

## Lecture 2- Playing with Lists

Hi guys, hope you are doing well. We have already learnt some of the basics of strings in lecture 1. Now our second topic is "Lists". I am Akshansh, let's keep pythoning together.

### **Q- What is list in python?**

**A-** This is one of the most important and powerful feature of Python. Suppose this is a valentine week and you are going to your girlfriend each single day (don't cry if you don't have one, at least you are saving money and virginity ha ha ha). There are different kinds of days, right?

```
Valentine_days= Rose (flower), propose (feeling), Chocolate (eatable), teddy (material), promise (futurestic feeling), hug (interaction), kiss (physical interaction), Valentine ( lot of love), money ($$$)
```

now you see a list of valentine days, list in python is also same. List means you have too many things which you want to store in one place. (same thing can be explained as you go to market to purchase stuffs).

```
Bag = Carrot, rice, flower, money ($15.00), mushrooms, cheese, 20
```

now create a list of same (make sure that if you are saving string/word/letter in python, use single/double quotes)

### **List of valentine days**

```
Valentine=['Rose', 'propose', 'chocolate', 'teddy', 'promise', 'hug', 'kiss', 'valentine']
```

### **List of items in bag**

```
bag=['carrot', 'rice', 'flower', 15.00, 'mushrooms', 'cheese', 20]
```

**OBSERVATIONS-** Lists is always in square brackets [] and each items is separated by comma. Please note that string(words/letters) must be written between quotes. Integer values (1,2,3...) and floats (10.00,15.5,20,5...) can be saved as usual.

**TBR (To be remember) – You can save anything in a list, whatever you want to. String, numbers, floats etc.**

### Few more examples of lists-

```
Bikes= ['Honda', 'Pulser', 'KTM- Duke', 'Kavaski', 'Apache', 'Roayal Enfield',  
'Harley Davidson']
```

```
Cars=['Maruti', 'Honda', 'BMW', 'Audi', 'Ferrari', 'Lamborghini']
```

```
Chocolate_price= [15, 42.5, 21, 30.5, 58]
```

```
smartphone=['Apple', 'samsung', 'huawei', 'nokia', 'xiaomi', 'oneplus']
```

I hope all confusion is clear now about how to create a list in python, pretty simple hah? That's great!

### Let's do some more things in python-

Suppose there is a list of people named friends-

```
friends=['alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john  
cena']
```

### 1)- Accessing elements(items) of the list

```
>>>friends=['alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra',  
'john cena']
```

```
>>> print(friends[0])  
O/P= 'alex' (printing item at position 0)
```

```
>>>print(friends[1])  
O/P='john' (printing item at position 1)
```

```
>>>print(friends[3])  
O/P= 'johnny sinns' (returning item at position 3, llegend is here ha ha ha)
```

**FUN FACT- You can use string methods too  
try to use**

```
>>> print(friends[0].title())  
O/P= 'Alex'
```

**Explanation-** frinds[0] access item at 0 position (alex, in this case) in list called friends, dot method (.) means we are doing something in friends (actually we are inside list friends). title() method from strings makes first letter capital. This is how 'alex' became "Alex"

## 2) – Changing element in list

```
friends=['alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena']
```

```
>>> friends[0]= 'mark' #(we assigned 'mark' to the list friends at position 0 )
>>> print(friends)
O/P= 'mark', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena'
```

## 3) append() method

you can add more items/elements in list one by one using append() method

```
friends=['alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena']
>>> friends.append('hales')
>>> print(friends)
O/P= 'alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena', 'hales'
```

Note that append() adds something in the last. I added haless, you can add a number too. Remember that you can add anything to list.

## 4)- insert() method

This will insert (put) something in list at given position

```
friends=['alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena']
```

```
>>> friends.insert(0, 'rick')
>>> O/P = 'rick', 'alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena'
```

# rick has been added at position 0 in the list. You can choose any position. And you can insert numbers too.

### 5)- del() method

you can delete items from your list by using del() method

```
friends=['alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena']
>>>del friends[0]
>>>print(friends)
>>>O/P = 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena'
```

#item 'alex' from position 0 has been deleted

### 6) pop() method

You can delete last item from the list too by using pop() method

```
friends=['alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena']
>>>friends.pop()
>>>print(friends)
O/P = 'alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra',
```

#now you can't see him. John Cena is removed as it was the last item in the list

**TBR- you can delete anything from passing positional argument in pop method**

```
friends=['alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena']
>>>friends.pop(0)
O/P = 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena'
```

### 7) remove() method

You can remove anything from list by using this method

```
friends=['alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena']
>>>friends.remove('alex')
>>>print(friends)
O/P = 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena'
```

# sorry alex is no more ha ha ha  
make sure to put string value in quotes, numbers can be passed as normal

### 8) sort() method

you can sort (filter) the whole list alphabetically

```
friends=['alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena']
```

```
>>>friends.sort()
```

```
>>>print(friends)
```

```
O/P= ['alex',  
      'john',  
      'john cena',  
      'johnny sinns',  
      'mia khalifa',  
      'priyanka chopra',  
      'tom']
```

### 9) reverse() method

You can organize list in reverse order by this method

```
friends=['alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena']
```

```
>>>friends.reverse()
```

```
>>>print(friends)
```

```
O/P =  
['john cena', 'priyanka chopra', 'mia khalifa', 'johnny sinns', 'tom',  
'john', 'alex']
```

#see list has been reversed

### 10) len() method

It tells you how many items in your list

```
friends=['alex', 'john', 'tom', 'johnny sinns', 'mia khalifa', 'priyanka chopra', 'john cena']
```

```
>>>len(friends)
```

```
O/P = 7 (7 items in your list called friends)
```

