Problem: Climbing The Leader Board

Alice is playing an arcade game and wants to climb to the top of the leaderboard. Can you help her track her ranking as she beats each level? The game uses Dense Ranking, so its leaderboard works like this:

- The player with the highest score is ranked number on the leaderboard.
- Players who have equal scores receive the same ranking number, and the next player(s) receive the immediately following ranking number.

For example, four players have the scores , , , and . Those players will have ranks , , , and , respectively.

When Alice starts playing, there are already people on the leaderboard. The score of each player is denoted by . Alice plays for levels, and we denote her total score after passing each level as . After completing each level, Alice wants to know her current rank.

You are given an array, , of *monotonically decreasing* leaderboard scores, and another array, , of Alice's cumulative scores for each level of the game. You must print integers. The integer should indicate the current rank of alice after passing the level.

Input Format

The first line contains an integer, , denoting the number of players already on the leaderboard.

The next line contains space-separated integers describing the respective values of .

The next line contains an integer, , denoting the number of levels Alice beats.

The last line contains space-separated integers describing the respective values of .

Constraints

-
-
- for
- for
- The existing leaderboard, , is in *descending* order.
- Alice's scores are cumulative, so is in *ascending* order.

Subtask

For of the maximum score:

-
-

Output Format

Print integers. The integer should indicate the rank of alice after passing the level.

Sample Input 0

```
7
100 100 50 40 40 20 10
4
5 25 50 120
```

Sample Output 0

```
6
4
2
1
```

Explanation 0

Alice starts playing with players already on the leaderboard, which looks like this:

Rank	Name	Score
1	Emma	100
1	David	100
2	Caroline	50
3	Ritika	40
3	Tom	40
4	Heraldo	20
5	Riley	10

After Alice finishes level , her score is and her ranking is :

Rank	Name	Score
1	Emma	100
1	David	100
2	Caroline	50
3	Ritika	40
3	Tom	40
4	Heraldo	20
5	Riley	10
6	**Alice**	**5**

After Alice finishes level , her score is and her ranking is :

Rank	Name	Score
1	Emma	100
1	David	100
2	Caroline	50
3	Ritika	40
3	Tom	40
4	**Alice**	**25**
5	Heraldo	20
6	Riley	10

After Alice finishes level , her score is and her ranking is tied with Caroline at :

Rank	Name	Score
1	Emma	100
1	David	100
2	Caroline	50
2	**Alice**	**50**
3	Ritika	40
3	Tom	40
4	Heraldo	20
5	Riley	10

After Alice finishes level , her score is and her ranking is :

Rank	Name	Score
1	**Alice**	**120**
2	Emma	100
2	David	100
3	Caroline	50
4	Ritika	40
4	Tom	40
5	Heraldo	20
6	Riley	10

Solution

```
int main()
   {
      long players, games;
      cin>>players;
      long scores[players];
      vector <long> ranks;
      long counter=0;
      for(long i=0; i<players; i++)
         {
            cin>>scores[i];
           if(i==0)
               { ranks.push_back(scores[i]); }
           else if(scores[i]<ranks[counter])
               { counter++;
                 ranks.push_back(scores[i]);
               }
         }

      cin>>games;
      long alice[games];
      long headsup=ranks.size()-1;
      for(long i=0; i<games; i++)
         {
            cin>>alice[i];
```

```
            long flag=0;
            for(long j=headsup; j>=0 && flag!=1; j--)
               {
                  if(alice[i]==ranks[j])
                     {cout<<j+1<<endl;
                      headsup=j;
                      flag=1;
                     }
                  else if(alice[i]<ranks[j])
                     {cout<<j+2<<endl; flag=1;
                      headsup=j;}
               }
            if(flag==0){cout<<"1"<<endl; headsup=0;}
         }
   return 0;
}
```

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