1) Write a python program to accept the strings which contains all vowels

input:

```
flag=0

mystr=input('Enter a string: ')
mystr=mystr.lower()

vowels={'a':mystr.count('a'),'e':mystr.count('e'),'i':mystr.count('i'),'o':mystr.count('o'),'u':mystr.count('u')}
print(vowels)

countvalues=vowels.values()
print(countvalues)

for i in countvalues:
    if i == 0:
        flag=1
        break

if flag==1:
    print('Unacceptable')
else:
    print('Understabdable, have a nice day')
```

output:

```
Enter a string: hrishikesh kalidas wavhal  12342244 ]'\\'\'\[;
{'a': 4, 'e': 1, 'i': 3, 'o': 0, 'u': 0}
dict_values([4, 1, 3, 0, 0])
Unacceptable

Enter a string: permutation
{'a': 1, 'e': 1, 'i': 1, 'o': 1, 'u': 1}
dict_values([1, 1, 1, 1, 1])
Understabdable, have a nice day
```

---

2) Write a python program to find maximum frequency character in string

input:

```
mystr=input('Enter a string: ')

freq={ch:mystr.count(ch) for ch in mystr}
print(freq)


# max=0
# val=freq.values()
# for i in val:
```

```
#     if i > max:
#         max=i

# print(max)

val = max(freq,key=freq.get)
print(val)


# for ch in mystr:
#     if ch not in freq:
#         freq[ch]=1
#     else:
#         freq[ch]+=1
```

output:

```
Enter a string: hrishikesh
{'h': 3, 'r': 1, 'i': 2, 's': 2, 'k': 1, 'e': 1, ' ': 1}
h
```

---

3) Write a Python program to remove multiple empty spaces from string

input:

```
mystr=input('Enter a string: ')
mystr=mystr.replace(" ","")
print(mystr)
```

output:

```
Enter a string:     hrishikesh asabjhvs     a hfujsah hnr h ou eh
hrishikeshasabjhvsahfujsahhnrhoueh
```

---

4) Write a Python program to find words with both alphabets and numbers

input:

```
mystr=input('Enter a string :')
mylist=mystr.split(' ')
print(mylist)

l2=[]
for i in mylist:
    if any(chr.isalpha() for chr in i) and any(chr.isdigit() for chr in i):
        l2.append(i)

print(l2)
```

output:

Enter a string :hrishikesh neptune-sphere kman6969
['hrishikesh', 'neptune-sphere', 'kman6969']
['kman6969']

---

5) Write a Python program to removal all characters from a string except integers

input:

```
mystr=input('Enter a string: ')
dig=''
for i in mystr:
    if i.isdigit():
        dig+=i
print(dig)
```

output:

Enter a string: hrishikesh695341210kman741//*/-/30498723][\;'
69534121074130498723

---

6) Write a Python program to remove special symbols / punctuation from a string

```
mystr=input('Enter a string: ')
str2=''
for i in mystr:
    if i.isalnum():
        str2+=i
print(str2)
```

output:
Enter a string: .sfdfk;']\'\]'8309_+)_)kmansdi
sfdfk8309kmansdi

---

7) Write a program to count the numbers of characters in the string and store them in a dictionary data structure

input:

```
mystr=input('Enter a string:')
mydic={ch:mystr.count(ch) for ch in mystr}
print(mydic)
```

output:
Enter a string:hrishikesh kalidas wavhal

{'h': 4, 'r': 1, 'i': 3, 's': 3, 'k': 2, 'e': 1, ' ': 2, 'a': 4, 'l': 2, 'd': 1, 'w': 1, 'v': 1}

---

8) Write a python program to write functions for the following options

a) String Length

b) String Reverse

c) String Concatenation

d) String Comparison

input:

```
def mystrlen(mystr):
    cnt=0
    for i in mystr:
        cnt+=1
    print('Length is :',cnt)


def myrev(mystr):
    mystr1="".join(reversed(mystr))
    print(mystr1)

def myconcat(mystr):
    mystr2=input('Enter a string:')
    mystr3=mystr+mystr2
    print(mystr3)

def strcomp(mystr):
    mystr2=input('Enter second string:')
    if mystr>mystr2:
        print(mystr,"is greater")
    elif mystr==mystr2:
        print('Both strings are equal')
    elif mystr2>mystr:
        print(mystr2,'is greater')

mystr=input('Enter first string:')
print('---Length of the string---')
mystrlen(mystr)
print('---Reversing a string---')
myrev(mystr)
print('---concatenate a string---')
myconcat(mystr)
print('---compare two strings---')
strcomp(mystr)
```

output:

```
Enter first string:hrishikesh wavhal
---Length of the string---
Length is : 17
---Reversing a string---
lahvaw hsekihsirh
---concatenate a string---
Enter a string:neptune-sphere
hrishikesh wavhalneptune-sphere
---compare two strings---
Enter second string:hrishikesh
hrishikesh wavhal is greater
```

---

9) Write a python program to create a list, find largest of n numbers of a List. Write

input:

```
function to find largest number.
def largest(mylist):
    max=0
    for i in mylist:
        if(i>max):
            max=i
    return max



n=int(input('Enter number of elements : '))
mylist=[int(input('Enter element: ')) for i in range(0,n)]

print(mylist)

print('largest element is : ',largest(mylist))




# mylist=[]
# for i in range(0,n):
#     x=int(input('Enter Element : '))
#     mylist.append(x)
```

output:

```
Enter number of elements : 5
Enter element: 69
Enter element: -96
Enter element: 120
Enter element: -6000
Enter element: 450
```

[69, -96, 120, -6000, 450]
largest element is : 450
---

10) Write a python program to double a given number and add two numbers using

lambda()

input:

```
x=int(input('Enter a number: '))
lam1=lambda x : print(x+x)
lam1(x)

y=int(input('Enter first number'))
z=int(input('Enter first number'))
lam2=lambda y,z : print('addition is :',y+z)
lam2(y,z)
```

output:

```
Enter a number: 8
16
Enter first number65
Enter first number5
addition is : 70
```

---

11) Write a python program to combine two lists into a dictionary.

Input:

```
t1=["name","clg","age"]

t2=["abc","spc",34]
```

Expected output:

{'name': 'abc', 'clg': spc, 'age': 34}

input:

```
t1=["name","clg","age"]
t2=["abc","spc",34]

mydic={t1[i]:t2[i] for i in range(0,len(t1))}
print(mydic)
```

output:
{'name': 'abc', 'clg': 'spc', 'age': 34}

---

12) Write a python program to find mean, median, mode for the given set of numbers in a list.

input:

```
import statistics as stats

mylist=[2,54,3,435,35,43,13,54,3584,35,35,435,5,00]
x=stats.mean(mylist)
y=stats.median(mylist)
z=stats.mode(mylist)

print('means is :',x,'median is :',y,'mode is :',z)
```

output:
means is : 338.07142857142856 median is : 35.0 mode is : 35

---

13) With a python program to accept a number ‘n’, generate a dictionary that contains (i,

i*i) such that is a number between 1 and n (both included) and then the program

should print the dictionary.

Input:

8

Expected output:

{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64}

input:

```
n=int(input('Enter n:'))
mydic={i:i*i for i in range(1,n+1)}
print(mydic)
```

output:
Enter n:5
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25}

---

14) Write a python program that accepts a comma separated sequence of words as input

and prints the words in a comma-separated sequence after sorting them alphabetically.

Input:

without, hello, bag, world

Expected output:

bag, hello, without, world

input:

```
mystr=input('Enter string separated by comma: ')
mylist=mystr.split(',')
mylist.sort()
print(mylist)
```

output:
Enter string separated by comma: neptune-sphere,Hrishikesh,Swastika,kman
['Hrishikesh', 'Swastika', 'kman', 'neptune-sphere']

---

15) Write a program that accepts a sentence and calculate the number of letters and digits.

Input:

hello world! 123

Expected output:

LETTERS 10

DIGITS 3

input:

```
mystr=input('Enter a string: ')
lcnt=0
ncnt=0
for i in mystr:
    if i.isalpha():
        lcnt+=1
    if i.isdigit():
        ncnt+=1
print("letters: ",lcnt,"\nNumbers: ",ncnt)
```

output:

Enter a string: i am learning python and it is great
letters: 29
Numbers: 0

---

16) Write a python program which can filter even numbers in a list by using filter

function. The list is: [1,2,3,4,5,6,7,8,9,10].

input:

```
def even(mylist):
    return mylist%2==0

mylist=[1,2,3,4,5,6,7,8,9,10]
x=list(filter(even,mylist))
print(x)
```

output:
[2, 4, 6, 8, 10]

---

17) Write a python program to calculate a square of all elements of a list. Use map()

function

input:

```
def squares(x):
    return x*x

l1=[i for i in range(1,10+1)]
l2=list(map(squares,l1))
print("",l2)
```

output:
[1, 4, 9, 16, 25, 36, 49, 64, 81,100]

---

18) Write a python program to print the first half values in one line and the last half

values in one line with a given tuple (1,2,3,4,5,6,7,8,9,10).

1input:

```
mytup=(1,2,3,4,5,6,7,8,9,10)

for i in range (1,int(len(mytup)/2)+1):
    print(i,end=' ')

print()

i+=1
for j in range(i,int(len(mytup))+1):
    print(j,end=' ')
```

output:
1 2 3 4 5
6 7 8 9 10

---

19) Write a program to compute the number of characters, words and lines in a file.

-----Contents of file-----
hrishiikesh kalidas wavhal
Akash Somwanshi

input:

```
file = open("lorem.txt", "r")

nline = 0
nwords = 0
nchar = 0

for line in file:
  line = line.strip("\n")
  words = line.split(' ')
  nline += 1
  nwords += len(words)
  nchar += len(line)
file.close()

print('Characters',nchar)
print('words',nwords)
print('lines',nline)
```

output:

```
Characters 55
words 7
lines 3
```

---

20)Consider the following tuple and write the code for the following statements :

T1 = (12, 3, 45, ‘Hockey’, ‘Computer, (‘a’, ‘b’), [25, 50])

a) Display the first element of ‘T1’

b) Display the last element of ‘T1’

c) Display ‘T1’ in reverse order.

d) Display ‘Anil’ from tuple ‘T1’

e) Display ‘b’ from tuple ‘T1’

f) Display ‘50’ from tuple ‘T1’

input:

```
t1=(12,3,45,'Hockey','Computer',('a','b'),[25,50])
print("a) First Element: ",t1[0])
print("b) Last Element: ",t1[-1])
print("c) Reverse order: ",t1[::-1])
# print("d) Display Anil: ",t1.index('Anil'))
print("e) Display \'b\' from the tuple: ",t1[5][1])
```

```
print("f) Display 50 from t1: ",t1[6][1])
```

output:

```
a) First Element:  12
b) Last Element:  [25, 50]
c) Reverse order:  ([25, 50], ('a', 'b'), 'Computer', 'Hockey', 45, 3, 12)
e) Display 'b' from the tuple:  b
f) Display 50 from t1:  50
```