

Prittt..Prittt

A group of students with distinct height are gathering in the field. After that, the sports lecturer instructs the student to form a line where the student behind is always higher than the student in front of him. After that, the sports lecturer will call students based on their height. If there are students with that height, output the position of the student. If not, output -1.

Format Input

The first line contains the integer N which indicates the number of students in the field. The next line contains N numbers that indicate the height of each student. In the next line, there is an integer Q which is the number of calls to be made by a sports lecturer. Next Q lines contain the height which is being called.

Format Output

Output Q rows, each of which is the output of the height which is being called.

Constraints

- $1 < N < 10^5$
- $1 \le A_i \le 2 \times 10^5$, where A_i is the height of the i-th student. It is guaranteed that there's no student heigh the same.
- $1 \le Q \le 10^5$
- $1 \le X_i \le 2 \times 10^5$, where X_i is a height called by a sports lecturer.

Sample Input (standard input)

```
5
154 172 158 164 160
4
154
172
155
164
```

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Sample Output (standard output)

1		
5		
-1		
4		

Explanation

After being sorted, students will line up with height 154, 158, 160, 164, 172.

154 is in 1st position.

172 is in 5th position.

There are no students with a height of 155.

164 is in 4th position.



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Sekelompok siswa dengan tinggi badan yang berbeda sedang berkumpul di lapangan. Setelah itu, dosen olahraga menyuruh mahasiswa tersebut untuk membentuk barisan dimana mahasiswa yang dibelakang selalu lebih tinggi dari mahasiswa di depannya. Setelah itu, dosen olahraga akan memanggil mahasiswa berdasarkan tinggi badannya. Jika ada mahasiswa dengan tinggi tersebut, keluarkan urutan dari mahasiswa tersebut. Jika tidak, keluarkan -1.

Format Input

Baris pertama berisi sebuah bilangan bulat N yang menandakan jumlah mahasiswa di lapangan. Baris berikutnya terdapat N buah angka yang menandakan tinggi badan setiap mahasiswa. Kemudian terdapat sebuah bilangan bulat Q yang merupakan jumlah pemanggilan yang akan dilakukan dosen olahraga. Q baris berikutnya terdapat tinggi badan yang dipanggil.

Format Output

Keluarkan Q baris yang masing-masing merupakan hasil keluaran dari pemanggilan tinggi badan.

Constraints

- $1 \le N \le 10^5$
- $1 \le A_i \le 2 \times 10^5$, dimana A_i merupakan tinggi badan mahasiswa ke-i. Tidak ada mahasiswa dengan tinggi yang sama.
- $1 \le Q \le 10^5$
- $1 \le X_i \le 2 \times 10^5$, dimana X_i merupakan pemanggilan tinggi badan yang dilakukan oleh dosen olahraga.

Sample Input (standard input)

```
5
154 172 158 164 160
4
154
172
155
```

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164

Sample Output (standard output)

1	.^\/	
5		
-1		
4		

Explanation

Setelah diurutkan, mahasiswa akan berbaris dengan tinggi badan 154, 158, 160, 164, 172. 154 berada di posisi ke-1.

172 berada di posisi ke-5.

Tidak ada mahasiswa dengan tinggi 155.

164 berada di posisi ke-4.



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