Array

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10. Introduction

* An array is an indexed collection, fixed no. of homogenous data elements.
* The main advantage is we can represent multiple values by using single variables so that readability of the code will be improved.
* The main disadvantage or limitation of array is fixed in size; that is once we create an array there is no chance of increasing the size based on our requirement.
* Hence to use arrays compulsory we should know the size in advance which may not possible always.

One Dimensional Array Declaration

|  |
| --- |
| Int[] x;//recommended to use because name is clearly separated from type  Int []x;  Int x[] |

Note:

* At the time of declaration, we can’t specify the size otherwise we will get compile time error.

|  |
| --- |
| Int[6] x;//X,because at the time of declaration the size can not be specified.  Int[] x;//Ok |

Two Dimensional Array Declarations

|  |  |
| --- | --- |
| Int[][] x;  Int [][]x;  Int x[][]; | Int[] []x;  Int[] x[];  Int []x[]; |

Two Dimensional Array Declarations

|  |  |
| --- | --- |
| Int[][][] x;  Int [][][]x;  Int x[][][];  Int[][] []x;  Int [][] x[]; | Int[] x[][];  Int [] []x[];  Int[] [][]x;  In |

Q1. Which are the following are valid declarations:

1. Int[] a,b; a-1,b-1
2. Int[] a[],b;a-2,b-1
3. Int[] []a,b;a-2,b-2
4. Int[] []a,b[];a-2,b-3
5. Int[] []a,[]b;CE

Note:

* If we want to specify the dimension before the variable that facility is available only for the first variable in a declaration.
* If we are trying to apply for remaining variable then we will get CE.

Ex-

Int[] []a, []b, []c;//2nd and 3rd is CE.

1. Array Creation

* Every array in Java is an object and hence we create array using new operator.

Ex-

|  |
| --- |
| array1.png |

* For every type corresponding classes are available, these are part Java language and not available to Programmer level.
* Int[] x=new int[3];
* Sopln(x.getClassName().getName();

|  |  |
| --- | --- |
| Array type | Corresponding class name |
| Int[] | I |
| Int[][] | [[I |
| Byte[] | [B |
| Short | [S |
| Boolean[] | [Z |
| ……… |  |

* At the time of array creation, compulsory we have to specify size otherwise we will get compile time error.

Ex- int[] x=new int[];//X

Int[] x=new int[3];

* It is legal to have an array with size zero in Java.

Ex- int[] x=new int[0];

* If we are tying to specify netgatove int value then we will get negive is number then we are going to get RN: