Assignment 04.

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
Function to take the length of the sides of triangle from user should be defined in the parent class and function to calculate the area should be defined in subclass.

Code:

```
class concepts:
    def __init__(self,a,b,c):
        self.a = a
        self.b = b
        self.c = c
class area(concepts):
    def __init__(self,*args):
        super().__init__(*args)
    def areaoftriangle(self):
        s = (self.a+self.b+self.c)/2
        area = float((s*(s-self.a)*(s-self.b)*(s-self.c)) **
0.5)
        return area

a = area(6,4,5)
print(a.areaoftriangle())
```

Output:

```
class concepts:
    def __init__(self,a,b,c):
        self.a = a
        self.b = b
        self.c = c
class area(concepts):
    def __init__(self,*args):
        super().__init__(*args)
    def areaoftriangle(self):
        s = (self.a+self.b+self.c)/2
        area = float((s*(s-self.a)*(s-self.b)*(s-self.c)) ** 0.5)
        return area

a = area(6,4,5)
print(a.areaoftriangle())

9.921567416492215
```

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.

Code:

```
def filter_long_words(l,a):
    words= []
    for i in l:
        if (len(i)>= a):
            words.append(i)
    return words
n= input("Enter the words:")
nt = n.split(",")
na= (input(" Enter the integer"))
long = filter_long_words(nt,int(na))
print(long)
```

output:

```
Enter the words:kamal
 Enter the integer2
['kamal']
```

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.
Hint: If a list [ab,cde,erty] is passed on to the python function output should come as [2,3,4] Here 2,3 and 4 are the lengths of the words in the list.

Code:

```
def maps(List):
    return list(map(len,List))
n = list(input(" provide input ").split(","))
length = maps(n)
print(length)
```

Output:

```
def maps(List):
    return list(map(len,List))
n = list(input(" provide input ").split(","))
length = maps(n)
print(length)
```

```
 provide input ab,cde,erty
[2, 3, 4]
```

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.

Code:

```
def vowel(char):
    if char == "a" or char == "e" or char == "i" or char =="o"
or char =="u":
        print("True")
    else:
        print("False")
n = input("enter the char:")

condition = vowel(n)

print(condition)
```

```
def vowel(char):
    if char == "a" or char == "e" or char == "i" or char =="o" or char =="u"
        print("True")
    else:
        print("False")
n = input("enter the char:")

condition = vowel(n)

print(condition)
```

```
enter the char:a
True
None
```