# Practice Problem of chp 2

**EXERCISE:**

**PROBLEM 1:**

**(A)**

In [14]:

numbers = ((-1)+(-2)+(-3)+(-4)+(-5)+(-6)+(-7))

print("sum of negative integers:",numbers)

sum of negative integers: -28

**(B)**

In [15]:

2\*(-20)

Out[15]:

-40

**(C)**

In [17]:

4356//61

Out[17]:

71

**(D)**

In [18]:

4356%61

Out[18]:

25

**PROBLEM 2:**

In [36]:

s = 'abcdefghijkmnopqrstuvwxyz'

s[0]

Out[36]:

'a'

In [32]:

s = 'abcdefghijkmnopqrstuvwxyz'

s[-1]

Out[32]:

'z'

In [37]:

s = 'abcdefghijkmnopqrstuvwxyz'

s[-2]

Out[37]:

'y'

In [39]:

s = 'abcdefghijkmnopqrstuvwxyz'

s[-10]

Out[39]:

'q'

**PROBLEM 3:**

**(A)**

In [1]:

s = 'goodbye'

s[0] **is** 'g'

Out[1]:

True

**(B)**

In [24]:

s = 'goodbye'

s[-1] **is** 'g'

Out[24]:

False

**(C)**

In [25]:

s = 'goodbye'

s[2] **is** 'g' **and** 'a'

Out[25]:

False

**(D)**

In [12]:

s = 'goodbye'

s[-2] **is** 'x'

Out[12]:

False

**(E)**

In [14]:

s = 'goodbye'

s[3] **is** 'd'

Out[14]:

True

**(F)**

In [15]:

s = 'goodbye'

s[0]==s[-1]

Out[15]:

False

**(G)**

In [22]:

s = 'goodbye'

s[-4:] == 'tion'

Out[22]:

False

**PROBLEM 4:**

**(A)**

In [9]:

word = "anachronistically" **and** "counterintuitive"

word.count(word)

Out[9]:

1

**(B)**

In [11]:

word = "flocccinaucinihilipilification"

'e' **not** **in** word

Out[11]:

True

**(C)**

In [12]:

word = "counterrevolution"

word2 = "counter" + "resolution"

word == word2

Out[12]:

False

**PROBLEM 5:**

**(A)**

In [17]:

a = 7

b = 7

c = a+b/2

print("c:", c)

c: 10.5

**(B)**

In [ ]:

inventory = lst['paper', 'staples','pencils']

**(C)**

In [28]:

first = 'John'

middle = 'Fitzgerald'

last = 'kennedy'

fullname = "John" + "Fitzgerald" + "kennedy"

print("fullname:",fullname)

fullname: JohnFitzgeraldkennedy

**PROBLEM 6:**

**(A)**

In [30]:

17 + (-9) <10

Out[30]:

True

**(B)**

In [36]:

inventory = ['paper', 'staples','pencils']

fullname = "John" + "Fitzgerald" + "kennedy"

len(inventory) >= len(fullname)

Out[36]:

False

**(C)**

In [43]:

a = 6

b = 7

c < 24

Out[43]:

True

**PROBLEM 7:**

**(A)**

In [47]:

flowers = ['rose', 'bougainvillea', 'yucca', 'marigold', 'daylilly', 'lilly of the valley']

'potato' **in** [flowers]

Out[47]:

False

**(B)**

In [51]:

thorny = ['rose', 'bougainvillea', 'yucca']

poisonous = ['lilly of the valley']

dangerous = [thorny + poisonous]

print("dangerous:", dangerous)

dangerous: [['rose', 'bougainvillea', 'yucca', 'lilly of the valley']]

**PROBLEM 8:**

**(A)**

In [2]:

answers = ['Y', 'N', 'N', 'Y', 'N', 'Y', 'Y', 'Y', 'N', 'N', 'N']

numYes = answers.count('Y')

print(numYes)

5

**(B)**

In [3]:

answers = ['Y', 'N', 'N', 'Y', 'N', 'Y', 'Y', 'Y', 'N', 'N', 'N']

numNo = answers.count('N')

print(numNo)

6

**(C)**

In [8]:

answers = ['Y', 'N', 'N', 'Y', 'N', 'Y', 'Y', 'Y', 'N', 'N', 'N']

answers.sort()

print(answers)

['N', 'N', 'N', 'N', 'N', 'N', 'Y', 'Y', 'Y', 'Y', 'Y']

**(D)**

In [11]:

answers = ['N', 'N', 'N', 'N', 'N', 'N', 'Y', 'Y', 'Y', 'Y', 'Y']

f = answers.index('Y')

print(f)

6

**PROBLEM 9:**

**(A)**

In [15]:

monthsL = ['Jan', 'Feb', 'Mar', 'May']

monthsL.insert(3,'Apr')

print('monthsL:', monthsL)

monthsT = ('Jan', 'Feb', 'Mar', 'May')

monthsT.insert(3,'Apr')

print('monthsT:', monthsT)

monthsL: ['Jan', 'Feb', 'Mar', 'Apr', 'May']

---------------------------------------------------------------------------

AttributeError Traceback (most recent call last)

<ipython-input-15-c1fcd4ba91b3> in <module>

3 print('monthsL:', monthsL)

4 monthsT = ('Jan', 'Feb', 'Mar', 'May')

----> 5 monthsT.insert(3,'Apr')

6 print('monthsT:', monthsT)

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

**(B)**

In [16]:

monthsL = ['Jan', 'Feb', 'Mar', 'May']

monthsL.append('Jun')

print('monthsL:', monthsL)

monthsT = ('Jan', 'Feb', 'Mar', 'May')

monthsT.append('Jun')

print('monthsT:', monthsT)

monthsL: ['Jan', 'Feb', 'Mar', 'May', 'Jun']

---------------------------------------------------------------------------

AttributeError Traceback (most recent call last)

<ipython-input-16-36679ad6b856> in <module>

3 print('monthsL:', monthsL)

4 monthsT = ('Jan', 'Feb', 'Mar', 'May')

----> 5 monthsT.append('Jun')

6 print('monthsT:', monthsT)

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

**(C)**

In [17]:

monthsL = ['Jan', 'Feb', 'Mar', 'May']

monthsL.pop()

print('monthsL:', monthsL)

monthsT = ('Jan', 'Feb', 'Mar', 'May')

monthsT.pop()

print('monthsT:', monthsT)

monthsL: ['Jan', 'Feb', 'Mar']

---------------------------------------------------------------------------

AttributeError Traceback (most recent call last)

<ipython-input-17-b5a798c68858> in <module>

3 print('monthsL:', monthsL)

4 monthsT = ('Jan', 'Feb', 'Mar', 'May')

----> 5 monthsT.pop()

6 print('monthsT:', monthsT)

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

**(D)**

In [21]:

monthsL = ['Jan', 'Feb', 'Mar', 'May']

monthsL.remove('Feb')

print('monthsL:', monthsL)

monthsT = ('Jan', 'Feb', 'Mar', 'May')

monthsT.remove('Feb')

print('monthsT:', monthsT)

monthsL: ['Jan', 'Mar', 'May']

---------------------------------------------------------------------------

AttributeError Traceback (most recent call last)

<ipython-input-21-8749ad8a5b60> in <module>

3 print('monthsL:', monthsL)

4 monthsT = ('Jan', 'Feb', 'Mar', 'May')

----> 5 monthsT.remove('Feb')

6 print('monthsT:', monthsT)

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

**(E)**

In [22]:

monthsL = ['Jan', 'Feb', 'Mar', 'May']

monthsL.reverse()

print('monthsL:', monthsL)

monthsT = ('Jan', 'Feb', 'Mar', 'May')

monthsT.reverse()

print('monthsT:', monthsT)

monthsL: ['May', 'Mar', 'Feb', 'Jan']

---------------------------------------------------------------------------

AttributeError Traceback (most recent call last)

<ipython-input-22-bc582bb1ba1c> in <module>

3 print('monthsL:', monthsL)

4 monthsT = ('Jan', 'Feb', 'Mar', 'May')

----> 5 monthsT.reverse()

6 print('monthsT:', monthsT)

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

**(F)**

In [23]:

monthsL = ['Jan', 'Feb', 'Mar', 'May']

monthsL.sort()

print('monthsL:', monthsL)

monthsT = ('Jan', 'Feb', 'Mar', 'May')

monthsT.sort()

print('monthsT:', monthsT)

monthsL: ['Feb', 'Jan', 'Mar', 'May']

---------------------------------------------------------------------------

AttributeError Traceback (most recent call last)

<ipython-input-23-a044a7ac66dd> in <module>

3 print('monthsL:', monthsL)

4 monthsT = ('Jan', 'Feb', 'Mar', 'May')

----> 5 monthsT.sort()

6 print('monthsT:', monthsT)

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

**PROBLEM 10:**

In [28]:

grades = ('B','B','F','C','B','A','A','D','C','D','A','A','B')

count = []

count.append(grades.count('A'))

count.append(grades.count('B'))

count.append(grades.count('C'))

count.append(grades.count('D'))

count.append(grades.count('F'))

print('count.append(grades.count)',count)

count.append(grades.count) [4, 4, 2, 2, 1]

**PROBLEM 11:**

In [26]:

grades = ('B','B','F','C','B','A','A','D','C','D','A','A','B')

count = []

count.append(grades.count('A'))

count.append(grades.count('B'))

count.append(grades.count('C'))

count.append(grades.count('D'))

count.append(grades.count('F'))

print('count.append(grades.count)',count)

count.append(grades.count) [4, 4, 2, 2, 1]

**PROBLEM 12:**

In [27]:

s = 'top'

s[::-1]

Out[27]:

'pot'

**PROBLEM 13:**

In [2]:

lst = [3, 7, -2, 12]

max(lst)-min(lst)

Out[2]:

14

**PROBLEM 14:**

In [32]:

**from** **math** **import** sin

length = [16,20,24,24]

angle = [75,0,45,80]

**for** a **in** angle:

radians = (22/7)\*a/180

**for** b **in** length:

height = b\*sin(radians)

print("Height = " , height)

Height = 15.456992901485119

Height = 19.3212411268564

Height = 23.185489352227677

Height = 23.185489352227677

Height = 0.0

Height = 0.0

Height = 0.0

Height = 0.0

Height = 11.317284449359697

Height = 14.146605561699621

Height = 16.975926674039545

Height = 16.975926674039545

Height = 15.758482990951048

Height = 19.69810373868881

Height = 23.63772448642657

Height = 23.63772448642657

**PROBLEM 15:**

**(A)**

In [36]:

lst = [1, 2, 3, 4, 5]

MidIndex = (int(len(lst)/2))

print(MidIndex)

2

**(B)**

In [56]:

lst = [1, 2, 3, 4, 5]

lst[MidIndex]

Out[56]:

3

**(C)**

In [55]:

lst = [1, 2, 3, 4, 5]

lst.sort(reverse = **True**)

print(lst)

[5, 4, 3, 2, 1]

**(D)**

In [59]:

lst = [1, 2, 3, 4, 5]

lst.remove(1)

lst.append(1)

print(lst)

[2, 3, 4, 5, 1]

**PROBLEM 16:**

**(A)**

In [103]:

0 == (1 == 2)

Out[103]:

True

**(B)**

In [111]:

2 + (3 == 4) + 5 == 7

Out[111]:

True

**(C)**

In [101]:

(1 < -1) == (3 > 4)

Out[101]:

True

**PROBLEM 17:**

In [162]:

s = 'Tony'

t = 'Stark'

s[0]+t[0]

Out[162]:

'TS'

**PROBLEM 18:**

In [2]:

s = 'Python'

lst = list(s)

print('lst', lst)

*#When we put 'Lst Contructor' around a sting, it turns string into the list..*

lst ['P', 'y', 't', 'h', 'o', 'n']