Pre notes: Understanding Arrays in JavaScript

* **Definition**: An array is a fundamental data structure in JavaScript that allows developers to store multiple values within a single variable. Arrays provide an efficient way to organise and manipulate collections of data, making them a core concept in programming.

Characteristics of Arrays

* **Dynamic Size**: JavaScript arrays can dynamically grow and shrink in size as needed.
* **Zero-Indexed**: The first element of an array is accessed at index 0, the second at index 1, and so on.
* **Heterogeneous**: Arrays can contain elements of different types, such as numbers, strings, objects, or other arrays.

Creating Arrays

**Using Array Literals**:  
javascript  
Copy code  
const fruits = ['apple', 'banana', 'cherry'];

**Using the Array Constructor**:  
  
const numbers = new Array(1, 2, 3);

Common Array Methods

* **Adding Elements**:

**push()**: Adds one or more elements to the end of an array.

fruits.push('date'); // ['apple', 'banana', 'cherry', 'date']

**unshift()**: Adds one or more elements to the beginning of an array.  
  
 fruits.unshift('kiwi'); // ['kiwi', 'apple', 'banana', 'cherry', 'date']

* **Removing Elements**:

**pop()**: Removes the last element of an array and returns that element.  
  
const lastFruit = fruits.pop(); // 'date'

**shift()**: Removes the first element of an array and returns that element.  
  
const firstFruit = fruits.shift(); // 'kiwi'

* **Accessing Array Elements**:

Use the index to access elements in an array.  
  
 const firstFruit = fruits[0]; // 'apple'