**The problem**

You’re tasked with taking entries of personal information in multiple formats and normalizing each entry into a standard JSON format.

**Input**

Your program will be fed an input file of n lines. Each line contains “entry” information, which consists of a first name, last name, phone number, color, and zip code.

The order and format of these lines vary in three separate ways. The three acceptable formats are as follows:

Lastname, Firstname, (703)-742-0996, Blue, 10013

Firstname Lastname, Red, 11237, 703 955 0373

Firstname, Lastname, 10013, 646 111 0101, Green

A line is defined as invalid if it does not comply with one of the formats shown above. Invalid lines should not interfere with the processing of subsequent valid lines. A zip code is considered valid if it has 5 digits, and no other characters. A phone number is considered valid if it has 7, and only 7, digits. A phone number may have other non-numerical characters however, as shown shown above.

**Output**

The program should write a valid, formatted JSON object out to result.out. The JSON representation should be indented with two spaces. Within the JSON object should be a list named “entries”. The “entries” list should be sorted in ascending alphabetical order by (last name, first name).

Successfully processed lines should result in a normalized addition to the list associated with the “entries” key. For lines that were unable to be processed, a line number i (where 0 ≤ i < n) for each faulty line should be appended to the list associated with the “errors” key. The first line in the file is numbered 0.

**Sample**

For the input

Booker T., Washington, 87360, 373 781 7380, yellow

Chandler, Kerri, (623)-668-9293, pink, 123123121

James Murphy, yellow, 83880, 018 154 6474

asdfawefawea

We should receive the output

{ "entries": [

{ "color": "yellow", "firstname": "James", "lastname": "Murphy", "phonenumber": "018-154-6474", "zipcode": "83880"

}, {

"color": "yellow", "firstname": "Booker T.", "lastname": "Washington", "phonenumber": "373-781-7380", "zipcode": "87360"

} ],

"errors": [ 1,

3 ]

}