Programming test

Please note

All programs must work on Linux.

#1: IP address lookup

Terminal program will be executed like this:

```
./program --database ./database.txt 10.1.2.3
```

Program may be written in C, C++, PHP, Python, Ruby etc.

Make sure PHP and C (or C++) version of the program is included every time.

Program description

`database.txt` will be a text file that contains IP address ranges in form of:

```
10.1.0.0/16
127.0.0.0/8
192.168.8.0/24
...
```

The task of the program is to find and print out all ranges for the IP address supplied as an argument.

Expected output for the above may be:

```
10.1.0.0/16
```

Bonus points

Make a second version of the program that does the same, but this time, instead of plain-text file have it read SQLite database as a file.

You have all freedom to design SQLite database.

#2: Simple web page

Make a table with 3 columns:

```
+----+------+--------+
| ID | Name | E-mail |
+----+------+--------+
```

- Fill it with some random data (from JavaScript)
- E-mail must be clickable anchor.
- Each row must have hover effect (say mouse moves over - it is some other colour)
- Make it so that each row has different background colour (odd/even rows)
- Style it nicely.

Criteria

All elements (`table`, `rows`, `cells`, `anchors`) must be created with JavaScript without usage of *jQuery*, *Prototype* or any other 3rd party library. So direct access to DOM. Style changes should be done either via CSS or controllable from JavaScript (hover etc).

It must work on all browsers - MSIE, Firefox, Safari, Chrome, Opera etc.

Pay attention to code style, tabs, output and the rest as all will be looked into.

#3: Complex web page (JavaScript)

Make a test admin web page that has the following:

- Add User
- Edit User
- Delete User
- Search User

Each user should have at least these properties:

- Full name
- Username
- E-mail
- Password

Other properties may be implemented.

List should have pagination at certain record limit (e.g. 10 records per page).

Bonus points:

- Local storage of data
- Looks good (and font icons)
- Duplicates not allowed
- Search works well
- Performance
- Additional clever bits

Make it so that it works as a single JavaScript-based web page and make sure it looks good (it may be split into multiple resources, stylesheets etc. but it is not to be written in some server-side language).

This has to be done without any complex JavaScript frameworks (such as Ember, Angular, extjs etc) and it should work on modern browsers (Internet Explorer is not required).

#4: Complex web page (Yii2)

Same as task #3, but implemented in PHP using Yii2 framework.

App should contain Yii2 migration for MySQL database table. For everything else you have a freedom to implement it as you wish.

Bonus points:

- Performance
- Looks good
- Duplicates not allowed (unique email)

Github

All code must be submitted to https://github.com/.

ZIPs, RARs etc. are not allowed.