Technical Test — Development

Please choose ONE problem from the two given here. Feel free to use any programming language and 3rd party libraries that you find suitable for the tasks. We expect you to work on your own. Please place the solution in a publicly accessible location (GitHub, Dropbox, etc.) and e-mail the URL to sdo-applications@ebi.ac.uk by 5pm on 30th May, 2018.

Whichever problem you tackle ensure you include sufficient details on how to build, deploy and run your code.

Problem 1

Create a simple RESTful API which provides a service for storing, updating, retrieving and deleting Person entities such as those represented in the JSON below:

```
{
  "person": [
    {
      "first_name": "John",
      "last_name": "Keynes",
      "age": "29",
      "favourite_colour": "red"
    },
    {
      "first_name": "Sarah",
      "last_name": "Robinson",
      "age": "54",
      "favourite_colour": "blue"
    }
  ]
}
```

You may use an in-memory database as a proof of concept for this test. Consider your implementation in light of the following topics, which you may be asked about during interview:

(a) Testing
(b) Security

(c) Scalability

(d) Limitations

(e) Documentation

(f) Deployment

Problem 2

Create a client which generates Person entities represented as JSON objects such as these:

```
{
  "person": [
    {
      "first_name": "John",
      "last_name": "Keynes",
      "age": "29",
      "favourite_colour": "red"
    },
    {
      "first_name": "Sarah",
      "last_name": "Robinson",
      "age": "54",
      "favourite_colour": "blue"
    }
  ]
}
```

The client should consume both direct user input and text files with the following format:

```
first_name,surname,age,nationality,favourite_colour
John,Keynes,29,British,red
Sarah,Robinson,54,,blue
```

Note that the 'nationality' field does not need to be represented in the output. Consider how to test your client, could any tests be automated? How would you package your client for distribution? How difficult would it be to change the output format, add alternative formats or additional fields?