ASSIGNMENT 4.1

Problem Statement 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:

In [41]:
```
class p1:
    def inp(self):
        a1=input("enter the first side:")
        a2=input("enter the second side:")
        a3=input("enter the third side:")

        a=int(a1,10)
        b=int(a2,10)
        c=int(a3,10)
        k=[a,b,c]
        return k
class cal(p1):
    def calculate(self):
        a=d[0]
        b=d[1]
        c=d[2]
        s=(a+b+c)/3
        area = (abs(s*(s-a)*(s-b)*(s-c))) ** 0.5
        print("AREA:",area)


inp1= p1()
cal1=cal()

d=inp1.inp()
cal1.calculate()
```

OUTPUT:

```
enter the first side:3
enter the second side:3
enter the third side:5
AREA: 1.4740554623801776
```

Problem Statement 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.

INPUT:

In [48]:
```
def filter_long_words(s,n):
    d=s.split(' ')
    l=len(d)
    list1=[]
    n1=int(n,10)
    for i in range(0,l):
        k=len(d[i])
        if(k>n1):
            list1.append(d[i])
    return(list1)



k=input("ENTER THE STRING:")
nt=input("ENTER THE LENGTH:")
list2=filter_long_words(k,nt)
print("WORDS GREATER THAN LENGTH",nt," ARE:",list2 )
```

OUTUT:

```
ENTER THE STRING:The man who wrote 800 mails to BCCI was caught on wednesday
ENTER THE LENGTH:3
WORDS GREATER THAN LENGTH 3  ARE: ['wrote', 'mails', 'BCCI', 'caught', 'wednesday']
```