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Data types: Tuples and Sets

Tuples

A tuple is a sequence of immutable Python objects just like lists.

Properties of Tuples :

- Like strings and lists tuples are ordered collections of arbitrary objects.

```
>>>T=(1,3,4,4,'hi!')
```

- Accessed by offset

```
>>>>T[0]
1
```

Tuples

A tuple is a sequence of immutable Python objects just like lists.

Properties of Tuples :

- Immutable sequence

```
>>>>T[0] = 9
        'tuple' object does not support
        item assignment
```

- Fixed length, heterogeneous and arbitrarily nestable

```
>>>>T = (5,6,[7,8,[12,13]],9,('hi‘ ,
'python'),{'a‘ : 'b'})
```

Tuple Operations

Operations	Interpretations
len(T)	Length of tuple
T1 + T2	Concatenation
T * 3	Repeat
T.index('hi!')	Search
T.count(value)	Count

Hands-On

Sets

Sets are lists with no duplicate entries.

Properties of Sets :

- Sets are unordered collection of objects.

```
>>>> set('abcde')
```

- Sets are iterable, can grow and shrink on demand.

```
>>>> set1.add('f')
```

Sets

Sets are lists with no duplicate entries.

Properties of Sets :

- Sets contain unique and immutable objects.

```
>>>> set1=set1.add([1,2])
        TypeError: unhashable type: 'list‘
```

- Sets are unordered and do not map key to values, therefore they are neither sequence nor mapping types.

```
>>>> set1[0]
        'set' object does not support
        sequence operations.
```

Set Operations

Operations	Interpretation
a in set1	Membership
Set1 > set2	Superset
Set1 < set2	Subset
Set1 | set2	Set union
Set1 ^ set2	Set symmetric difference
Set1 & set2	Set intersection
Set1 – set2	Set difference

Hands-On