import java.util.Arrays;

import java.util.Scanner;

public class BinarySearch {

public static int binarySearch(int[] arr, int target) {

int left = 0;

int right = arr.length - 1;

while (left <= right) {

int mid = left + (right - left) / 2;

if (arr[mid] == target) {

return mid; // Return the index if the target element is found

}

if (arr[mid] < target) {

left = mid + 1; // Search in the right half

} else {

right = mid - 1; // Search in the left half

}

}

return -1; // Return -1 if the target element is not found

}

public static void main(String[] args) {

int[] array = {6, 10, 15, 18, 25, 30, 42};

System.out.print("Enter the element to search for: ");

Scanner scanner = new Scanner(System.in);

int target = scanner.nextInt();

int index = binarySearch(array, target);

if (index != -1) {

System.out.println("Element found at index " + index);

} else {

System.out.println("Element not found in the array.");

}

}

}

