

Module 1--1.5

Notebook: Module 1_note

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Author: Runan Yang

Tags: array in java, Creating, initializing and changing items in an array.

- `ArrayIndexOutOfBoundsException`,

this error occurs when java running the class file; which means, the array does not have the item; is not that long to contain

1. initialize the array

usually, int, short, long, char, byte are set as 0; by default; and float, double, as 0.0; boolean as false.

this is dynamic definition;

- The format is `"DataType[] ArrayName = new DataType[]"`-----

This is well-defined; or stable constant definition.

- Or, the format can also be `DataType[] ArrayName = {item1, item2, item3,...}`
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2 Stack and heap

There are two types of RAM in java. One is Heap and the other is stack. Usually, the variables one defined are saved on stack; while, the array is saved on Heap.

Thus, all the operators on array should be running on Heap, instead of Stack. So, loop is needed.

If an array B takes all the values of the other array A, array B will become an array with null elements. The garbage collection in java will recycle it.

3 Pros and cons

- it is fast using an array, based on index
- type, is certain, pre-defined and identical
- RAM, for array, continuous; length could not be edited or changed later.
- not efficient to add or delete an element

4 Copy array

`System.arraycopy(ArrayOne, index1, ArrayTwo, index2, index22)`
index2 and index22 are two indexes of ArrayTwo.

This is actually, copying the address where the elements locate in Heap.

5 Two dimensional array

It is an array of arrays.

`Array.length`

`Brr.length` is the length of two-dimensional arrays; which is the number of arrays

`Brr[0].length` is the length of one array, the component of Brr.

format: `int[][] brr = new int;`