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Laboratory 4.1 - TH

Exercise Set 4.1: Data Structures

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ENGR 1330 ES-4.1 - Homework

In [1]:
```
# Preamble script block to identify host, user, and kernel
import sys
! hostname
! whoami
print(sys.executable)
print(sys.version)
print(sys.version_info)
```

```
DESKTOP-6HAS1BN
desktop-6has1bn\medra
C:\Users\medra\anaconda3\python.exe
3.8.5 (default, Sep  3 2020, 21:29:08) [MSC v.1916 64 bit (AMD64)]
sys.version_info(major=3, minor=8, micro=5, releaselevel='final', serial=0)
```

Exercise 1: List Manipulation

For the list given below, index and pick all the elements from index positions 3 to 10. Then, calculate the sum and the length of the elements from index positions 3 to 7. Print the sliced list and the values of the sum and the sliced list.

[22, 45, 54, 87, 10, 97, 88, 75, 99, 11, 19, 39, 47, 81, 84]

In [2]:
```
# Make the given list; then print the contents
x = [22, 45, 54, 87, 10, 97, 88, 75, 99, 11, 19, 39, 47, 81, 84]
```

In [6]:
```
# slice the list from positions 3 to 10 including 10; put the slice into a new list
y = x[3:11]
```

In [7]:
```
# print the new list
print(y)
```

```
[87, 10, 97, 88, 75, 99, 11, 19]
```

In [9]:
```
# slice the new list above from positions 3 to 7 | including 7 ; put the slice into ano
z=y[0:5]
```

In [10]:
```
# print the another new list
print(z)
```

```
[87, 10, 97, 88, 75]
```

In [11]:
```
# find the sum of the another new list
lenZ = len(z)
total = 0;
for i in range(lenZ):
    total += z[i]
print(total)
```

```
357
```

In [12]:
```
# find the length of the another new list
print(lenZ)
```

```
5
```

Exercise 2: Dictionary Manipulation

From the nested dictionary given below, index and pick the string 'hello'.

{'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}

In [13]:
```
# create the dictionary, give it a name; use the curly bracket construction method
x = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

In [ ]:
```
# lookup in the dictionary using keys and indices to find the object 'hello'
```

In [26]:
```
y = (x['k1'])
print(y)
z = (y[3])
z = (z['tricky'])
print(z)
c = (z[3])
c = (c['target'])
print(c)
a = (c[3])
print(a)
```

```
[1, 2, 3, {'tricky': ['oh', 'man', 'inception', {'target': [1, 2, 3, 'hello']}]}]
['oh', 'man', 'inception', {'target': [1, 2, 3, 'hello']}]
[1, 2, 3, 'hello']
hello
```

That was a tricky one

In [ ]:
```
```