Prog1: Multi-base input to binary output w/ fancy input file (CS220-02, 05)

Develop a C (or C++) program that reads an unsigned number in some base and outputs the equivalent value in BCD. Please use only a single source file so I can more easily script the downloading and compiling of your submissions.

Your program must require a single command line argument, the name of an input file. This input file will consist of any number of lines, each falling into one of three varieties:

1. Comment - These lines always start with an asterisk ('*') and should be completely ignored.
2. Blank line - Used to visually organize the input file and should be completely ignored.
3. Data line - These are the ones your program will process and are described below.

Data lines will all have exactly two items separated by a single space character:

1. an **input base** (2 through 16) and
2. an **input value** in that base whose *decimal equivalent will never be more than 6 digits*

For each Data line from the input file, you must output:

1. the line number of the input file this data line is on (starting the file with line 1… same as a text editor would show)
2. a colon followed by a space
3. the BCD equivalent of the **input value**, four bits at a time with one space between each set of bits. Remember the decimal values will not exceed 6 digits, so the BCD value will never exceed 24 bits, not including whitespace between 4-bit sets. **NEVER** print any leading bit sets that contain only zeros…
    a. eg, instead of 0000 0101 0000 1000, you would print 0101 0000 1000

Example input file		**Expected output to console**

`* a first example`
`2 011000`
 	
`8 70`
`7 0`
`11 3A`
 	
`* this is long`
`10 123456`
		`2: 0010 0100`
		`4: 0101 0110`
		`5: 0110 0011`
		`6: 0101 0101`
		`9: 0001 0010 0011 0100 0101 0110`

Your output must precisely match the instructor's so test carefully against the examples.