# Lecture 22: Lists

## CMPT 120-D400 Surrey, Fall 2022

What is a **list**? What is a **literal list**?

What is a **tuple**? We don’t be discussing them in this course, but it’s useful to know about them

**What types of values can a list contain**? Can a list contain other lists?

What list is this?   
**[]**

In Python, **are strings lists**?

How do you calculate the **length** of a list?

What is **list indexing**?

Here’s a list of strings. What are its non-negative index values?

L = ['Pim', 'Charlie', 'Alan', 'Glep']

What does L[4] return?

Here’s a list of lists:

table = [[5, 6], [2, 1], [3, 9], [10, 4]]

What statement prints [3, 9] from this list? What statement prints just the 3?

Here’s L again:

L = ['Pim', 'Charlie', 'Alan', 'Glep']

What does this expression evaluate to?

L[3][1] + L[1][3] + L[2][2]

What is the idea if **negative indexing**? What are the negative index values for this list?

L = ['Pim', 'Charlie', 'Alan', 'Glep']

Are the rules of **list** indexing essentially the same as for strings?

L = ['Pim', 'Charlie', 'Alan', 'Glep']

What do these expressions evaluate to?

'Pim' in L

'alan' in L

'Jacob' in L

'Charlie not in L'

'Smormu' not in L

not ('Pim' not in L)

L in L

L[0] in L

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

1 in lst

2 in lst

[2, 3] in lst

What is a **slice** of a list?

lst = [9, 4, 3, 8, 2]

lst[2:4]

lst[1:4]

lst[1:5]

lst[1:700]

If lst is a list and lst[begin:end] is a valid slice, what’s the length of lst[begin:end] ?

lst = [9, 4, 3, 8, 2]

lst[:4]

lst[4:]

lst[:]