COMP 8347: Internet Applications and Distributed Systems

Summer 2021 LAB #1

NOTE: Use Python's **IDLE** interactive tool. Write your answer beside each command in this sheet in **bold**.

1) Lists in Python: Given the following two lists:

L1 = [2.3, 'pool', 15, (6, 14, 10), [(8,'x'), 16, (4,'y')], 'CANADA', 'XYZ', 33, 'Python']

L2 = ['brown', 'bears', 45, 5.00, 'big', 'tree']

Work with list indexing, slicing, striding:

Indicate the results if you type the following at the Python prompt in IDLE interactive mode:

a) L1[1][1] o

b) L1[3][0] 6

c) L1[4][2][1] y

d) len(L1) 9

e) L1[14] list index out of range

f) L1[-4:-1] ['CANADA', 'XYZ', 33]

g) L1[2:14]

h) L1[-2:0:2] [15, (6, 14, 10), [(8, 'x'), 16, (4, 'y')], 'CANADA', 'XYZ', 33, 'Python']

i) L2+L1

```
Out[9]:
['brown',
 'bears',
 45,
 5.0,
 'big',
 'tree',
 2.3,
 'pool',
 15,
 (6, 14, 10),
 [(8, 'x'), 16, (4, 'y')],
 'CANADA',
 'XYZ',
 33,
 'Python']
```

j) L2*2

```
['brown',
 'bears',
 45,
 5.0,
 'big',
 'tree',
 'brown',
 'bears',
 45,
 5.0,
 'big',
 'tree']
```

k) *L1[4][1] = 4

SyntaxError: starred assignment target must be in a list or tuple

l) del L2[-3]

['brown', 'bears', 45, 'big', 'tree']

*For 1k) specify the updated list

Work with list methods:

Type python commands to do the following:

a) append the string 'greetings' to L1

L1.append('greetings')

b) remove the last element of L2

del L2[-1]

c) insert the item 3.22 at index 2 in L1
L1.insert(2, 3.22)

d) add the integers in the list [12, 15] at the end of L2
L2 += [12, 15]

2) Strings in Python: Given the following two strings:

s1 = "Internet Applications and Distributes Systems"

s2 = 'COMP 8347 Fall 2020'

Work with string indexing, slicing, striding, assignment, concatenation: Indicate the results if you type the following at the Python prompt in IDLE interactive mode. Indicate the type of error if the command is wrong:

a) s1[:6] 'Intern'

b) s2[-1:-4] ''

c) s1[1] = ' '
TypeError: 'str' object does not support item assignment

d) s2[-1:] **'0'**

e) s2[0:20:2] 'CM 37Fl 00'

f) s1+" "+s2 'Internet Applications and Distributes Systems COMP 8347 Fall 2020'

Work with string methods: Use **str** methods to do the following and indicate the corresponding results:

a) Check if the string s2 ends with the word '2020'
s2.endswith('2020')

b) Determine leftmost position of 'App' in s1
s1.find('App')

c) Return a list of words from s1
s1.split(" ")

d) Convert s2 to all lowercase letters
s2.lower()

e) Replace the string 'COMP' of s2 with empty string
s2.replace('COMP', '')

f) Count the number of times 'p' occurs in s1
s1.count('p')