

PYTHON

TUPLES

Tuples

```
Tuple1 = ("disco", 10, 1.2)
```

0	"disco"	Tuple1[0]: "disco"
1	10	Tuple1[1]: 10
2	1.2	Tuple1[2]: 1.2

Tuples

```
Tuple1 = ("disco", 10, 1.2)
```

-3	0	"disco"	Tuple1[-3]: "disco"
-2	1	10	Tuple1[-2]: 10
-1	2	1.2	Tuple1[-1]: 1.2

Tuples: Slicing

`("disco", 10, 1.2, "hard rock", 10)`

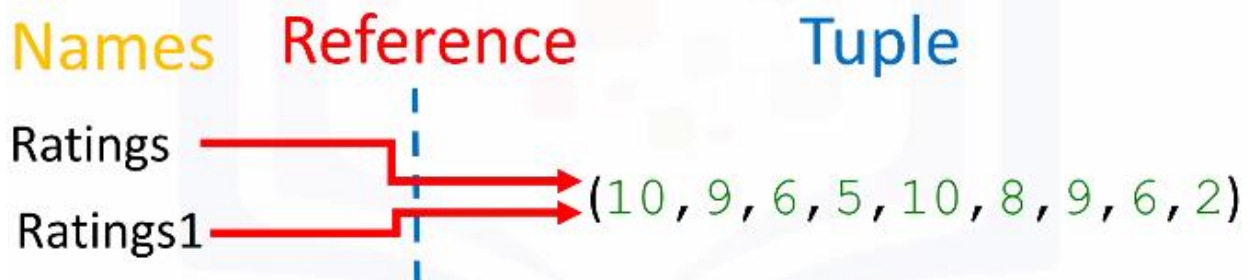
0	1	2	3	4
---	---	---	---	---

`tuple2[3:5] => ("hard rock", 10)`

Tuples: Immutable

`Ratings = (10, 9, 6, 5, 10, 8, 9, 6, 2)`

`Ratings1 = Ratings`



Tuples: Nesting

`NT = (1, 2, ("pop", "rock"), (3, 4), ("disco", (1, 2)))`

Tuples: Nesting

NT=(1, 2, ("pop", "rock"), (3,4), ("disco", (1,2)))

0	1	2	3	4
---	---	---	---	---



NT[2]: ("pop", "rock") [1] ="rock"

0	1
---	---

Tuples: Nesting

NT=(1, 2, ("pop", "rock"), (3,4), ("disco", (1,2)))

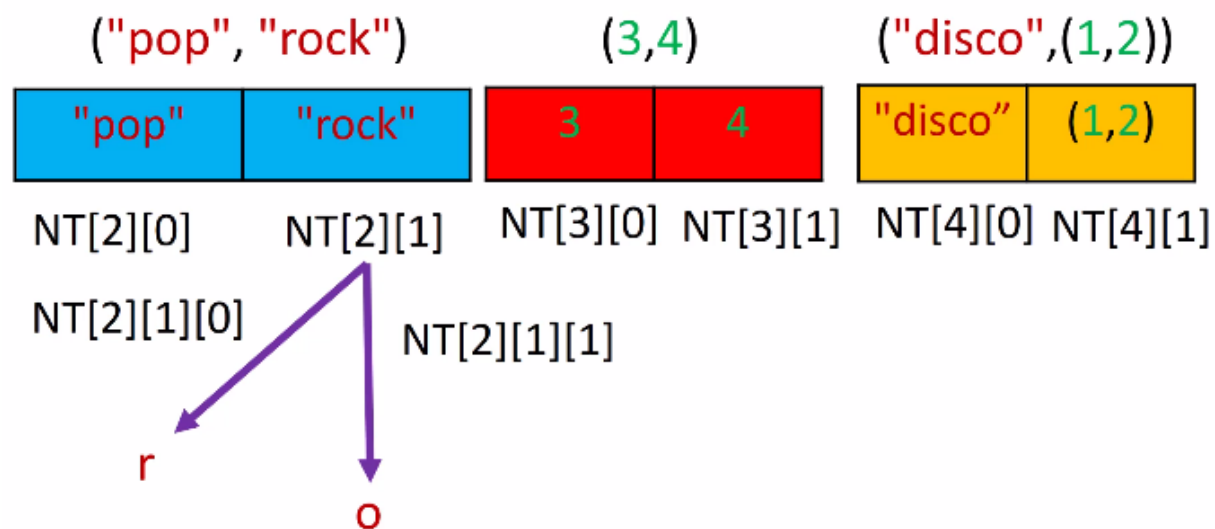
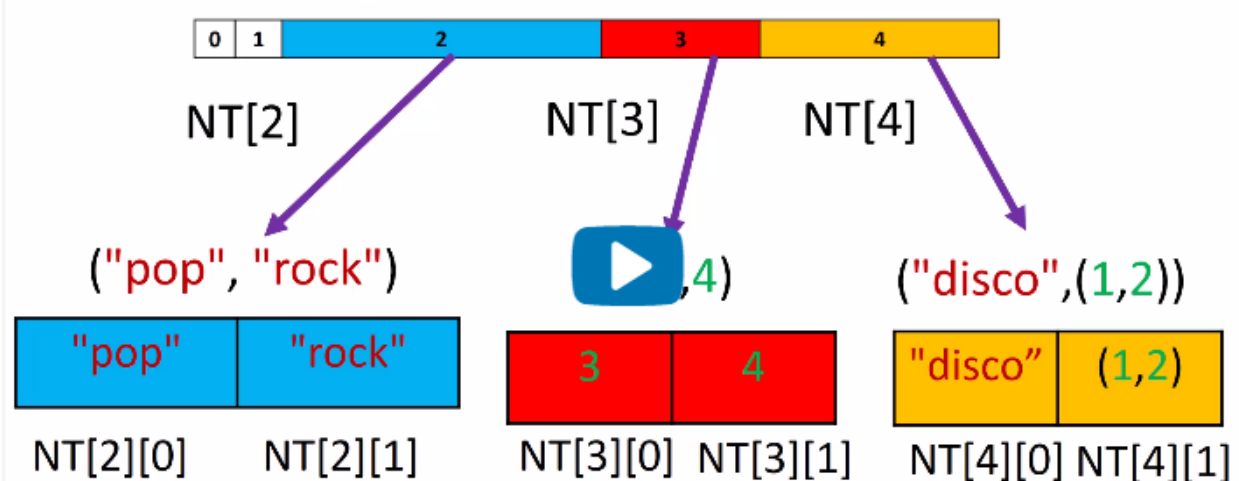
0	1	2	3	4
---	---	---	---	---

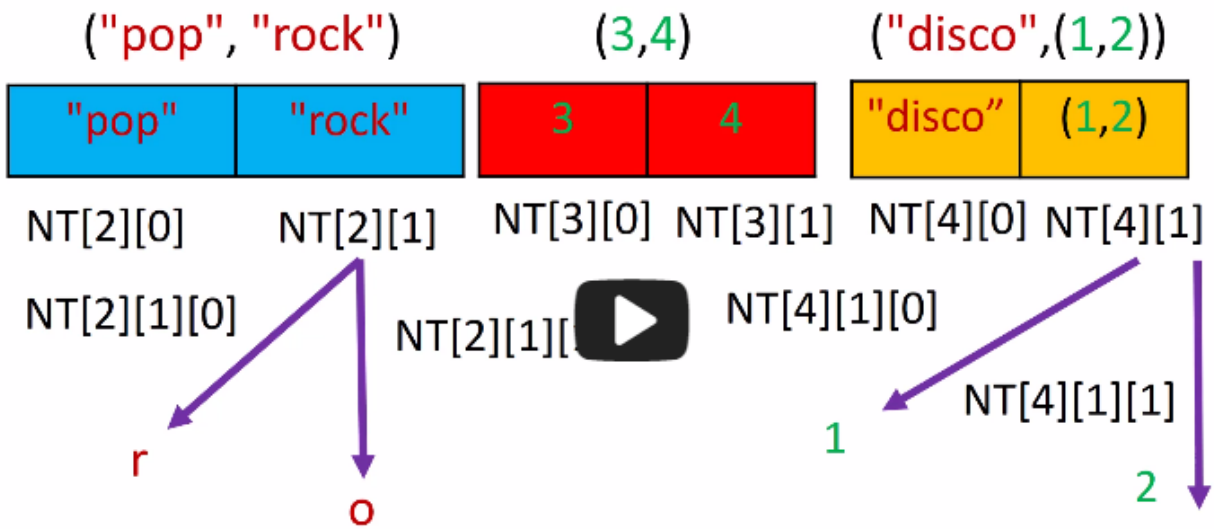


NT[2]: ("pop", "rock") [1] ="rock" → NT[2] [1] ="rock"

0	1
---	---

NT=(1, 2, ("pop", "rock"), (3,4), ("disco", (1,2)))





LISTS

Lists

- Lists are also ordered sequences
- Here is a List "L"
- A List is represented with square brackets
- List **mutable**

`L = ["Michael Jackson", 10.1, 1982]`

Lists

`["Michael Jackson", 10.1, 1982, [1, 2], ('A', 1)]`

Lists

`L = ["Michael Jackson", 10.1, 1982]`

-3	0	"Michael Jackson"	L[-3]: "Michael Jackson"
-2	1	10.1	L[-2]: 10
-1	2	1982	L[-1]: 1982

Lists

`L = ["Michael Jackson", 10.1, 1982]`

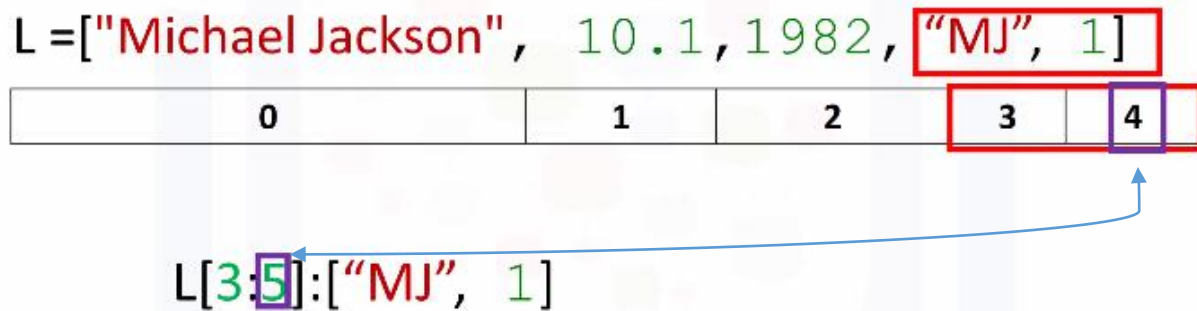
0	"Michael Jackson"	L[0]: "Michael Jackson"
1	10.1	L[1]: 10
2	1982	L[2]: 1982

Lists: Slicing

```
L = ["Michael Jackson", 10.1, 1982, "MJ", 1]
```

0	1	2	3	4
---	---	---	---	---

`L[3:5]: ["MJ", 1]`



Lists

```
L = ["Michael Jackson", 10.1, 1982]
```

```
L1 = L + ["pop", 10]
```

```
L1 = ["Michael Jackson", 10.1, 1982, "pop", 10]
```

Lists

```
L = ["Michael Jackson", 10.1, 1982]
```

```
L.extend(["pop", 10])
```

RESULT IS:

Lists

```
L=["Michael Jackson", 10.1, 1982]
```

```
L.extend(["pop", 10])
```

```
L=["Michael Jackson", 10.1, 1982, "pop", 10]
```

0	1	2	3	4
---	---	---	---	---

Lists

```
L=["Michael Jackson", 10.1, 1982]
```

```
L.append(["pop", 10])
```

```
L=["Michael Jackson", 10.1, 1982, ["pop", 10]]
```

0	1	2	3
---	---	---	---

Tuples

```
A=["disco", 10, 1.2]
```

```
A[0]="hard rock"
```

```
A=["hard rock", 10, 1.2]
```

Lists

```
L=["Michael Jackson", 10.1, 1982]
```

```
L.extend(["pop", 10])
```

```
["Michael Jackson", 10.1, 1982, "pop", 10]
```

```
L.append("A")
```

```
["Michael Jackson", 10.1, 1982, "pop", 10, "A"]
```

Tuples

A=["hard rock", 10, 1.2]



del(A[0])



A:[10, 1.2]

 COGNITIVE

Convert String to List

"hard rock".split()

["hard", "rock"]

Lists

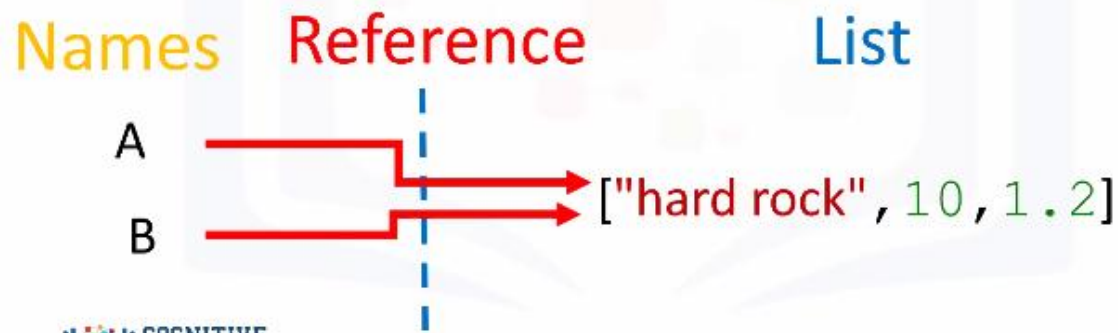
"A,B,C,D".split(",")

["A", "B", "C", "D"]

Lists: Aliasing

```
A=["hard rock", 10, 1.2]
```

```
B=A
```



Lists: Aliasing

```
B[0]="hard rock"
```

```
A[0]="banana"
```



```
B[0]: "banana"
```



Lists: Clone

```
A=["hard rock", 10, 1.2]
```

```
B=A[:]
```

Names

Reference



List

A → ["hard rock", 10, 1.2]

B → ["hard rock", 10, 1.2]

Lists: Clone

```
A=["hard rock", 10, 1.2]
```

```
A[0]= " banana "
```



B[0]: " hard rock "

Names

Reference



List

A → [" banana", 10, 1.2]

B → ["hard rock", 10, 1.2]