finished with exit code 0
```

4.

```
def dicfun(word):
    dic = {}

    for i in word:
        if i in dic:
            dic[i] += 1
        else:
            dic[i] = 1

    print(dic)
word=input('enter a word')
dicfun(word)
```

output

```
"C:\Users\shigi\PycharmProjects\python cla
enter a wordshigin
{'s': 1, 'h': 1, 'i': 2, 'g': 1, 'n': 1}

Process finished with exit code 0
```

5.

```
def fib(num):
    a=0
    b=1
    print('fibonacci series of n=%d are;'%num)
    for i in range(num):
        print(a)
        c=a+b
        a=b
        b=c
```

```
num=int(input('enter a number'))
fib(num)
```

output

```
"C:\Users\shigi\PycharmProjects\python
enter a number5
fibonacci series of n=5 are;
0
1
1
2
3
```

6.

```
def largest_tax(*s):
    lartax=0
    for i in s:
        if i>100000:
            tax=i*(10/100)
            print('tax for salary %d=%d'%(i,tax))
        elif i>50000 and i<=100000:
            tax=i*(5/100)
            print('tax for salary %d=%d' % (i, tax))
        elif i>20000 and i<=50000:
            tax=i*(2/100)
            print('tax for salary %d=%d' % (i, tax))

        if lartax<tax:
            lartax=tax
        print()
    print('Highest Tax=',lartax)

largest_tax(120000,80000,30000)
```

output

```
"C:\Users\shigi\PycharmProjects\python class\venv\
tax for salary 120000=12000

tax for salary 80000=4000

tax for salary 30000=600

Highest Tax= 12000.0
```