Executing the program to verify the execution of the exponential search algorithm

Program:

import java.util.Arrays;

class Exponential

{

// first occurrence of

// x in array

static int exponentialSearch(int arr[],int n, int x)

{

// If x is present at first location itself

if (arr[0] == x)

return 0;

// Find range for binary search by

// repeated doubling

int i = 1;

while (i < n && arr[i] <= x)

i = i\*2;

// Call binary search for the found range.

return Arrays.binarySearch(arr, i/2,

Math.min(i, n-1), x);

}

// Driver code

public static void main(String args[])

{

int arr[] = {2, 3, 4, 10, 40};

int x = 10;

int result = exponentialSearch(arr,

arr.length, x);

System.out.println((result < 0) ?

"Element is not present in array" :

"Element is present at index " +result);

}

}

Output:

Element is present at index 3