Exercise 1

26/26 points (graded)

**ESTIMATED TIME TO COMPLETE: 5 minutes**  
**Note that you will have to answer all questions before you can click the Check button.**

For each of the expressions below, specify its type and value. If it generates an error, select type 'NoneType' and put the word 'error' in the box for the value.

Assume we've made the following assignment:

x = (1, 2, (3, 'John', 4), 'Hi')

[Hints: Single Element Tuples](https://courses.edx.org/xblock/block-v1:MITx+6.00.1x+1T2021+type@vertical+block@e66e0f5b07d34f6bb835db1620cb5dd9?show_title=0&show_bookmark_button=0&recheck_access=1&view=student_view&format=Finger%20Exercises)

When a tuple has only one element, you must specify it as follows: (elt,). Here is an example shell session that illustrates the difference:

>>> tup1 = (5)

>>> print(tup1)

5

>>> type(tup1)

<type 'int'>

>>> tup2 = (5,)

>>> print(tup2)

(5,)

>>> type(tup2)

<type 'tuple'>

x[0]





x[2]





x[-1]





x[2][2]





x[2][-1





x[-1][-1]





x[-1][2]





x[0:1]





x[0:-1]





len(x)





2 in x





3 in x





x[0] = 8





Exercise 2

16/16 points (graded)

**ESTIMATED TIME TO COMPLETE: 5 minutes**  
**Note that you will have to answer all questions before you can click the Check button.**

For each of the expressions below, specify its type and value. If it generates an error, select type 'NoneType' and put the word 'error' in the box for the value.

Assume we've made the following assignment:

x = [1, 2, [3, 'John', 4], 'Hi']

Additionally, assume that the expressions are evaluated in the order shown - that is, each problem part is evaluated directly after the previous problem part(s).

x[0]





x[2]





x[-1]





x[2][2]





x[0:1]





2 in x





3 in x





x[0] = 8  
x





Exercise 4

15/16 points (graded)

**ESTIMATED TIME TO COMPLETE: 8 minutes**  
**Note that you will have to answer all questions before you can click the Check button.**

For the last expression in each question below, specify its type and value. If it generates an error, select type 'NoneType' and put the word 'error' in the box for the value.

>>> aList = [0, 1, 2, 3, 4, 5]

>>> bList = aList

>>> aList[2] = 'hello'

>>> aList == bList





>>> aList is bList





>>> aList





>>> bList





>>> cList = [6, 5, 4, 3, 2]

>>> dList = []

>>> for num in cList:

dList.append(num)

>>> cList == dList





>>> cList is dList





>>> cList[2] = 20

>>> cList





>>> dList





Exercise 5

3/3 points (graded)

**ESTIMATED TIME TO COMPLETE: 4 minutes**

Here is a different piece of code for working with lists:

def applyEachTo(L, x):

result = []

for i in range(len(L)):

result.append(L[i](x))

return result

Suppose that you are given the following functions:

def square(a):

return a\*a

def halve(a):

return a/2

def inc(a):

return a+1

For each of the following questions, indicate what value is returned. If you believe that an error will occur, write the word 'error'.

applyEachTo([inc, square, halve, abs], -3)



applyEachTo([inc, square, halve, abs], 3.0)



applyEachTo([inc, max, int], -3)

 \* ‘int’ object is not iterable