

# Full stack web development using python

tuple



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# Agenda

- ① tuple introduction
- ② tuple object
- ③ indexing
- ④ Accessing tuple elements
- ⑤ built-in methods
- ⑥ concatenation and Repetition operator
- ⑦ Comparison operators
- ⑧ tuple object methods
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- ⑩ user input

# tuple

tuple is a class

tuple is iterable

tuple is immutable

tuple is hashable

tuple is a sequence

## How to create tuple object?

t1 = (1, 2, 5, 7)

t2 = ()

t3 = (10) → not a tuple

t3 = (10,)

t4 = 10, 20, 30

indexing →

$t_1 = (10, 20, 30)$

-3	-2	-1
0	1	2
10	20	30

# Accessing tuple elements

t1 = (10, 5, 20, 15)

①

t1[0]

printf(t1[1])  $\neq$  5

②

i = 0

while (i < len(t1))

print(t1[i])

i += 1

③

for a in t1:

print(a)

## built-in methods

len()

min()

max()

sum()

sorted()

# Concatenation and Repetition Operator

$$t1 = (10, 20)$$

$$t2 = (11, 22, 33)$$

$$t1 + t2$$

$$t1 * 3$$



# Comparison Operator

$t1 = (10, 20)$

$t2 = (11, 33, 55)$

$t1 > t2$

$t1 == t2$

## tuple object methods

index()

count()

# Slicing Operator

$t1[begin : end : step]$

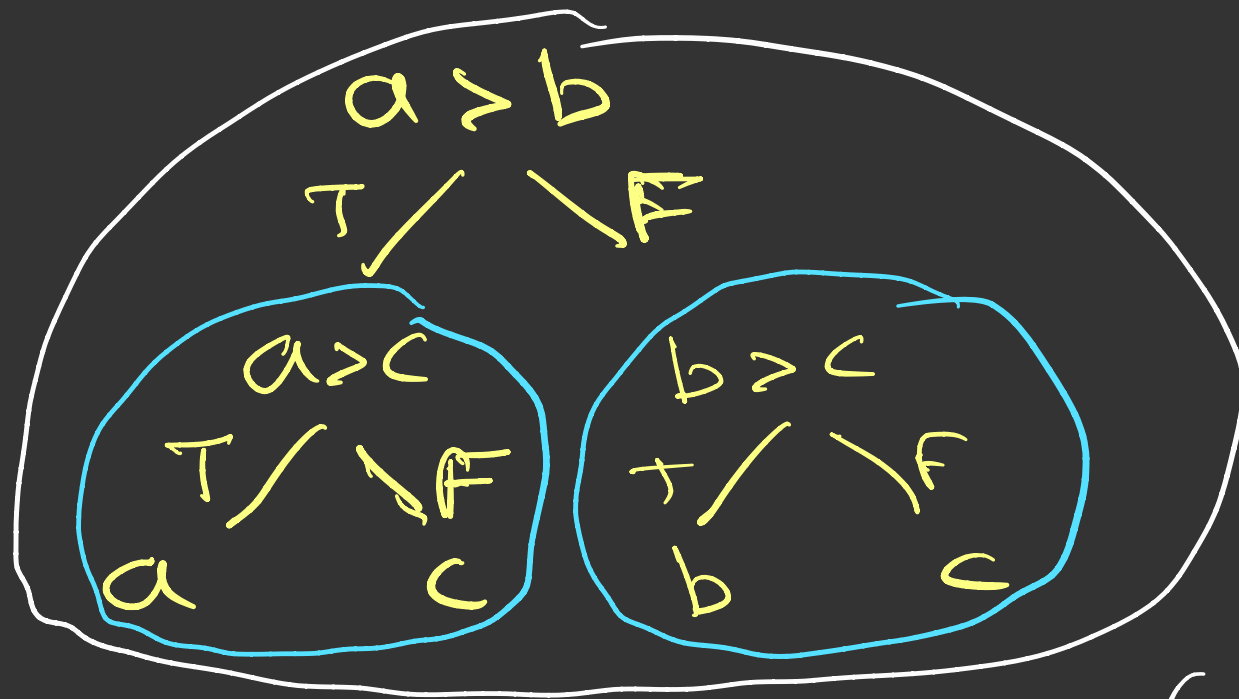
## user input

```
t1 = tuple([int(e) for e in input().split(',')])
```

```
t1 = tuple()
```

```
t2 = tuple([1, 2, 3])
```

```
t3 = tuple(range(5))
```



$(a \text{ if } a > c \text{ else } c) \text{ if } a > b \text{ else } (b \text{ if } b > c \text{ else } c)$