Problem 7	**Too Many Acronyms**	9 Points

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

Personal story from the author

When I first joined International Business Machines Incorporated, I was working on the Space Station Freedom On-Board software. International Business Machines Incorporated was subcontracted by McDonnell Douglas Aerospace Corporation on a contract to the National Aeronautics and Space Administration. I was the technical lead for the System Management Computer Software Configuration Item, which included Fault Detection, Isolation, and Recovery.

Unfortunately, the heavy use of acronyms made it nearly impossible to understand anything I read for the first three months. The following paragraph is a restatement of the above paragraph using the acronyms.

When I first joined IBM, I was working on the SSF On-Board software. IBM was subcontracted by MDAC on a contract to the NASA. I was the technical lead for the SM CSCI which included FDIR.

Clearly the use of acronyms allows written prose to use much less space. But, the saving of space is a moot point if the prose cannot be understood. It is your job to write a program that will read a file of sentences with embedded acronyms and produce updated sentences that substitute the expanded meanings of the acronyms. The following table contains the list of acronyms that your program should recognize.

Acronym	Meaning
NASA	National Aeronautics and Space Administration
IBM	International Business Machines Incorporated
FDIR	Fault Detection, Isolation, and Recovery
CSCI	Computer Software Configuration Item
N2	Nitrogen
O2	Oxygen
CW	Caution and Warning
SDT	Smoke/Fire, Rapid Depression, and Toxic Atmosphere
FSS	Fire Suppression System
SSF	Space Station Freedom
DMC	Daily Maintenance Cycle
FSD	Fire/Smoke Detected
AR	Affected Region
LCV	Loss of Crew and Vehicle
SM	System Management

Your program will read a series of lines of input that are each up to 20 characters in length. Your program is to:

1) Read each line of input.
2) Scan it for acronyms defined in the above table. Acronyms should appear exactly as in the above table and can be delimited by non-alphanumeric characters, the beginning of the line, and the end of the line. For example, "N2 is inert" contains the acronym N2 because it is delimited by the beginning of the line and a space. "H2O2 is a medicine" does not contain an acronym because O2 is delimited by the numeric character "2" in front.
3) Substitute the acronym's meaning into the string. Replace **only** the acronym and leave all other characters, spaces, punctuation, etc.
4) Write the updated string to the screen.

Input

Input to your program consists of a series of lines of input that your program should process using the steps above. You may assume that no line of input contains more than 20 characters but there is no limit to the number of lines of input.

Output

For each line of input, your program should print the updated input line using the above steps. You may assume that no output line will contain more than 80 characters.

Example: Input File

```
The SSF FSS system
must be purged with
N2 during a DMC.
Seepage past the N2
dispersal nozzle
allows a buildup of
O2 in the FSS feeder
lines.  When the SDT
detection system
issues a FSD CW to
FDIR, a command is
issued to the FSS
to disperse N2 to
the AR.  If the FSS
lines have not been
purged, the fire
will be fanned with
O2 instead of being
extinguished with N2
leading to a possible
LCV event.
```

Output to screen

```
The Space Station Freedom Fire Suppression System system
must be purged with
Nitrogen during a Daily Maintenance Cycle.
Seepage past the Nitrogen
dispersal nozzle
allows a buildup of
Oxygen in the Fire Suppression System feeder
lines.  When the Smoke/Fire, Rapid Depression, and Toxic Atmosphere
detection system
issues a Fire/Smoke Detected Caution and Warning to
Fault Detection, Isolation, and Recovery, a command is
issued to the Fire Suppression System
to disperse Nitrogen to
the Affected Region.  If the Fire Suppression System
lines have not been
purged, the fire
will be fanned with
Oxygen instead of being
extinguished with Nitrogen
leading to a possible
Loss of Crew and Vehicle event.
```