2003 Canadian Computing Competition, Stage 2
Day 2, Question 2

Input file: `substr.in`
Output file: `substr.out`
Source file: `n:\substr\substr.___`

Longest Substring

Within a sequence S of integers, find the longest contiguous subsequence that contains every integer at most once. In other words, find the longest contiguous subsequence in which no integer is repeated. If there are several such subsequences, find the one that occurs first in S.

Input

The input file will consist of the elements of S, one per line, in sequence, followed by 0. Each element of S is a positive integer less than 65536. You should not assume anything about the length of S.

Output

The output file should contain the correct subsequence of S, one element per line.

Sample Input

```
1
9
5
3
1
2
8
3
9
0
```

Sample Output

```
9
5
3
1
2
8
```