

JAVA.UTIL.ARRAYS.BINARYSEARCH METHOD

http://www.tutorialspoint.com/java/util/arrays_binarysearch_int.htm

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Description

The **java.util.Arrays.binarySearch**(int[] a, int key) method searches the specified array of ints for the specified value using the binary search algorithm. The array must be sorted before making this call. If it is not sorted, the results are undefined.

Declaration

Following is the declaration for **java.util.Arrays.binarySearch** method

```
public static int binarySearch(int[] a, int key)
```

Parameters

- **a** -- This is the array to be searched.
- **key** -- This is the value to be searched for.

Return Value

This method returns index of the search key, if it is contained in the array, else it returns $-(\text{insertionpoint} - 1)$. The insertion point is the point at which the key would be inserted into the array: the index of the first element greater than the key, or a.length if all elements in the array are less than the specified key.

Exception

- **NA**

Example

The following example shows the usage of java.util.Arrays.binarySearch method.

```
package com.tutorialspoint;

import java.util.Arrays;

public class ArrayDemo {

    public static void main(String[] args) {

        // initializing unsorted int array
        int intArr[] = {30,20,5,12,55};

        // sorting array
        Arrays.sort(intArr);

        // let us print all the elements available in list
        System.out.println("The sorted int array is:");
        for (int number : intArr) {
            System.out.println("Number = " + number);
        }

        // entering the value to be searched
        int searchVal = 12;

        int retVal = Arrays.binarySearch(intArr, searchVal);

        System.out.println("The index of element 12 is : " + retVal);
    }
}
```

Let us compile and run the above program, this will produce the following result:

```
The sorted int array is:  
Number = 5  
Number = 12  
Number = 20  
Number = 30  
Number = 55  
The index of element 12 is : 1
```

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