Lecture 14

List part 1

Creating a list

In [2]:
```
mylist = ["a","b","c"]
print(mylist)
print(type(mylist))
```

```
['a', 'b', 'c']
<class 'list'>
```

properties of list

1. Ordered

In [3]:
```
fruits = ["mango", "orange", "cherry"]
print(fruits[0])
```

```
mango
```

In [4]:
```
fruits = ["mango", "orange", "cherry"]
print(fruits[1])
```

```
orange
```

In [5]:
```
fruits = ["orange", "cherry","mango"]
print(fruits[1])
```

```
cherry
```

2. Hetrogenous

In [6]:
```
mixed_list = [1,"hello", 3.14, [1,2,3]]
print(mixed_list[2])
```

```
3.14
```

list items - data types

In [8]:
```
lis1 = ["apple", "banana"]
list2 = [2.3,2.5]
list3 = [True, False]
print(lis1)
```

```
['apple', 'banana']
```

3. Indexed

In [9]:
```
animals = ['cat','dog','bird','fish']
print(animals[0])
```

```
cat
```

In [10]:
```
print(animals[-2])
```

```
bird
```

slicing

basic slicing

In [11]:
```
numbers = [10,11,12,13,14,15,16]
print(numbers[0:4])
```

```
[10, 11, 12, 13]
```

omiting slicing

In [12]:
```
numbers = [10,11,12,13,14,15,16]
print(numbers[:4])
```

```
[10, 11, 12, 13]
```

In [13]:
```
numbers = [10,11,12,13,14,15,16]
print(numbers[:])
```

```
[10, 11, 12, 13, 14, 15, 16]
```

negative indexing

In [14]:
```
numbers = [10,11,12,13,14,15,16]
print(numbers[-5:])
```

```
[12, 13, 14, 15, 16]
```

indexing with step

In [15]:
```
numbers = [10,11,12,13,14,15,16]
print(numbers[::2])
```

```
[10, 12, 14, 16]
```

In [16]:
```
numbers = [10,11,12,13,14,15,16]
print(numbers[::3])
```

```
[10, 13, 16]
```

practice question

In [ ]:
```
Given the list scores = [55, 89, 76, 65, 93, 50, 72],
write a Python expression to create a
new list that contains only the scores that are above 70.
```

In [17]:
```
scores =  [55, 89, 76, 65, 93, 50, 72]
high_score = []

for score in scores:
    if score>70:
        high_score.append(score)
    else:
        pass
print(high_score)
```

```
[89, 76, 93, 72]
```

In [ ]:
```

```

In [ ]:
```
Given the list data = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10],
write a Python expression to get the sum
of the first five elements and another
expression to reverse the entire list.
```

In [20]:
```
data = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

sum_first_five = sum(data[:5])
print("the sum of first five item is",sum_first_five)

reverse = data[::-1]
print("the reverse string is", reverse)
```

```
the sum of first five item is 15
the reverse string is [10, 9, 8, 7, 6, 5, 4, 3, 2, 1]
```

In [ ]:

In [ ]:

In [ ]:
```
Question: Given the list numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10],
write Python expressions to:
Create a new list with the first half and the second half swapped.
Print the sum of the last three elements.

input - numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
output -

[6, 7, 8, 9, 10, 1, 2, 3, 4, 5]
27
```

In [ ]:

In [ ]:

In [ ]:

In [ ]: