In [1]:
```
#1
from datetime import date
s = date(2019,7,12)
d = date(2019,10,13)
p = (d - s)
print("The number of days between two dates is", p)
```

```
The number of days between two dates is 93 days, 0:00:00
```

In [2]:
```
#2
from math import pi
from math import sin
#16 feet and 75 degrees
height1=float(16 * sin(75 * pi/180))
print(height1)
#20 feet and 0 degrees
height2=float(20 * sin(0 * pi/180) )
print(height2)
#24 feet and 45 degrees
height3=float(24 * sin(45 * pi/180))
print(height3)
#24 feet and 80 degrees
height4=float(24 * sin(80 * pi/180))
print(height4)
```

```
15.454813220625093
0.0
16.97056274847714
23.63538607229299
```

In [3]:
```
#3(a)
lst = [1, 2, 3, 4, 5]
lengthoflist = len(lst)
middle_index = int(lengthoflist/2)
print(middle_index)

#b
lst = [1, 2, 3, 4 ,5]
middle_element = len(lst)
print(middle_element)

#c
lst = [1, 2, 3, 4, 5]
lst.sort(reverse = True)
print(lst)

#d
lst = [1, 2, 3, 4, 5]
lst.extend([3])
print(lst)
```

```
        2
        5
        [5, 4, 3, 2, 1]
        [1, 2, 3, 4, 5, 3]
```

In [3]:
```
#4(A)
lst1 = ["jan", "feb", "march", "april", "may", "june"]
#lst1 = ["jan", "feb", "april", "may", "june"]
#insert march at the 3rd index of the list
lst1.insert(3, "march")
print(lst1)

str1 = "jan"
str2 = "feb"
str3 = "march"
str4 = "april"
str5 = "may"
str6 = "june"
str7 = str1 + str2 + str3 + str4 + str5 + str6
print(str7)

['jan', 'feb', 'march', 'march', 'april', 'may', 'june']
janfebmarchaprilmayjune
```

In [4]:
```
#B
months = ["jan", "feb", "march", "april", "may", "june"]
#append str("may")
print(months)

['jan', 'feb', 'march', 'april', 'may', 'june']
```

In [5]:
```
#C
months = ["jan", "feb", "march", "april", "may", "june"]
#using pop () to delete element from right end
months.pop()

'june'
```

In [6]:
```
#D
monthsl = ["jan", "feb", "march", "april", "may", "june"]
monthst = ["jan", "feb", "march", "april", "may", "june"]
monthsl.remove("feb")
print(monthsl)
monthst.remove("june")
print(monthst)

['jan', 'march', 'april', 'may', 'june']
['jan', 'feb', 'march', 'april', 'may']
```

In [7]:
```
#E
months = ["jan", "feb", "march", "april", "may", "june"]
def Reverse(months):
    return[ele for ele in reversed(months)]
#driver code
print(Reverse(months))
```

```
['june', 'may', 'april', 'march', 'feb', 'jan']

In [8]: #F
        months = ["jan", "feb", "march", "april", "may", "june"]
        #sorting list of months list in ascending
        months.sort()
        print(months)

        months = ["jan", "feb", "march", "april", "may",]
        lst1 = ["jan", "feb", "march", "april", "may",]
        #sorting list of months in decending
        months.sort(reverse = True)
        print(months)
        print(lst1)

        ['april', 'feb', 'jan', 'june', 'march', 'may']
        ['may', 'march', 'jan', 'feb', 'april']
        ['jan', 'feb', 'march', 'april', 'may']


In [9]: #5
        #the number of characters in word "anachornistically" is 1
more than "counterintuitive"
        first=len("anachornistically")
        second=len("counterintuitive")
        if first > second:
            print("It is 1 character greater")
        else:
            print("number of characters are same")
        #the letter 'e' does not appear in word
"flocciunaucinihilipilification"
        characters=("flocciunaucinihilipilification")
        find = "e"
        if find in characters:
        print("Avakiable")
        else:
            print("Not Avaliable")
            #the number of characters in word "counterrevolution" is
equal to the sum of characters of"counter" and "revolution"
        summ=len("counterrevolution")
        first=len("counter")
        second=len("revolution")
        tsum=first+second

        if summ == tsum:
            print("Summ of characters are equal")
        else:
            print("Summ of characters are not equal")

        It is 1 character greater
        Not Avaliable
        Summ of characters are equal
```