Lists

Intuition

- Height in Cm
- Weight in Kgs
- Age in Years

Ramesh_height = 150

Suresh_height = 145

Sudesh_height = 165

Ramesh_weight = 56

Suresh_weight = 60

Sudesh_weight = 65

Ramesh_age = 23

Suresh_age = 46

Sudesh_age = 58

Intuition

- Height in Cm
- Weight in Kgs
- Age in Years

.

.

- Some info

Ramesh_height = 150

Suresh_height = 145

Sudesh_height = 165

Ramesh_weight = 56

Suresh_weight = 60

Sudesh_weight = 65

How Many Variables?

Ramesh_age = 23

Suresh_age = 46

Sudesh_age = 58

Analytics Vidhya

Learn everything about analytics

Intuition

- Height in Cm
- Weight in Kgs
- Age in Years

.

.

- Some info

Names = [“Ramesh”, “Suresh”, “Sudesh”]

Height = [150, 145, 165]

Weight = [56, 60, 65]

Age = [23, 45, 58]

Intuition

- Height in Cm
- Weight in Kgs
- Age in Years

.

.

- Some info

Names = [“Ramesh”, “Suresh”, “Sudesh”]

Height = [150, 145, 165]

Weight = [56, 60, 65]

Age = [23, 45, 58]

Lists

What is a List?

A list is an **ordered** data structure with elements separated by comma and enclosed within square brackets.

What is a List?

A list is an **ordered** data structure with elements separated by comma and enclosed within square brackets.

```
list1=[2,3,4,5,6]
```

What is a List?

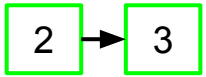
A list is an **ordered** data structure with elements separated by comma and enclosed within square brackets.

2

```
list1=[2,3,4,5,6]
```

What is a List?

A list is an **ordered** data structure with elements separated by comma and enclosed within square brackets.




```
list1=[2,3,4,5,6]
```

Analytics Vidhya
Learn everything about analytics

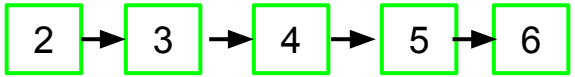
What is a List?

A list is an **ordered** data structure with elements separated by comma and enclosed within square brackets.


```
list1=[2,3,4,5,6]
```

What is a List?

A list is an **ordered** data structure with elements separated by comma and enclosed within square brackets.



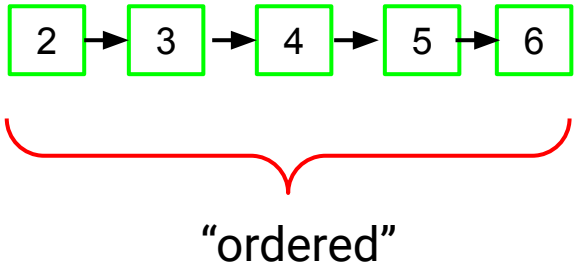

```
list1=[2,3,4,5,6]
```

Analytics Vidhya
Learn everything about analytics

What is a List?

A list is an **ordered** data structure with elements separated by comma and enclosed within square brackets.

```
list1=[2,3,4,5,6]
```



Analytics Vidhya
Learn everything about analytics

What is a List?

A list is an **ordered** data structure with elements separated by comma and enclosed within square brackets.

Some examples of List -

```
list1=[2,3,4,5,6]
```

```
list2=['Python','is','Awesome']
```

Single Data type

Analytics Vidhya
Learn everything about analytics

What is a List?

A list is an **ordered** data structure with elements separated by comma and enclosed within square brackets.

Some examples of List -

```
list1=[2,3,4,5,6]
```

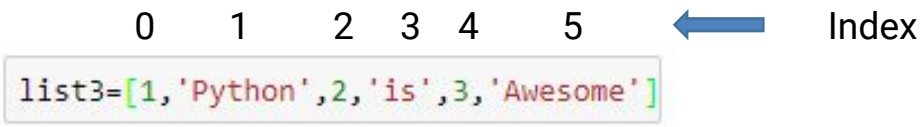
```
list2=['Python','is','Awesome']
```

Single Data type

```
list3=[1,'Python',2,'is',3,'Awesome']
```

Mixed Data type

Extracting values from a List



To extract a single element →

```
list3[1]
```

```
'Python'
```

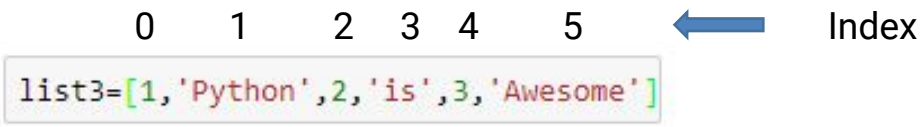
To extract a sequence of elements →

```
list3[1:4]
```

```
['Python', 2, 'is']
```

Analytics Vidhya
Learn everything about analytics

Extracting values from a List



To extract a single element

```
list3[1]
'Python'
```

To extract a sequence of elements

```
list3[1:4]
['Python', 2, 'is']
```

start index

end index

Adding elements to an existing List

```
list3=[1,'Python',2,'is',3,'Awesome']
```

Adding elements to an existing List

```
list3=[1,'Python',2,'is',3,'Awesome']
```

Adding a single element →

```
list3.append(4)
```

```
list3
```

```
[1, 'Python', 2, 'is', 3, 'Awesome', 4]
```

Adding elements to an existing List

```
list3=[1,'Python',2,'is',3,'Awesome']
```

Adding a single element →

```
list3.append(4)
```

```
list3
```

```
[1, 'Python', 2, 'is', 3, 'Awesome', 4]
```

Adding multiple elements →

```
list3.extend([5,6])
```

```
list3
```

```
[1, 'Python', 2, 'is', 3, 'Awesome', 4, 5, 6]
```

Analytics Vidhya
Learn everything about analytics

Adding elements to an existing List

```
list3=[1,'Python',2,'is',3,'Awesome']
```

Adding list to a list →

```
list3.append([7,8])
```

```
list3
```

```
[1, 'Python', 2, 'is', 3, 'Awesome', [7, 8]]
```

Analytics Vidhya
Learn everything about analytics

Deleting elements of a List

```
list3=[1,'Python',2,'is',3,'Awesome']
```

Deleting elements of a List

```
list3=[1,'Python',2,'is',3,'Awesome']
```

Deleting an element by value →

```
list3.remove(2)
```

```
list3
```

```
[1, 'Python', 'is', 3, 'Awesome']
```

Deleting elements of a List

```
list3=[1,'Python',2,'is',3,'Awesome']
```

Deleting elements of a List

```
list3=[1,'Python',2,'is',3,'Awesome']
```

Deleting an element by index →

```
del list3[3]
```

```
list3
```

```
[1, 'Python', 2, 3, 'Awesome']
```

Analytics Vidhya
Learn everything about analytics

Tuple in Python (Data Structure)

```
my_tuple = (1, 2, 3, "Hello")
```

```
my_tuple
```

```
(1, 2, 3, 'Hello')
```

Tuple in Python (Data Structure)

- Ordered collection of elements

```
my_tuple = (1, 2, 3, "Hello")
```

```
my_tuple
```

```
(1, 2, 3, 'Hello')
```

Tuple in Python (Data Structure)

- Ordered collection of elements
- Immutable

```
my_tuple = (1, 2, 3, "Hello")
```

```
my_tuple
```

```
(1, 2, 3, 'Hello')
```

Tuple in Python (Data Structure)

- Ordered collection of elements
- Immutable
- Uses circular brackets in syntax

```
my_tuple = (1, 2, 3, "Hello")
```

```
my_tuple
```

```
(1, 2, 3, 'Hello')
```

Benefits of using Tuple

- Faster than lists
- Provide security over updation
- Unlike lists, can be used as key for dictionaries

Thank You!

List Data Structure: Summary

Store

Represent

Manipulate

List Data Structure: Summary

Store

- Multiple values
- Multiple data types

Represent

Manipulate

List Data Structure: Summary

Store

- Multiple values
- Multiple data types

Represent

Manipulate

- Extract values
- Add values (append, extend)
- Remove values (del, remove)
- Looping over values

List Data Structure: Summary

Store

- Multiple values
- Multiple data types

Represent

- Ordered/Sequential

Manipulate

- Extract values
- Add values (append, extend)
- Remove values (del, remove)
- Looping over values