lecture 14

list - part 2

length method

In [1]:
```
a = [1,5,6,8,2,6,89,1,9,1,6,8,621,"helo",8.5,9.6]
print(len(a))
```

```
16
```

mutability property of list

changing elements

In [2]:
```
my_list = [1,2,3,4,5]
my_list[2] = 10
print(my_list)
```

```
[1, 2, 10, 4, 5]
```

In [3]:
```
my_list = [1,2,3,4,5]
my_list[3] = "hello"
print(my_list)
```

```
[1, 2, 3, 'hello', 5]
```

change a range of item values

In [4]:
```
a = [12,13,14,15,16,17,18,19,20,21]
a[2:4] = ["books","pen","paper"]
```

In [5]:
```
print(a)
```

```
[12, 13, 'books', 'pen', 'paper', 16, 17, 18, 19, 20, 21]
```

Add list items

In [6]:
```
thislist = ["apple","banana","cherry"]
thislist.append("orange")
print(thislist)
```

```
['apple', 'banana', 'cherry', 'orange']
```

In [8]:
```
a = [14,15,12,16,89,45]
a.append(-20)
print(a)
```

```
[14, 15, 12, 16, 89, 45, -20]
```

remove the items

In [9]:
```
a = [4,8,21,94,89,4,84,894,9,4,9,49,459]
a.remove(21)
print(a)
```

```
[4, 8, 94, 89, 4, 84, 894, 9, 4, 9, 49, 459]
```

join the list

In [12]:
```
list1 = [1,2,3]
list2 = [14,15,16]
list3 = ["hello","world"]
print( list1 + list2 + list3)
```

```
[1, 2, 3, 14, 15, 16, 'hello', 'world']
```

check is a ist contains an element

In [13]:
```
a = [25,24,89,6,3,5,8,"hello","python",5.6]
3 in a
```

Out[13]:
```
True
```

In [14]:
```
a = [25,24,89,6,3,5,8,"hello","python",5.6]
3.5 in a
```

Out[14]:
```
False
```

reversing a list

In [17]:
```
a = [1,45,8945,96,54,96,549,65,96,5,96,59]
a.reverse()
print(a)
```

```
[59, 96, 5, 96, 65, 549, 96, 54, 96, 8945, 45, 1]
```

In [ ]:
```

```

Practice questions

Question 1

In [ ]:
```
Task: Data Cleaning
You have a list responses containing responses
from a survey. However, some responses are recorded
as empty strings due to data entry errors.
Your task is to remove these empty responses from the list.

Write Python code to remove all
empty responses from the responses list

responses = ["Yes", "", "No", "", "Maybe", "", "","Yes","No",""]
```

In [18]:
```
responses = ["Yes", "", "No", "", "Maybe", "", "","Yes","No",""]
clean = []

for response in responses:
    if response!="":
        clean.append(response)
    else:
        pass

print(clean)
```

```
['Yes', 'No', 'Maybe', 'Yes', 'No']
```

In [ ]:
```

```

Question 2

In [ ]:
```
Data Analysis Scenario:
You have two lists containing exam scores
of students from two different classes.
The lists are class1_scores and class2_scores.
You need to analyze the performance
of the classes by calculating the average score for each class.

Write Python code to calculate the average score for each class.

class1_scores = [85, 90, 88, 92, 78]
class2_scores = [75, 82, 80, 85, 79]
```

In [19]:
```
class1_scores = [85, 90, 88, 92, 78]
class2_scores = [75, 82, 80, 85, 79]


class1_avg = sum(class1_scores)/len(class1_scores)
class2_avg = sum(class2_scores)/len(class2_scores)

print("the avg score of class 1 is", class1_avg)
print("the avg score of class 2 is", class2_avg)
```

```
the avg score of class 1 is 86.6
the avg score of class 2 is 80.2
```

In [ ]:
```

```

Homework

In [ ]:
```
Given two lists
list1 = [[1, 2], [3, 4], [5, 6]] and list2 = [[7, 8], [9, 10]],
concatenate them into a single list of lists.



```

In [ ]:
```
Given a list of sentences sentences = ["Hello, world!", "Python is awesome!",
join the sentences into a single string separated by newline characters.

output
Joined string with newline characters:
Hello, world!
Python is awesome!
I love coding!
```

In [ ]:
```

```