In [1]:

```
from datetime import date
first_date = date(2019, 10, 29)
second_date = date(2019, 11, 2)
difference = second_date - first_date
print(difference.days)
```

```
4
```

In [4]:

```
from math import *
length = int(input("Please enter the length of the ladder: "))
deg = int(input("Please enter the angle of the ladder in degrees: "))
rad = (pi/180) * deg
height = length * (sin(rad))
print("The height of the ladder must be ", height)
```

```
Please enter the length of the ladder: 16
Please enter the angle of the ladder in degrees: 75
The height of the ladder must be  15.454813220625093
```

In [5]:

```
from math import *
length = int(input("Please enter the length of the ladder: "))
deg = int(input("Please enter the angle of the ladder in degrees: "))
rad = (pi/180) * deg
height = length * (sin(rad))
print("The height of the ladder must be ", height)
```

```
Please enter the length of the ladder: 20
Please enter the angle of the ladder in degrees: 0
The height of the ladder must be  0.0
```

In [6]:

```
from math import *
length = int(input("Please enter the length of the ladder: "))
deg = int(input("Please enter the angle of the ladder in degrees: "))
rad = (pi/180) * deg
height = length * (sin(rad))
print("The height of the ladder must be ", height)
```

```
Please enter the length of the ladder: 24
Please enter the angle of the ladder in degrees: 45
The height of the ladder must be  16.970562748477143
```

In [7]:

```
from math import *
length = int(input("Please enter the length of the ladder: "))
deg = int(input("Please enter the angle of the ladder in degrees: "))
rad = (pi/180) * deg
height = length * (sin(rad))
print("The height of the ladder must be ", height)
```

```
Please enter the length of the ladder: 24
Please enter the angle of the ladder in degrees: 80
The height of the ladder must be  23.63538607229299
```

In [5]:

```
#3(a)
numbers = ['1','2','3','4','5']
```

```
print(numbers.index('3'))
print("\n\t")
#3(b)
print(numbers[2])
print("\n\t")
#3(c)
numbers.sort(reverse=True)
print(numbers)
print("\n\t")
#3(d)
numbers.remove(numbers[0])
numbers.insert(4,'1')
print(numbers)
```

```
2


3


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


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

In [3]:

```
#4(c)
original = ['jan','feb','mar','may']
print(original)
#4(a)
print(original.insert(3,"apr"))
print(original)
#4(b)
print(original.append("jun"))
print(original)
#4(d)
print(original.remove("feb"))
print(original)
#4(e)
print(original.reverse())
print(original)
#4(f)
print(original.sort())
print(original)
```

```
['jan', 'feb', 'mar', 'may']
None
['jan', 'feb', 'mar', 'apr', 'may']
None
['jan', 'feb', 'mar', 'apr', 'may', 'jun']
None
['jan', 'mar', 'apr', 'may', 'jun']
None
['jun', 'may', 'apr', 'mar', 'jan']
None
['apr', 'jan', 'jun', 'mar', 'may']
```

In [5]:

```
#the number of characers 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("Numbers of characters are same")
#the letter 'e' doesnot appear in word 'floccinaucinihilification'
characters=("floccinaucinihilification")
find="e"
if find in characters:
    print("available")
else:
```

```
else:
    print("Not available")
#the number of characters in the word "counterrevolution" is equal to the sum of characters of "co
unter" and "revolution"
sum=len("counterrevolution")
first=len("counter")
second=len("revolution")
tsum=first+second

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

```
it is 1 character greater
Not available
Summ of characters are equal
```

In [12]:

```
#6(a)
a = 6
b = 7
#6(b)
c = a+b/2
print(c)
```

```
9.5
```

In [13]:

```
#6(c)
inventory = ('paper','pencile','staples')
print(inventory)
```

```
('paper', 'pencile', 'staples')
```

In [14]:

```
#6(d)
first = "john"
middle = "Fitzgerald"
last = "kennedy"
#6(d)
fullname = first + " " + middle + " " + last
print(fullname)
```

```
john Fitzgerald kennedy
```