Dart – Day4

- A list in Dart is an ordered group of objects. It is of 2 types
  1. **Fixed – Length list**

  ```
  var list = List.filled(5, 0); // List of length 5 filled with 0s
  print(list); // [0, 0, 0, 0, 0]
  ```

  2. **Growable List**

```
void main ()

    {

     List? subj= List.filled(5, null, growable: True);

    subj [0] = 'English';

    subj [1] = 'physics;

    subj [2] = 'chemistry';

subj.add('science') ;// it gets added even though we declared size as 5 because of
growable

    print(subj);

    print(subj [2]);

    }
```

- **Accessing elements from list**

```
my_list = [10, 20, 30, 40, 50]
print(my_list[0])  # First element: 10
print(my_list[-1]) # Last element: 50 (negative indexing)
print(my_list[1:4])    # [20, 30, 40] (elements at index 1 to 3)
```

Using For Loop

```
my_list = [10, 20, 30, 40, 50]

for item in my_list:

print(item)
```

List methods in Dart

```dart
void main() {
  // Create a list
  List<int> numbers = [1, 2, 3, 4, 5];
  print("Original list: $numbers");   // Original list: [1, 2, 3, 4, 5]

  // Add an element
  numbers.add(6);
  print("After add(6): $numbers");  // After add(6): [1, 2, 3, 4, 5, 6]

  // Add multiple elements
  numbers.addAll([7, 8]);
  print("After addAll([7, 8]): $numbers");  // After addAll([7, 8]): [1, 2, 3, 4, 5, 6, 7, 8]

  // Remove an element
  numbers.remove(3);
  print("After remove(3): $numbers"); // After remove(3): [1, 2, 4, 5, 6, 7, 8]

  // Insert an element
  numbers.insert(0, 0);
  print("After insert(0, 0): $numbers");  // After insert(0, 0): [0, 1, 2, 4, 5, 6, 7, 8]

  // Check if list contains a number
  print("Contains 5? ${numbers.contains(5)}"); //prints True
```

```
  // Get a sublist
  List<int> sub = numbers.sublist(2, 5);
  print("Sublist from index 2 to 4: $sub");  // Sublist from index 2 to 4: [2, 4, 5]


  // Sort the list
  numbers.sort();
  print("Sorted list: $numbers"); // Sorted list: [0, 1, 2, 4, 5, 6, 7, 8]


  // Reverse the list
  List<int> reversed = numbers.reversed.toList();
  print("Reversed list: $reversed"); // Reversed list: [8, 7, 6, 5, 4, 2, 1, 0]


  // Use forEach to print elements
  print("Printing each element:"); //Prints every element
  numbers.forEach((num) => print(num));
}
```