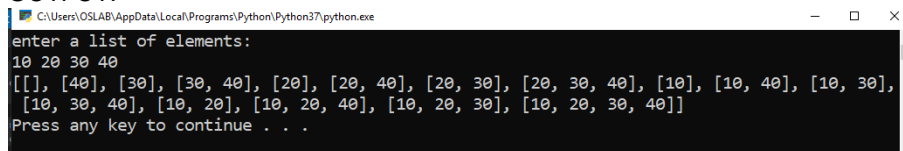


LAB4: IT LAB  
HRITK AJAY BANSAL  
CSE A, 15  
180905105

```
Q1) class sub:
    def f1(self, s1):
        return self.f2([], sorted(s1))
    def f2(self, curr, s1):
        if s1:
            return self.f2(curr, s1[1:]) + self.f2(curr + [s1[0]], s1[1:])
        return [curr]

a=[]
n=map(int,input("enter a list of elements:\n").split())
print(sub().f1(n))
```

OUTPUT:

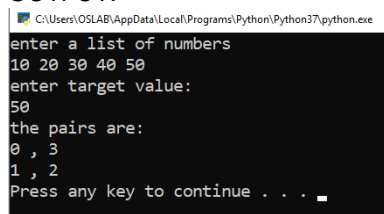


```
C:\Users\OSLAB\AppData\Local\Programs\Python\Python37\python.exe
enter a list of elements:
10 20 30 40
[[], [40], [30], [30, 40], [20], [20, 40], [20, 30], [20, 30, 40], [10], [10, 40], [10, 30],
[10, 30, 40], [10, 20], [10, 20, 40], [10, 20, 30], [10, 20, 30, 40]]
Press any key to continue . . .
```

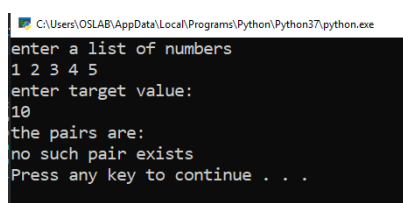
```
Q2) class Map:
    def pairs():
        flag=0
        a=input("enter a list of numbers\n").split(' ')
        targ=int(input("enter target value:\n"))
        print("the pairs are:")
        for i in range(len(a)):
            for j in range(i+1,len(a)):
                if(int(a[i])+int(a[j])==targ):
                    flag=1
                    print(i,",",j)
        if(flag==0):
            print("no such pair exists")

pairs()
```

OUTPUT:



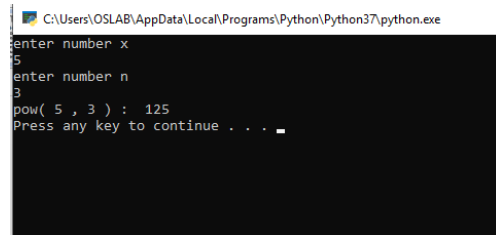
```
C:\Users\OSLAB\AppData\Local\Programs\Python\Python37\python.exe
enter a list of numbers
10 20 30 40 50
enter target value:
50
the pairs are:
0 , 3
1 , 2
Press any key to continue . . .
```



```
C:\Users\OSLAB\AppData\Local\Programs\Python\Python37\python.exe
enter a list of numbers
1 2 3 4 5
enter target value:
10
the pairs are:
no such pair exists
Press any key to continue . . .
```

Q3) `class Poww:`  
    `def poww(a, b):`  
        `res=a**b`  
        `return res`  
  
    `x=int(input("enter number x\n"))`  
    `n=int(input("enter number n\n"))`  
    `print("pow(",x,"",n,"") : ",poww(x,n))`

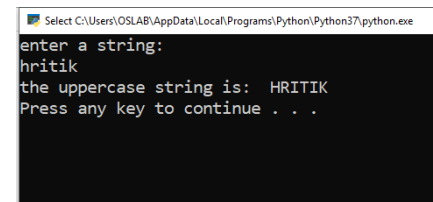
OUTPUT:



```
C:\Users\OSLAB\AppData\Local\Programs\Python\Python37\python.exe
enter number x
5
enter number n
3
pow( 5 , 3 ) : 125
Press any key to continue . . .
```

Q4) `class Strings:`  
    `def get_String():`  
        `a=input("enter a string:\n")`  
        `return a`  
    `def put_String(a):`  
        `a=a.upper()`  
        `print("the uppercase string is: ",a)`  
  
    `put_String(get_String())`

OUTPUT:



```
Select C:\Users\OSLAB\AppData\Local\Programs\Python\Python37\python.exe
enter a string:
hritik
the uppercase string is: HRITIK
Press any key to continue . . .
```