Problem 2

Master Index

6 Points

Program Name: index.cpp Input File: index.dat

Introduction

You are a student of Master Index, a world-renowned author of indices. Master Index is retiring soon and will recommend you as his replacement, if you are able to prove yourself. The rules of indexing are simple:

Given an index term and a list of page numbers, an index entry consists of:

1. The index term, followed by a single comma.
2. A list of sequentially-ordered page numbers the term appears on. Each page number will be separated by a single comma, unless there is a series of two or more consecutive page numbers, in which case instead of each page being listed, the first page number in the series is listed, followed by a single dash and the last page number in the series.

To prove yourself to Master Index, you wish to write a program that will write index entries.

Input

Input to this problem will consist of a (non-empty) series of up to 100 data sets. Each data set will be formatted according to the following description, and there will be **no blank lines** separating data sets.

A single data set has 3 components:

1. *Start line* - A single line, "START A B", where A is the index term and B (1 <= B <= 100) is the number of pages on which the term appears. An index term will consist of a single word containing one to twenty alphanumeric characters.
2. Each of the next B lines will contain a page number the index term appears on. The page numbers will be sequentially ordered.
3. *End line* - A single line, "END"

Output

For each data set, there will be exactly one line of output. The output is the index entry, formatted according to the description in the introduction.

Example: Input File

```
START broccoli 7
138
140
141
142
144
145
150
END
START cheese 1
138
END
START doughnuts 2
28
30
END
```

Output to screen

```
broccoli,138,140-142,144-145,150
cheese,138
doughnuts,28,30
```