**Binary search**

**Description**

Write a program that finds the index of given element **X** in a sorted array of **N** integers by using the [Binary search](https://en.wikipedia.org/wiki/Binary_search_algorithm) algorithm.

**Input**

* On the first line you will receive the number **N**
* On the next **N** lines the numbers of the array will be given
* On the last line you will receive the number **X**

**Output**

* Print the index where **X** is in the array
  + If there is more than one occurence print the first one
  + If there are no occurences print -1

**Constraints**

* 1 <= **N** <= 1024
* Time limit: **0.1s**
* Memory limit: **16MB**

**Sample tests**

| **Input** | **Output** |
| --- | --- |
| 10 **1 2 4 8 16 31 32 64 77 99** 32 | 6 |