

## Problem 4 – Query Mess

Ivancho participates in a team **project** with colleagues at **SoftUni**. They have to develop an **application**, but something *mysterious* happened – at the last moment all team members... disappeared! And guess what? He is left **alone** to finish the project. All that is left to do is to parse the input data and store it in a special way, but Ivancho has no idea how to do that! Can you help him?

### Input

The input comes from the console on a variable number of lines and ends when the keyword **"END"** is received.

For each row of the input, the query string contains pairs **field=value**. Within each pair, the field name and value are separated by an equals sign, '='. The series of pairs are separated by an **ampersand**, '&'. The **question mark** is used as a **separator** and is **not** part of the query string. A URL query string may contain **another URL** as value. The input data will always be **valid** and in the format described. There is no need to check it explicitly.

### Output

For each input line, print on the console a line containing the **processed string as follows**:

key=[value]nextkey=[another value] ... etc.

**Multiple whitespace** characters should be reduced to one inside value/key names, but there shouldn't be any whitespaces before/after extracted **keys** and **values**. If a key **already exists**, the value is added with comma and space after other values of the existing key in the current string. See the **examples** below.

### Constraints

- SPACE is encoded as '+' or "%20". Letters (A-Z and a-z), numbers (0-9), the characters '\*', '-', '.', '\_' and *other non-special symbols* are left as-is.
- Allowed working time: 0.1 seconds. Allowed memory: 16 MB.

### Examples

Input	Output
login=student&password=student END	login=[ student]password=[ student]
field=value1&field=value2&field=value3 <a href="http://example.com/over/there?name=ferret">http://example.com/over/there?name=ferret</a> END	field=[value1, value2, value3] name=[ferret]
foo=%20foo&value=+val&foo+=5+%20+203 foo=poo%20&value=valley&dog=wow+ url=https://softuni.bg/trainings/coursesinstances/details/1070 <a href="https://softuni.bg/trainings.asp?trainer=nakov&amp;course=oop&amp;course=php">https://softuni.bg/trainings.asp?trainer=nakov&amp;course=oop&amp;course=php</a> END	foo=[foo, 5 203]value=[val] foo=[poo]value=[valley]dog=[wow] url=[https://softuni.bg/trainings/coursesinstances/details/1070] trainer=[nakov]course=[oop, php]