Executing Your Code via the exec Command

Either:

1. Execute Python via the folder with Your file or

2. Put the full path location of your file in the exec command.

example:

```
exec(open("C:\\users\\Yourname\\Programming
Assignment 1 - John Deep).read())
```

python:

- object oriented

   Programming language
- No variable declaration
- Indentation is important

collection:

- set
- List
- Tuple
- Dictionary
- String

A collection is a sequence of data

set:

- unordered collection where each element occurs at most once.

  i.e. value (↑)

- Symbol for set:

  $\{\}$

- Example of a set:

  $\{1, 5, -10, \text{"apple"}\}$

- Cannot access items directly in a set, must iterate through (e.g. via a for loop)

  $\{3, 5, 3, -2\}$

  $\rightarrow \{3, 5, -2\}$

  $S = \{\text{"apple"}, \text{"banana"}, \text{"cherry"}\}$

  → for x in S:
     print(x)

  banana
  cherry
  apple

  print("banana" in S)
  True

  print("orange" in S)
  False

List

- ordered collection
- Duplicate elements are allowed
- Can directly access an element based on its index
- Can have different data types
- Symbol for list:
  [ ]
- Example list
  $$[5, -100, 33, -100, "apple"]$$

Comprehension:
A method to create a collection from existing collection(s).
- A loop is not a comprehension. i.e. for loop, while loop, not a comprehension
- comprehension can have the "for" keyword though

- Example:
write a comprehension that will subtract 1 from the following set:
  $$\{5, 10, 3\}$$
- Result should be a set.
  Solution:
```
print({x-1 for x in {5,10,3}})
```
  output: {9, 2, 4}