1. Complete the following code to find the area of an equilateral triangle. Output should be as displayed

In [13]:
```python
import math

side = float(input("Enter the side of the equilateral triangle: "))

#formula for area of eq triangle
area = ((math.sqrt(3))/4)*pow(side,2)

print("\nThe area of the Equilateral Triangle with side {} is {}.".forma
t(side,round(area,3)))
```

```
Enter the side of the equilateral triangle: 3

The area of the Equilateral Triangle with side 3.0 is 3.897.
```

2. Write a program to count the number of each characters in a string

In [104]:
```python
#frequency of character using for loop

charlist = []
def charcount(string):

    for char in string:
        charlist.append(char)

    return charlist


string = input("Enter a word: ")
charcount(string)

print("\nThe count of each unique character in the word '{}' are:".forma
t(string))
for i in sorted(set(charlist)):
    print(i,"=",charlist.count(i))
```

```
Enter a word: statistics

The count of each unique character in the word 'statistics' are:
a = 1
c = 1
i = 2
s = 3
t = 3
```

In [3]:
```python
#another method - code by Sidharth

word=str(input('Enter the word\n'))
value={}
for i in word:
    if i in value:
        value[i]+=1
    else:
        value[i]=1
print('Count the number of characters\n', str(value))
```

```
Enter the word
statistics
Count the number of characters
 {'s': 3, 't': 3, 'a': 1, 'i': 2, 'c': 1}
```

In [2]:
```python
#another method - code by Akshaya V
strA=input("enter the string:")
res = {}
res={n: strA.count(n) for n in set(strA)}
print("frequency of each character :\n", res)
```

```
enter the string:statistics
frequency of each character :
 {'a': 1, 's': 3, 't': 3, 'i': 2, 'c': 1}
```

3. Write a program to find the area and perimeter of a rectangle using functions

In [17]:
```python
def area_peri():
    l = float(input("Enter the length of the Rectangle: "))
    b = float(input("Enter the breadth/ width of the Rectangle: "))

    #formula of area and perimeter
    area = l*b
    perimeter = 2*(l+b)

    return area, perimeter

x,y=area_peri()

print("\nArea of the given Rectangle is {}.".format(x))
print("Perimeter of the given Rectangle is {}.".format(y))
```

```
Enter the length of the Rectangle: 3
Enter the breadth/ width of the Rectangle: 2

Area of the given Rectangle is 6.0.
Perimeter of the given Rectangle is 10.0.
```

4. Write a program to print the fibonacci series till a specified number

Finonacci Sequence: It has each number as the sum of the two preceding ones, starting from 0 and 1.

In [82]:
```python
def fibo():

    #limiting number for the series
    limit = int(input("Enter the limit for the Fibonacci Sequence: "))
    #for example, if limit is 7, series printed will be 0,1,1,2,3,5

    #first 2 terms of fib seq
    t1, t2 = 0, 1

    #counter can be used to print first x terms of the series
    count = 0

    #fib series is only for 0 and above numbers
    if limit <= 0:
        print("Enter a positive integer")

    elif limit == 1:
        print("Fibonacci sequence upto {} are as follows:".format(limit
))
        print(t1)


    else:
        print("Fibonacci sequence upto {} are as follows:\n".format(limi
t))

    #printing series elements below limit
    while t1 <= limit:
        print(t1)
        nxt = t1 + t2

        #new t1 and t2
        t1 = t2
        t2 = nxt
        count += 1

fibo()
```

```
Enter the limit for the Fibonacci Sequence: 11
Fibonacci sequence upto 11 are as follows:

0
1
1
2
3
5
8
```

In [4]:
```python
#Fibonacci with Limit of terms - code by Sidharth

def Fibonacci(num):
            if num == 0:
                        return 0
            elif num == 1:
                        return 1
            else:
                        return (Fibonacci(num-2)+Fibonacci(num-1))
n = int(input('Enter the limit\n'))
print('fibonacci Series')
for n in range(0,n):
            print(Fibonacci(n),end=' ')
```

```
Enter the limit
9
fibonacci Series
0 1 1 2 3 5 8 13 21
```

In [1]:
```python
#Fibonacci with Limit of terms - code by Shiffa
n = int(input("Enter the value of 'n': "))
a = 0
b = 1
sum = 0
count = 1
print("Fibonacci Series: ", end = " ")
while(count <= n):
  print(sum, end = " ")
  count += 1
  a = b
  b = sum
  sum = a + b
```

```
Enter the value of 'n': 10
Fibonacci Series:  0 1 1 2 3 5 8 13 21 34
```

5. Complete the following code to find the minimum of 3 number using conditional statements. Output should be as displayed.

In [65]:
```python
a,b,c = input("Enter three numbers followed by comma: ").split(",")

print("\nFollowing are the numbers you entered:\n")
print("First number :",a)
print("Second number :",b)
print("Third number :",c)

def minofnum():

    if a == b == c:
        print("Entered numbers are equal!!!")

    elif min(a,b,c) == a:
        print("\na with value {} is the smallest number!".format(a))

    elif min(a,b,c) == b:
        print("\nb with value {} is the smallest number!".format(b))

    else:
        print("\nc with value {} is the smallest number!".format(c))

minofnum()
```

```
Enter three numbers followed by comma: 4,8,1

Following are the numbers you entered:

First number : 4
Second number : 8
Third number : 1

c with value 1 is the smallest number!
```

6. Write a program to print star pyramind. The number of rows should be taken as input from the user.

In [103]:
```python
def pyramid_pattern():

    row = int(input("Enter number of rows: \n"))

    count = 0

    for i in range(1, row+1):
        for gap in range(1, (row-i)+1):
            print(end="  ")

        while count!=(2*i-1):
            print("* ", end="")
            count += 1

        count = 0
        print()

pyramid_pattern()
```

```
Enter number of rows:
4
      *
    * * *
  * * * * *
* * * * * * *
```

In [2]:
```python
#alternative code by Navaneeth
n=int(input('Enter the number of rows '))
for i in range(0,n):
    print(' '*(n-i),'*'*(2*i+1))
```

```
Enter the number of rows 5
      *
     ***
    *****
   *******
  *********
```

7. Complete the following code to convert hour into seconds. Output should be as displayed

In [47]:
```python
def to_seconds(t):
    sec = t*60
    return sec

t = float(input("Enter time in hours: "))
print("\n")
print(t ,"Hours equals" ,to_seconds(t) ,"Seconds")
```

```
Enter time in hours: 4


4.0 Hours equals 240.0 Seconds
```

8. Write a program to print multiplication table as below

In [38]:
```python
def mult():
    for i in range(1,11):
        print(n,"x",i ,"is",n*i)

n = int(input("Enter the number: "))
print("\nMultiplication table till 10 for the number {} is:\n".format(n
))
mult()
```

```
Enter the number: 9

Multiplication table till 10 for the number 9 is:

9 x 1 is 9
9 x 2 is 18
9 x 3 is 27
9 x 4 is 36
9 x 5 is 45
9 x 6 is 54
9 x 7 is 63
9 x 8 is 72
9 x 9 is 81
9 x 10 is 90
```

9. Write a program to take your 5 favorite food as list and print each as 'I like Biriyani'

In [58]:
```python
food_list = []

def foodlist():
    for i in range(5):
        food = input("Enter you favorite food: ")
        food_list.append(food)

    return food_list

fav_food = foodlist()
print("\n")
for item in fav_food:
    print("I like {}.".format(item.title()))
```

```
Enter you favorite food: biryani
Enter you favorite food: noodles
Enter you favorite food: puttu
Enter you favorite food: masala dosa
Enter you favorite food: ghee rice


I like Biryani.
I like Noodles.
I like Puttu.
I like Masala Dosa.
I like Ghee Rice.
```

10. Find error(s) in the following code(if any) and rewrite code.

In [60]:
```python
#erroneous code
x= int(”Enter value of x:”)
for in range [0,10]:
     if x=y
          print("They are equal")
     else:
         Print( "They are unequal")
```

```
  File "<ipython-input-60-d44f7b9db0c7>", line 2
    x= int(”Enter value of x:”)
               ^
SyntaxError: invalid character in identifier
```

In [61]:
```python
#corrected code

x= int(input("Enter value of x:"))

for y in range(0,10):
    if x==y:
        print("\nX and Y are equal")

    else:
        print("\nX and Y are unequal")
```

```
Enter value of x:8

X and Y are unequal

X and Y are unequal

X and Y are unequal

X and Y are unequal

X and Y are unequal

X and Y are unequal

X and Y are unequal

X and Y are unequal

X and Y are equal

X and Y are unequal
```

In [3]:
```python
#Submitted by DSA_B3 [Group12]
#GroupMembers: Sujith Narayanan, Sidharth S, Akshaya V, Shiffa Saleem, N
avaneeth R
```

- END -