



- ❖ Name                      Wasef ullah
  
- ❖ ID NO                      15391
  
- ❖ Teacher                      sir Fahim Ullah
  
- ❖ Exaim                      Final Assignment
  
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## Question no 1

Write a program to compute the frequency of the words from the user input. The output should output after sorting the key alphanumerically.

Suppose the following input is supplied to the program:

92: 2  
also: 1  
and: 1  
code: 1  
country: 1  
in: 1  
is: 1  
Pakistan: 2

### Answer:

```
import operator
```

```
text_line = input("Type  
in: ")
```

```
freq_dict = {}
```

```
for i in text_line.split(' '):
```

```
if i.isalpha():  
    if i not in freq_dict:  
        freq_dict[i] = 1  
    elif i in freq_dict:  
        freq_dict[i] =  
freq_dict[i] + 1  
  
    else:  
        pass  
  
sorted_freq_dict =  
  
sorted(freq_dict.items(),  
key =  
operator.itemgetter(0))  
  
print(sorted_freq_dict)  
  
for i in sorted_freq_dict:  
    print(i[0], i[1])
```

## Question no2:

Print the following pattern using for loop (nested loop)

5 4 3 2 1

4 3 2 1

3 2 1

2 1

1

### Answ:

```
rows = 5
```

```
for i in range(rows, 0, -1):
```

```
    for j in range(0, i + 1):
```

```
        print(j, end=' ')
```

```
    print("\r")
```

## Question no3:

Write a Python function that takes a list and returns a new list with unique elements of the first list also print the returned list.

## **ANSWER**

**Write a Python function that takes a list and returns a new list with unique elements of the first list.**

```
def unique_list(l):
    x=[]
    for a in l:
        if a not in x:
            x.append(a)
    return x
print (unique_list([1,2,3,3,3,3,4,5]))
```

## **Question no4:**

Write a Python function that that prints out the first n

rows (input no of rows from user) of Pascal's triangle.

## **ANSWER:**

### **Pascal's Triangle:**

```
n=int(input("Enter number of rows: "))
a=[]
for i in range(n):
    a.append([])
    a[i].append(1)
    for j in range(1,i):
        a[i].append(a[i-1][j-1]+a[i-1][j])
    if(n!=0):
        a[i].append(1)
for i in range(n):
    print("  "*(n-i),end=" ",sep=" ")
    for j in range(0,i+1):
        print('{0:6}'.format(a[i][j]),end=" ",sep=" ")
    print ()
```

## Question no5:

Write a recursive function to calculate the sum of numbers from 0 to 10

### Answer:

#### **Recursive Function:**

```
def reurSum(n):  
    if n<=0:  
        return n  
    return n+recurSum(n-1)  
  
#the driver code  
n=10  
print(recurSum(n))
```