

data structures

Array

```
// array / list

let arr = [
  { id: 1, name: 'product-1', price: 100 },
  { id: 2, name: 'product-2', price: 200 },
  { id: 3, name: 'product-3', price: 300 }
]

//-----

// mutable
// arr.push({ id: 4, name: 'product-4', price: 400 })
// arr.unshift({ id: 4, name: 'product-4', price: 400 })

// immutable
// let newProducts=arr.concat({ id: 4, name: 'product-4', price: 400 })

//-----

// let result = arr.slice(0, 2)

//-----

// let result = arr.splice(0, 2)
// let result = arr.splice(0, 2, { id: 11, name: 'product-11', price: 100 })

//-----

// filter

// let result = arr.filter(function (item) { return item.price < 200 })

//-----

// map ==> transform

// let result = arr.map(function (item) { return { name: item.name, price: item.price } })

//-----

// let result = arr.every(function (item) { return item.price > 0 })
// let result = arr.some(function (item) { return item.price > 200 })

//-----

// let idx = arr.findIndex(function (item) { return item.price === 200 })
```

```
// let item = arr.find(function (item) { return item.price === 200 })

//-----

let items = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

// let str = items.join("-")
// let isExist = items.includes(5)

// items.forEach(function (item) {
//     console.log(item)
// })

// items.reverse();

/**
 *
 *   sort
 *
 *     ==> compare
 *     ==> swap
 *
 */

items.sort(function (n1, n2) {
    return n2 - n1;
})

//-----
```

```
// set

// Es6

const uniqueNumbers = new Set()
uniqueNumbers.add(1)
uniqueNumbers.add(1)
uniqueNumbers.add(2)
uniqueNumbers.add(3)

//

let car1 = { model: 'model1', year: 2020 }
let car2 = { model: 'model1', year: 2020 }

const cars = new Set()
cars.add(car1)
cars.add(car2)

console.log(cars.size)
```

```
// ???
```

```
// map
```

```
var map = new Map();
```

```
map.set("Nag", "car1")
```

```
map.set("Indu", "car2")
```

```
console.log(map.get("Nag"))
```

```
//-----
```

```
let owner1 = { name: 'Nag' }
```

```
let owner2 = { name: 'Indu' }
```

```
let car1 = { model: 'car1' }
```

```
let car2 = { model: 'car2' }
```

```
let carMap = new Map();
```

```
carMap.set(owner1, car1)
```

```
carMap.set(owner2, car2)
```

```
console.log(carMap.get(owner1))
```

```
console.log(carMap.get({name: 'Indu'})) // ?
```