In [ ]:
```
# Gul e hasnain  19B-010-SE  section: A
```

In [11]:
```
# ex 1
from datetime import date
first_date = date(2019, 10, 1)
last_date = date(2019, 10, 29)
diff = last_date - first_date
print(diff.days)
```

```
28
```

In [103]:
```
# ex 2
from math import pi
from math import sin
# part a
length = 16
angle = 75
radian = (pi * angle) / 180
print(radian)
height = length * sin(radian)
print(height)
# part b
length = 20
angle = 0
radian = (pi * angle) / 180
print(radian)
height = length * sin(radian)
print(height)
# part c
length = 24
angle = 45
radian = (pi * angle) / 180
print(radian)
height = length * sin(radian)
print(height)
# part d
length = 24
angle = 80
radian = (pi * angle) / 180
print(radian)
height = length * sin(radian)
print(height)
```

```
1.3089969389957472
15.454813220625093
0.0
0.0
0.7853981633974483
16.970562748477143
1.3962634015954636
23.63538607229299
```

In [130]:
```
# ex 3
# part a
lst = [2, 3, 8, 12, 10, 6, 5, 9]
lengthOfList = len(lst)
print(lengthOfList)
middle_index = int(lengthOfList / 2)
print(middle_index)
# part b
print(lst[middle_index])
# part c
lst.sort(reverse = True)
print(lst)
# part d
lst = [2, 3, 8, 12, 10, 6, 5, 9]
lst.remove(2)
print(lst)
lst.extend([2])
print(lst)
```

```
8
4
10
[12, 10, 9, 8, 6, 5, 3, 2]
[3, 8, 12, 10, 6, 5, 9]
[3, 8, 12, 10, 6, 5, 9, 2]
```

In [83]:
```
# ex 4
monthsL = ["Jan", "Feb", "Mar", "May"]
monthsT = ("Jan", "Feb", "Mar", "May")
# part a
monthsL.insert(3, "Apr")
print(monthsL)
monthsT.insert(3, "Apr")
print(monthsT)
```

```
['Jan', 'Feb', 'Mar', 'Apr', 'May']

---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
<ipython-input-83-fbb946215696> in <module>
      5 monthsL.insert(3, "Apr")
      6 print(monthsL)
----> 7 monthsT.insert(3, "Apr")
      8 print(monthsT)

AttributeError: 'tuple' object has no attribute 'insert'
```

In [84]:
```
# ex 4
# part b
monthsL = ["Jan", "Feb", "Mar", "May"]
monthsT = ("Jan", "Feb", "Mar", "May")
monthsL.append("Jun")
print(monthsL)
monthsT.append("Jun")
print(monthsT)
```

```
['Jan', 'Feb', 'Mar', 'May', 'Jun']

---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
<ipython-input-84-a2177ecb3745> in <module>
      5 monthsL.append("Jun")
      6 print(monthsL)
----> 7 monthsT.append("Jun")
      8 print(monthsT)

AttributeError: 'tuple' object has no attribute 'append'
```

In [86]:
```
# ex 4
# part c
monthsL = ["Jan", "Feb", "Mar", "May"]
monthsT = ("Jan", "Feb", "Mar", "May")
monthsL.pop()
print(monthsL)
monthsT.pop()
print(monthsT)
```

```
['Jan', 'Feb', 'Mar']

---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
<ipython-input-86-01d321922348> in <module>
      5 monthsL.pop()
      6 print(monthsL)
----> 7 monthsT.pop()
      8 print(monthsT)

AttributeError: 'tuple' object has no attribute 'pop'
```

In [91]:
```
# ex 4
# part d
monthsL = ["Jan", "Feb", "Mar", "May"]
monthsT = ("Jan", "Feb", "Mar", "May")
monthsL.remove("Feb")
print(monthsL)
monthsT.remove("Feb")
print(monthsT)
```

```
['Jan', 'Mar', 'May']

---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
<ipython-input-91-c57fc7dc2f93> in <module>
      5 monthsL.remove("Feb")
      6 print(monthsL)
----> 7 monthsT.remove("Feb")
      8 print(monthsT)

AttributeError: 'tuple' object has no attribute 'remove'
```

In [92]:
```
# ex 4
# part e
monthsL = ["Jan", "Feb", "Mar", "May"]
monthsT = ("Jan", "Feb", "Mar", "May")
monthsL.reverse()
print(monthsL)
monthsT.reverse()
print(monthsT)
```

```
['May', 'Mar', 'Feb', 'Jan']

---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
<ipython-input-92-2c1b4a7a03ad> in <module>
      5 monthsL.reverse()
      6 print(monthsL)
----> 7 monthsT.reverse()
      8 print(monthsT)

AttributeError: 'tuple' object has no attribute 'reverse'
```

In [93]:
```
# ex 4
# part f
monthsL = ["Jan", "Feb", "Mar", "May"]
monthsT = ("Jan", "Feb", "Mar", "May")
monthsL.sort()
print(monthsL)
monthsT.sort()
print(monthsT)
```

```
['Feb', 'Jan', 'Mar', 'May']

---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
<ipython-input-93-e1dfeea40f70> in <module>
      5 monthsL.sort()
      6 print(monthsL)
----> 7 monthsT.sort()
      8 print(monthsT)

AttributeError: 'tuple' object has no attribute 'sort'
```

In [6]:
```
# ex 5
# part a
print("The number of characters in the word anachronistically is 1 more than the
#part b
print("The word misinterpretation appears earlier in the dictionary than the wordr
#part c
print("The letter e does not appear in the word floccinaucinihilipilification.")
#part d
print("The number of the character in the word counterrevolution is equal to sum o
```

```
The number of characters in the word anachronistically is 1 more than the numbe
r of characters in word counterintuitive
The word misinterpretation appears earlier in the dictionary than the wordmisre
presentation
The letter e does not appear in the word floccinaucinihilipilification.
The number of the character in the word counterrevolution is equal to sum of th
e number of character in the words counter and revolution.
```

In [98]:
```
# ex 6
# part a
a = 6
b = 7
# part b
c = ((a + b) / 2)
print(c)
# part c
inventory = ['paper', 'staples', 'pencils']
# part d
first = 'John'
middle = 'Fitzgerald'
last = 'Kennedy'
# part e
fullname = first + " " + middle + " " + last
print("My fullname is " + fullname)
```

```
6.5
My fullname is John Fitzgerald Kennedy
```