Lab 3
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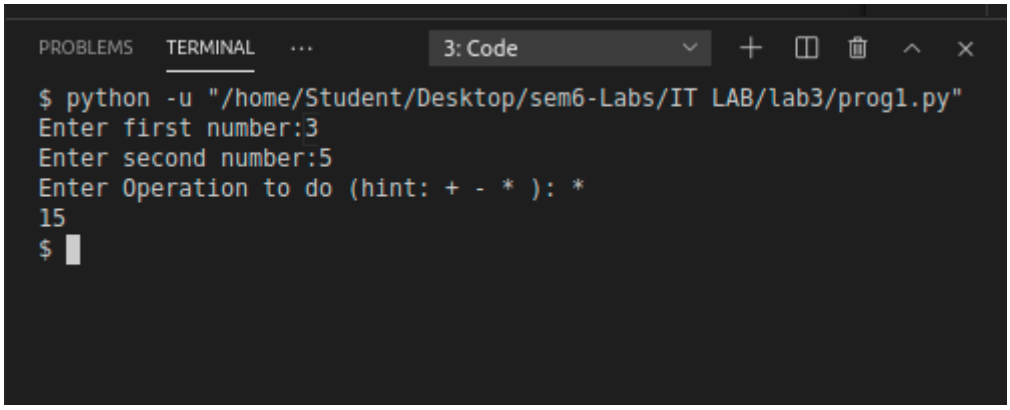
Q1

```
def calculator(a,b,op):
    switcher={
        '*':a*b,
        '//':a/b,
        '+':a+b,
        '-':a-b,
    }
    return switcher[op]

a=input("Enter first number:")
b=input("Enter second number:")
op=raw_input("Enter Operation to do (hint: + - * ): ")
res=calculator(a,b,op)
print(res)
```



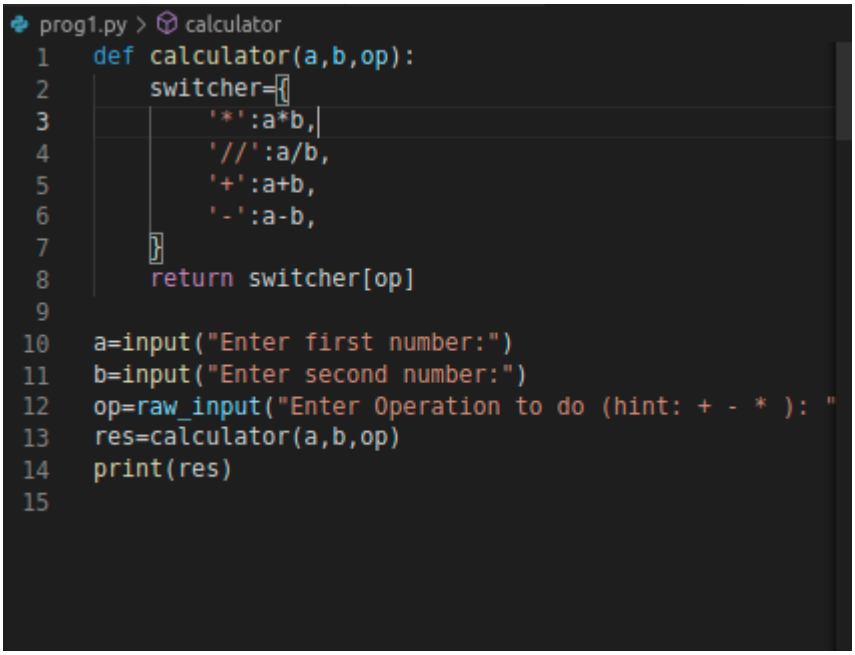
Q2

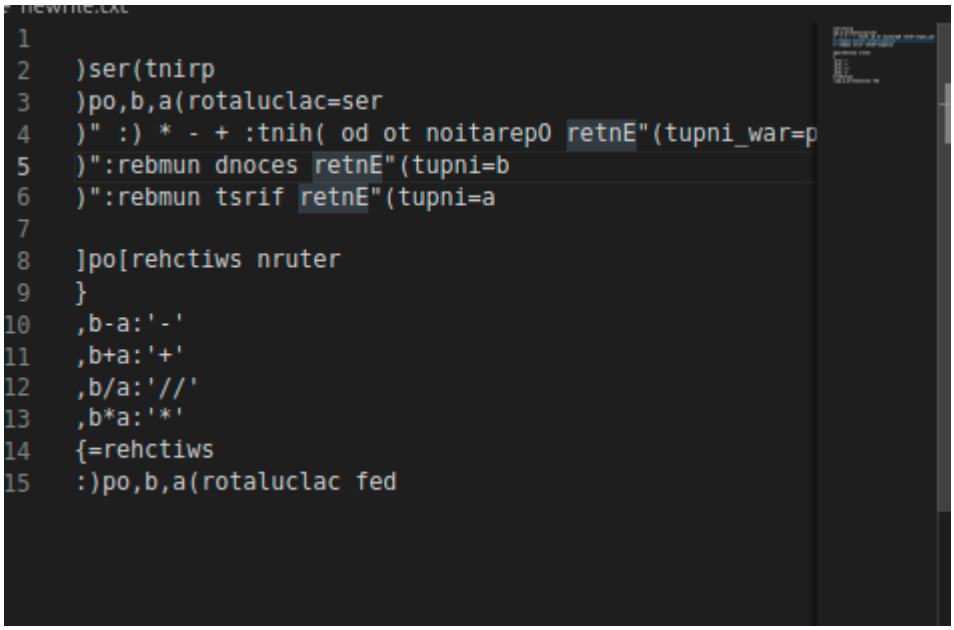
```
f=open('prog1.py','r')
f2=open('newfile.txt','w+')
lines=f.readlines()
for line in reversed(lines):
    line=line[::-1]
    f2.write(line)

f2.close()

f2=open('newfile.txt','r')
for line in f2:
    print(line)
```

f.close()
f2.close()





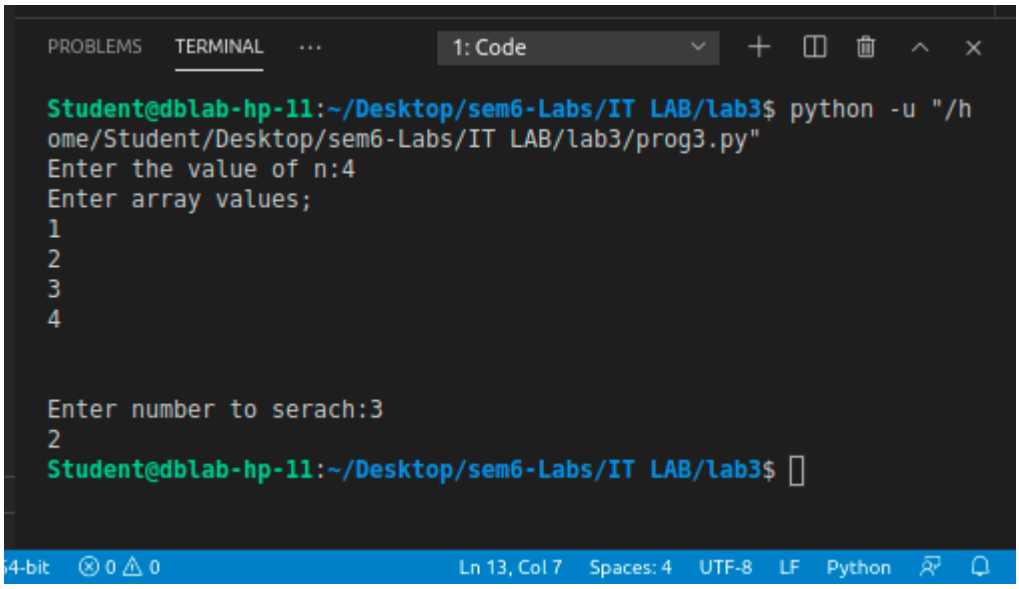
Q3

def binarySearch(arr,left,right,x):

```
    if left>=right:
        return -1
    mid=(left+right)/2
    if arr[mid]==x:
        return mid
    elif x>arr[mid]:
        return binarySearch(arr,mid,right,x)
    else:
        return binarySearch(arr,left,mid,x)

arr=[]
n=int(input("Enter the value of n:"))
print("Enter array values;")
for i in range(0,n):
    arr.append(int(input()))

print("\n")
x=int(input("Enter number to serach:"))
res=binarySearch(arr,0,len(arr),x)
print(res)
```



Q4

```
def sort_it(myStr):
    words = [word.lower() for word in myStr.split()]
    words.sort()
    str_ret=""
    for word in words:
```

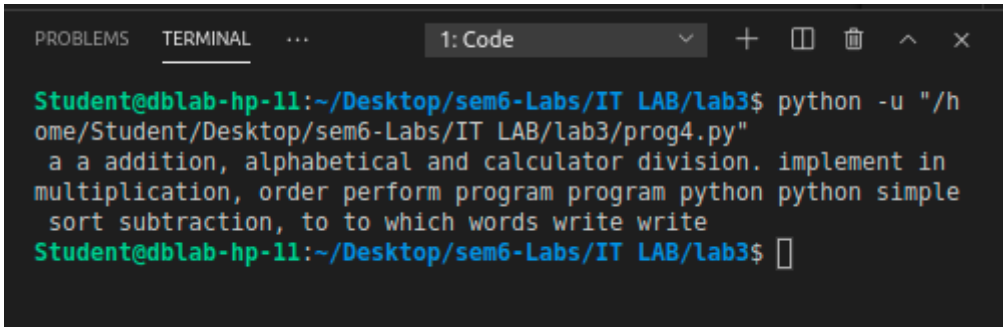
```
        str_ret=str_ret+" " +word

    return str_ret


f=open('file1.txt','r')

str_arr=""
for line in f:
    str_arr=str_arr+sort_it(line)

str_arr=sort_it(str_arr)
print(str_arr)
```



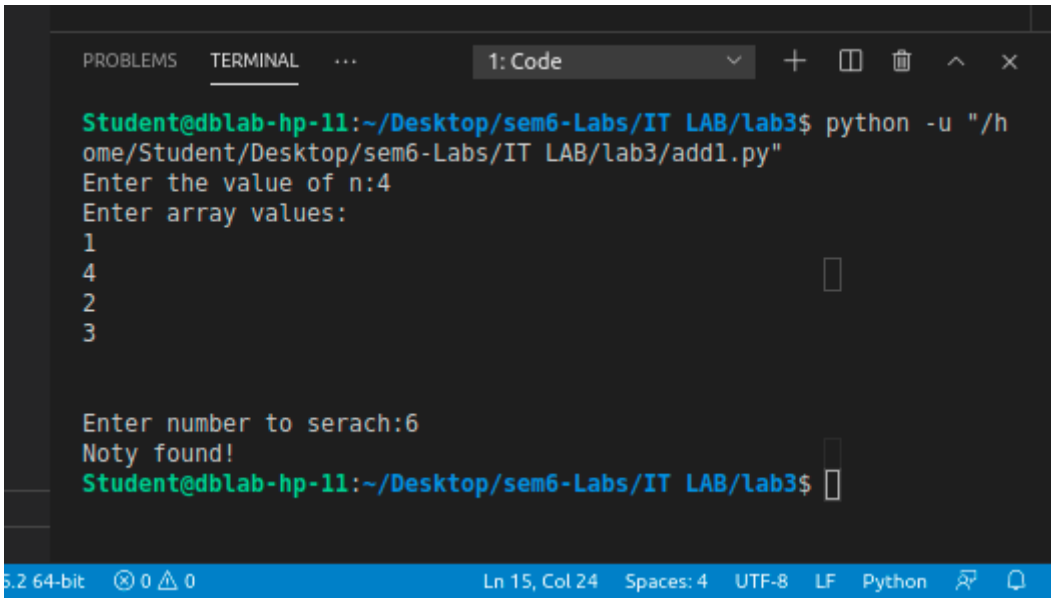
Additional 1

```
def linearSearch(arr,x):
   for i in range(0,len(arr)):
      if x==arr[i]:
         return i

arr=[]
n=int(input("Enter the value of n:"))
print("Enter array values:")
for i in range(0,n):
    arr.append(int(input()))

print("\n")
x=int(input("Enter number to serach:"))
res=linearSearch(arr,x)
```

```
if res == None:
    print("Noty found!")
```



Additional2

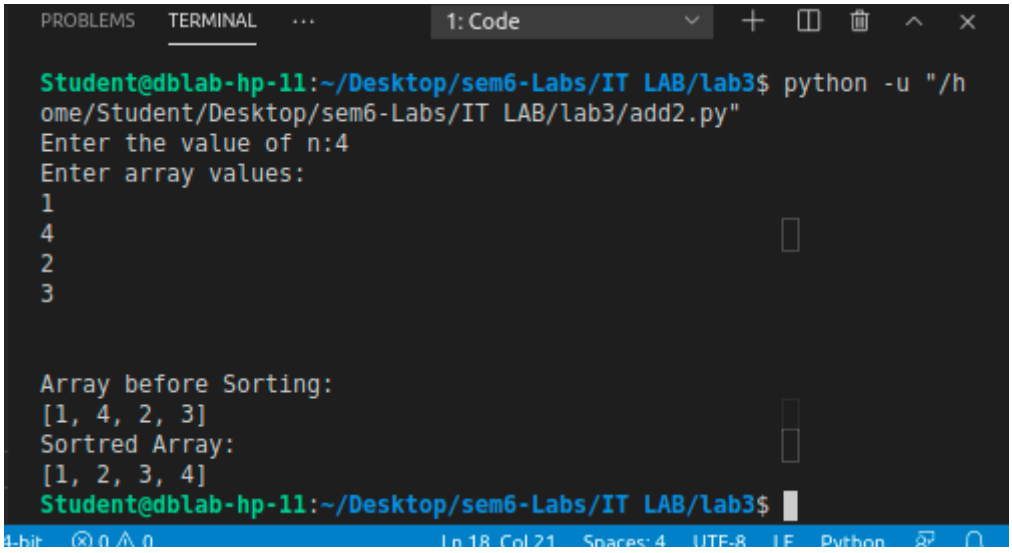
```
def BubbleSort(arr):
    n=len(arr)
    for i in range(0,n-1):
        for j in range(0,n-i-1):
            if(arr[j]>arr[j+1]):
                temp=arr[j]
                arr[j]=arr[j+1]
                arr[j+1]=temp

    return arr


arr=[]
n=int(input("Enter the value of n:"))
print("Enter array values:")
for i in range(0,n):
    arr.append(int(input()))

print("\n")

print("Array before Sorting:")
print(arr)
arr=BubbleSort(arr)
print("Sortred Array:")
print(arr)
```



Additional 3

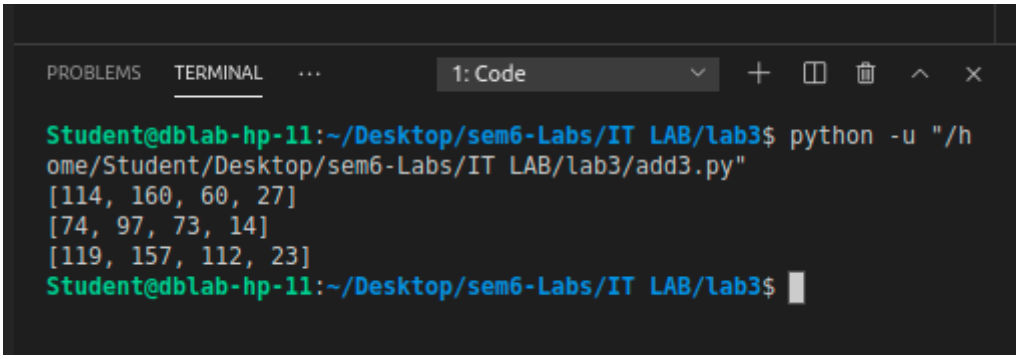
```
X = [[12,7,3],
    [4 ,5,6],
    [7 ,8,9]]

Y = [[5,8,1,2],
    [6,7,3,0],
    [4,5,9,1]]


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 r in result:
   print(r)
```


PROBLEMS
TERMINAL
1: Code
Student@dblab-hp-11:~/Desktop/sem6-Labs/IT LAB/lab3$ python -u "/h
ome/Student/Desktop/sem6-Labs/IT LAB/lab3/add3.py"
[114, 160, 60, 27]
[74, 97, 73, 14]
[119, 157, 112, 23]
Student@dblab-hp-11:~/Desktop/sem6-Labs/IT LAB/lab3$