**Introduction to Array**

An array is a basic data structure to store a collection of elements sequentially. But elements can be accessed randomly since each element in the array can be identified by an array index.

An array can have one or more dimensions. Here we start with the one-dimensional array, which is also called the linear array. Here is an example:

A number on a white surface

AI-generated content may be incorrect.

In the above example, there are 6 elements in array A. That is to say, the length of A is 6. We can use A[0] to represent the first element in the array. Therefore, A[0] = 6. Similarly, A[1] = 3, A[2] = 8 and so on.

*Operations in Array*

Let's take a look at the usage of the array.

// "static void main" must be defined in a public class.

public class Main {

public static void main(String[] args) {

// 1. Initialize

int[] a0 = new int[5];

int[] a1 = {1, 2, 3};

// 2. Get Length

System.out.println("The size of a1 is: " + a1.length);

// 3. Access Element

System.out.println("The first element is: " + a1[0]);

// 4. Iterate all Elements

System.out.print("[Version 1] The contents of a1 are:");

for (int i = 0; i < a1.length; ++i) {

System.out.print(" " + a1[i]);

}

System.out.println();

System.out.print("[Version 2] The contents of a1 are:");

for (int item: a1) {

System.out.print(" " + item);

}

System.out.println();

// 5. Modify Element

a1[0] = 4;

// 6. Sort

Arrays.sort(a1);

}

}