Veea Inc

Congratulations! Veea Inc is really interested in your Software Engineering skills.

This is intended to be a small coding exercise, consisitng of three parts, meant to gauge your programming skills in Java. Take this opportunity to show off your design skills, testing abilities and detailed attention to corner cases.

Your solution should be well documented and tested to production standard. Feel free to use any Java framework(s) you are comfortable with for any or all the questions.

Coding challenge

Part I

Given input string of the format
`firstname lastname, address, zipcode, phone number, color`

Example:

"Donald Duck, 1 Disneyland, 99999, 876-543-2104, Golden"

Question 1.

Create a corresponding Java class (POJO) that can model the above raw data.

Question 2.

Your program will be fed an input file of n lines. You are required to read csv values, one line at a time, and convert them to a object of the above class. The code should be able to handle various erroneous scenarios like wrongly formatted input string.

Question 3.

Going a step further, the order and format of these input lines vary in four separate ways. Make sure your code is robust enough to accept the following 4 input formats-

```
1. Duck, Donald, (703)-742-0996, Golden, 99999
(firstname, lastname, number, color, zipcode)
2. Donald Duck, Golden, 99999-1234, 703 955 0373
(firstname lastname, color, zipcode, phone number)
3. Donald, Duck, 99999, 646 111 0101, Golden
(firstname, lastname, zipcode, phone number, color)
4. Donald Duck, 1 Disneyland, 99999, 876-543-2104, Golden
(firstname lastname, address, zipcode, phone number, color)
```

NOTE:

Some lines may be invalid (does not conform to any of the above formats) and should not hinder the processing of subsequent valid lines. Invalid lines should generate a warning log.

Question 4.

Write a method to print number of people that belong to each color, example output:

```
Green   5
Golden  2
Yellow  1
.
.
.
```

Question 5.

Write a method that prints the color, the count and the names of people who belong to that color

```
Golden  2   Donald Duck, Mickey Mouse
Yellow  1   Minnie Mouse
.
.
.
```

Question 6.

Implement an API that returns a JSON corresponding to the data generated in Question4 and Question5

Question4 API Reply

```
[{
    "color": "Green",
    "count": 5
},
.
.
.
]
```

Question5 API Reply

```
[{
    "color": "Golden",
    "count": 2,
    "names": ["Donald Duck", "Mickey Mouse"]
},
.
.
.
]
```

Part II

Now that you are done with the first part, we want to see how you interact with 3rd party APIs.

We want to fetch list of Venues from an external source, in this case Foursquare. The API that we want to use is https://developer.foursquare.com/docs/api/venues/search, you can hardcode or get creative with the required parameters for the search API so that you are able to get some results to work with.

Once you have managed to fetch results from Foursquare, the next thing to do is to add an API to your project that returns list of names of venues in the following JSON format -

```
{
     "places": [
         "Just Salad",
        "Mcdonalds",
         "Chipotle"
         .
         .
         .
     ]
}
```

The `names` for the JSON should be obtained from the `name` field in the Venue object.

Link to get started - https://developer.foursquare.com/, you will need to create an account with Foursquare and create an Application to get `client_id` and `client_secret` tokens.

Part III

Host the application that answers all the previous questions on the cloud (e.g. Heroku, AWS, DigitalOcean) and add an API endpoint that allows to POST a data point with `firstname lastname, address, zipcode, phone number, color` and returns the ID for the created object. Use any DB as persistence for this question.

How to submit

Package up your code, with a text file telling us how to run it, in a tar.gz file. And reply with these attachments to the initial email you received with the coding challenge.