Lab Type

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Exercise 1. Write a Python program that prints each item and its corresponding type from the following list. Sample List: datalist = [1452, 11.23, 1+2j, True, 'UIC', (0, -1), [5, 12], {"class":496, "section":'A'}] Output: int, float, complex, bool, str, tuple, list, dict

In [2]:
```
list = [1, 34, 67, 8, True, (-1, -1, 3), {"student":'Mike', "class":'A'}, [5, 12
for i in list:
    print("Type of ", i, " is ", type(i))
```

```
Type of  1  is  <class 'int'>
Type of  34  is  <class 'int'>
Type of  67  is  <class 'int'>
Type of  8  is  <class 'int'>
Type of  True  is  <class 'bool'>
Type of  (-1, -1, 3)  is  <class 'tuple'>
Type of  {'student': 'Mike', 'class': 'A'}  is  <class 'dict'>
Type of  [5, 12]  is  <class 'list'>
Type of  python  is  <class 'str'>
```

Exercise 2. Write a program that accepts a sentence from the keyboard, calculate and print out each unique character and its corresponding number of occurrences. Don't count spaces. For example, if the input sentence is: the world is beautiful!, then the output should be the following: {'t': 2, 'h': 1, 'e': 2, 'w': 1, 'o': 1, 'r': 1, 'l': 2, 'd': 1, 'i': 2, 's': 1, 'b': 1, 'a': 1, 'u': 2, 'f': 1, '!': 1} Hint: 1) use index to get a character in a string 2) use dictionary to store characters and their corresponding values (# of appearance)

In [3]:
```
sentence = input("insert a sentence: ")
print(f" length of the sentence: {len(sentence)}")

dictionary = dict()

for i in range(len(sentence)):
    char = sentence[i]
    if char != ' ':
        if char not in dictionary:
            dictionary[char] = 0
        dictionary[char] +=1
```

```
length of the sentence: 25
```

In [4]:
```
sum = 0
for char, count in dictionary.items():
    sum += count
    print(f"occurances of character {char}: {count}")

print("sum is: ", sum)
```

```
occurances of character t: 2
occurances of character h: 1
occurances of character e: 2
```

```
occurances of character w: 1
occurances of character o: 1
occurances of character r: 1
occurances of character l: 2
occurances of character d: 1
occurances of character i: 2
occurances of character s: 1
occurances of character b: 1
occurances of character a: 1
occurances of character u: 2
occurances of character f: 1
occurances of character !: 3
sum is:  22
```