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```

# List []

Lists in Python are versatile data structures that allow you to store and manipulate collections of elements. They offer a wide range of features and functionalities to make your coding more efficient and expressive.

eg:- a = [12,45,"hello", 10.8, True]

(it is heterogeneous: means it contains elements of different data types )

# List Properties

## Ordered

A list is an ordered collection of elements enclosed in square brackets([]).

1

2

## Allow Duplicates

Lists can contain duplicate elements. For example:

```
x = [10, 45, 23, 10, "hlo", 45, 290, "hlo"]
```

## Mutable

List elements can be changed.

3

4

## Adding Elements

You can use `append()` to add elements at the end and `insert()` to add elements at a specific index.

## Deleting Elements

You can delete the last element using `pop()` or remove an element at a specific index using `remove()`.

5

6

## Clearing the List

Use `clear()` to remove all elements from the list.

# Example

1

## **append()**

```
a = [12,10, "car", "bus", 300]
```

```
a.append(5000)
```

2

## **insert ()**

```
a = [12,10, "car", "bus", 300, 5000]
```

```
a.insert(2, 5000)
```

```
# variable.insert(index no., value)
```

```
#one value at a time
```

3

## **pop ()**

```
a = [12,100, "train", "hlo", True, 5000]
```

```
a.pop()
```

4

## **remove()**

```
a = [12, 100, "bus", 500, "car", 10.8]
```

```
a.remove("bus")
```

5

## **clear ()**

```
a = [12, 100, "bus", 500, "car", 10.8, True, 5000]
```

```
a.clear()
```