In [1]:

```
"""
1.1 Write a Python Program(with class concepts) to find the area of the triang
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 defir
class and function to calculate the area should be defined in subclass.
"""

class Triangle:
    def __init__(self, side1, side2, side3):
        self.side1 = side1
        self.side2 = side2
        self.side3 = side3
        print ("Triagle sides are Initialised in super class [" +  str(side1)

class Triangle_Utilities(Triangle):
    def __init__(self, side1, side2, side3):
        super(Triangle_Utilities, self).__init__(side1, side2, side3)
    def  get_area(self):
        s = (self.side1 + self.side2 + self.side3)/2
        return (s*(s-self.side1)*(s-self.side2)*(s-self.side3))*0.5

instance = Triangle_Utilities(3,4,5)
print ("Area of triangle = " + str(instance.get_area()) )
```

```
Triagle sides are Initialised in super class [3,4,5]
Area of triangle = 18.0
```

In [2]:

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

class list_Utilities:
    def __init__(self, wordlist):
        self.wordlist = wordlist

    def filter_long_words(self, n):
        return list(filter(lambda x:len(x) > n, self.wordlist))

instance = list_Utilities(["Mango","Banana","apple","berry","one","OK","test"]
print ("New List of Words  => " + str(instance.filter_long_words(4)) )
```

```
New List of Words  => ['Mango', 'Banana', 'apple', 'berry']
```

In [3]:
```
"""
2.1 Write a Python program using function concept that maps list of words into
representing the lengths of the corresponding words .
Hint: If a list [ ab,cde,erty] is passed on to the python function output shou
Here 2,3 and 4 are the lengths of the words in the list.

"""
wlst = ["My", "Name", "is", "Santosh"]

def wordlength(wordlist):
    return list(map(lambda x: len(x), wordlist))

print ("word lengths in array => " + str(wordlength(wlst)))
```

```
word lengths in array => [2, 4, 2, 7]
```

In [4]:
```
"""
2.2 Write a Python function which takes a character (i.e. a string of length 1
it is a vowel, False otherwise.
"""

def vowel_check(char):
    if(char == 'a' or char == 'e' or char == 'i' or char == 'o' or char == 'u'
        return True
    else:
        return False

# Take user input
Inchar = input("Enter character: ");

char=Inchar.lower()
# Invoke function
if (vowel_check(char)):
    print(Inchar, "is a vowel.");
else:
    print(Inchar, "is not a vowel.");
```

```
Enter character: a
a is a vowel.
```

In [ ]:
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1
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In [ ]:
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1
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In [ ]:
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In [ ]:
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In [ ]:
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In [ ]:
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In [ ]:
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1
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