

# Full stack web development using python

Set



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# Agenda

- ① set introduction
- ② Creating set object
- ③ Accessing set elements
- ④ built-in methods
- ⑤ Concatenation and Repetition Operator
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## Set

set is a class

set is mutable

set is not hashable

set is iterable

set is not a sequence

set cannot have duplicate values

indexing is not applicable to set object

slicing operator is not applicable

set does not guarantee to store values  
in the order of insertion

## How to create set object?

S1 = { 1, 5, 8 }

S2 = { 10, 2, 8, 10, 10, 8 }

S3 = { } not a set object

S4 = set()

S5 = set( [1, 5, 3] )

Elements of set object must be  
hashable

## Accessing set elements

```
for e in setObject:  
    code
```

## buit-in methods

len()

min()

max()

sum()

sorted()

## Concatenation and Repetition Operator

set + set

not supported

set \* int

not supported

## Comparison Operator

$S_1 > S_2$

$S_1 < S_2$

$S_1 \geq S_2$

$S_1 \leq S_2$

$S_1 == S_2$

$S_1 != S_2$

Supported

Two set objects are equal if their elements are same, doesn't matter the order of elements.

## set object methods

add() add specified item in a set  
update() add iterable(s) elements  
discard() remove item  
remove()  
intersection()  
union()  
clear()  
issubset()  
is superset()  
pop()

## Set Comprehension

$S1 = \{ \text{expression} \text{ for } e \text{ in object} \}$

$s = \text{input("Enter a string")}$

$S1 = \{ e \text{ for } e \text{ in } s \text{ if } e \text{ in "aeiou"} \}$

```
for e in S:  
    if e in "aeiou":  
        S1.add(e)
```

## User input

S = input("Enter elements separated by comma")

Sl = {eval(e) for e in S.split(',') }

## frozenset

A set is a mutable object while  
frozenset provides an immutable  
implementation.