

**List:** list is an ordered collection of items, similar to arrays in other programming languages. Dart lists are part of the List class in the dart:core library and can hold values of any type. List can be accessed through index starting from zero.

Ex:

```
List<int> numbers = [1, 2, 3, 4,5];
```

```
List<String> names = ['Alice', 'Bob'];
```

### **Empty List:**

Ex: `List<String> emptyList = [];`

### **Accessing elements from the list:**

1) Using for loop:

```
Ex: void main()
{
    List<String> fruits = ['apple', 'banana', 'mango'];
    for (int i = 0; i < fruits.length; i++)
    {
        print(fruits[i]); //[ 'apple', 'banana', 'mango
    }
}
```

2) Using foreach loop:

```
Ex: void main()
{
    List<String> fruits = ['apple', 'banana', 'mango'];
    fruits.forEach((fruit) {
        print(fruit); //[ 'apple', 'banana', 'mango']
    })
}
```

```
});  
}
```

2) Using for-in loop:

Ex: void main()

```
{  
    List<String> fruits = ['apple', 'banana', 'mango'];  
    for (var fruit in fruits)  
    {  
        print(fruit); //['apple', 'banana', 'mango']  
    }  
}
```

Methods of List:

**1) List.filled() :** Create a list with default values.

Ex1: void main()

```
{  
    List<String> n= List.filled(4, 'Guest');  
    print(n); // Output: [Guest, Guest, Guest, Guest]  
}
```

Ex2: void main()

```
{  
    List<int> num = List.filled(4, 0, growable: true);  
    print(num); // [0, 0, 0, 0]  
    num.add(5);  
    print(num); // [0, 0, 0, 0, 5]
```

```
    num.removeAt(1);
```

```
    print(num); // [0, 0, 0, 5]
```

```
}
```

**2) add() :** Add an element to the list.

Ex: void main()

```
{  
    List<int> num = [1, 2, 3];
```

```
        num.add(4);
        print(n);    // [1, 2, 3, 4]
    }
```

**3) remove() :** Remove an element by value.

```
Ex: void main()
{
    List<String> colors = ['red', 'green', 'blue'];
    colors.remove('green');
    print(colors);    // [red, blue]
}
```

**4) contains() :** Check if list contains an element.

Ex:

```
void main()
{
    List<String> fruits = ['apple', 'banana', 'mango'];
    bool hasMango = fruits.contains('mango');
    print(hasMango);    //true
}
```

**5) indexOf() :** Get the index of an element.

```
Ex: void main()
{
    List<String> cities = ['London', 'Paris', 'Tokyo'];
    int index = cities.indexOf('Paris');
    print(index);    // 1
}
```

**6) addAll:** Adds all elements from another list to the current list.

Ex: void main()

```
{
  List<int> a = [1, 2, 3];
  List<int> b = [4, 5];
  a.addAll(b);
  print(a); // [1, 2, 3, 4, 5]
}
```

**7) insert() :** Insert an element at a specific index.

Ex: void main()

```
{
  List<String> fruits = ['apple', 'banana', 'mango'];
  fruits.insert(1, 'orange'); // Insert 'orange' at index 1
  print(fruits); // [apple, orange, banana, mango]
}
```

**Map:** The map method in Dart is used to transform each element in an iterable (like a list) into a new form.

Ex: void main()

```
{
  List<int> numbers = [1, 2, 3];
  var squares = numbers.map((n) => n * n);
  print(squares.toList()); // Output: [1, 4, 9]
}
```

**Where:** Picks elements from a list that match a condition.

Ex: void main()

```
{  
  List<int> num = [1, 2, 3, 4];  
  var e = num.where((n) => n % 2 == 0);  
  print(e.toList()); // Output: [2, 4]  
}
```