1.1 Write a Python Program(with class concepts) to find the area of the triangle using the below formula.
#area = (s*(s-a)*(s-b)*(s-c)) ** 0.5

```
def area_of_triangle():
    a=float(input("enter value of a:"))
    b=float(input("enter value of b:"))
    c=float(input("enter value of c:"))
    s = (a + b + c) / 2
    area = (s*(s-a)*(s-b)*(s-c)) ** 0.5
    print("the are of the triangle is:",area)
area_of_triangle()
```

1.2 Write a function filter_long_words() that takes a list of words and an integer n and returns the list of words that are longer than n.

```
def filter_long_words():
    num_words=int(input("enter the number of words to be inserted in list::"))
    n = int(input("enter word length 'n'::"))
    input_list=[]
    for i in range(num_words):
          input_elem=input("enter the words: \n")
          input_list.append(input_elem)
    print("List of words inserted:",input_list)

    result=[]
    for element in input_list:
        if len(element) > n:
            result.append(element)
    print("The list of words that are greater than length of ‘n’ are:",result)

filter_long_words()
```

2.1 Write a Python program using function concept that maps list of words into a list of integers representing the lengths of the corresponding words.

```
def map_to_lengths_of_words():
    num_inputs=int(input("enter the number of words to be inserted in list::"))
    input_list=[]
    for i in range(num_inputs):
          input_elem=input("enter the words: \n")
          input_list.append(input_elem)
    print("List of words inserted:",input_list)

    result=[]
    for element in input_list:
        if len(element):
            result.append(len(element))
    print("Length of each word in list :",result)

map_to_lengths_of_words()
```

2.2 Write a Python function which takes a character (i.e. a string of length 1) and returns True if it is a vowel, False otherwise.

```
def is_vowel(char):
    vowels = ('a', 'e', 'i', 'o', 'u')
    if char not in vowels:
        return False
    return True
if __name__ == "__main__":
    print( is_vowel(char = input("Enter character: ")[0]))
```