

P3 Report

Ian Davis

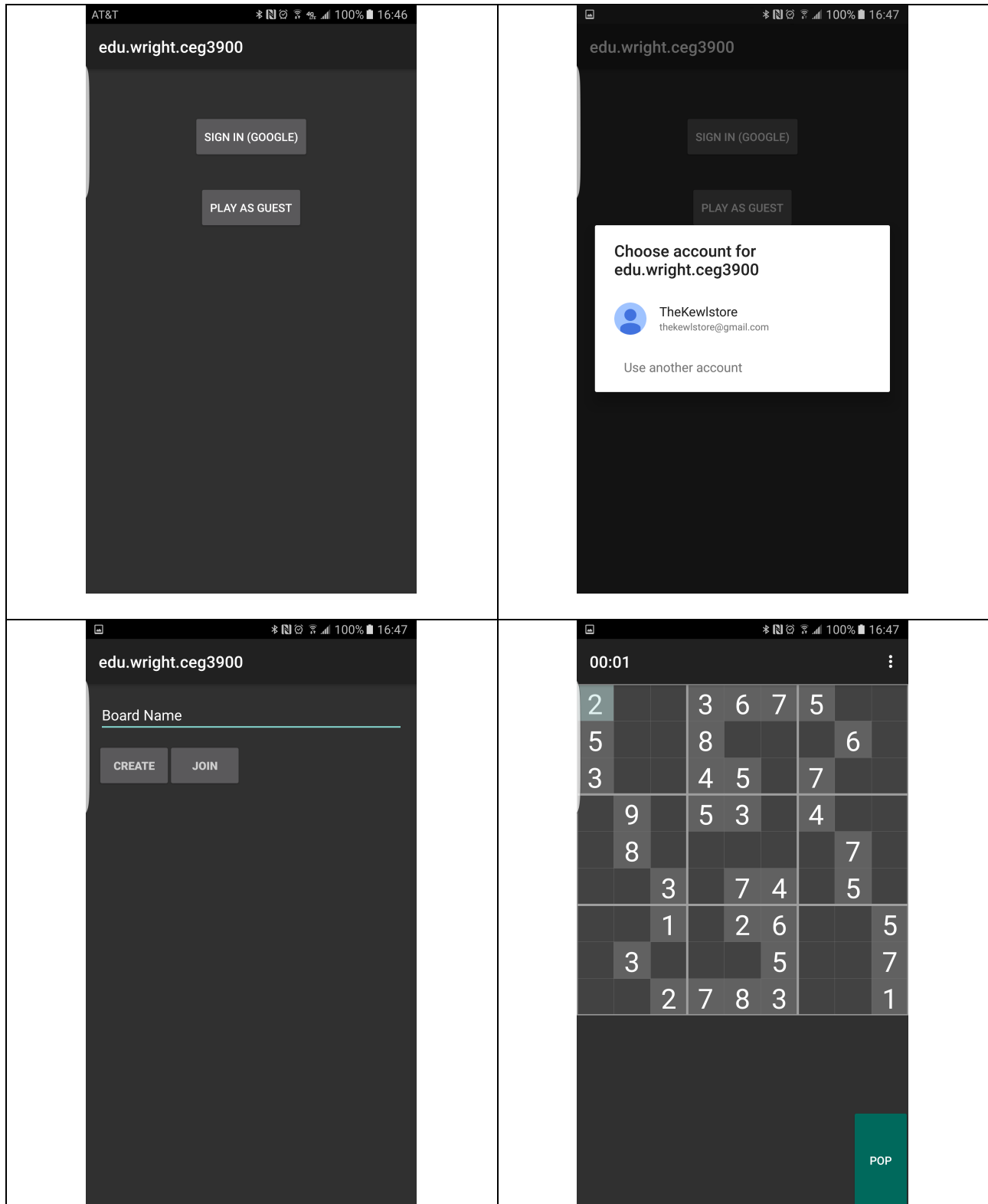
U00723728

<https://github.com/IanDavis1995>

Task 1

Deliverables:

- Screenshots: pg. 2
- Screenshot of emulated users: pg. 3
- Status Report: pg. 4
- Log file: pg. 5-26
- APK: <https://github.com/IanDavis1995/P3/collab-sudoku/apk/>
- Source Code: <https://github.com/IanDavis1995/P3/collab-sudoku/src/>



Status Report

Overall: Mostly Functional

Known Issues:

- Authentication with google is slightly finicky, if the app doesn't get authenticated right away it sometimes won't transition to the Main Activity afterwards. Sometimes authentication will fail even when the user is registered to firebase properly.
- When multiple users add lots of notes simultaneously, a network messaging feedback loop can occur in which the notes that one person adds/added will flicker back and forth with the notes the other added. This seems to have been mostly fixed by implemented a message backlog to the client that keeps track of multiple duplicate messages, but it has still since been noticed in rare occurrences.
- There is no feedback to the user about login operations failing or succeeding, or even that they are taking place. When the sign in (google) or anonymous buttons are pressed, the app will flicker black for a moment, but if it fails to login it will stay on the screen and act like nothing happened. If it succeeds, it will eventually transition to the Main Activity but not until after an unreported delay.
- There are some issues with certain emulator sdk versions and firebase/google play services. To get a working emulator test environment with multiple devices, the virtual devices had to be downgraded to APK 22 (nougat) and the app needed to be downgraded to use firebase and google play services version 9.8.0. This did not appear to be an issue with running from a real android device using the latest android version, however.

```

02-17 18:56:11.451 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Preparing Google API SignInOptions for LoginActivity
02-17 18:56:11.491 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Successfully prepared Google API SignInOptions and ApiClient for
LoginActivity
02-17 18:56:17.511 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Displaying Google API sign in client to authenticate with firebase.
02-17 18:56:17.881 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Google authentication came through, verifying...
02-17 18:56:17.881 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Google authentication succeeded, forwarding to firebase.
02-17 18:56:17.881 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Authenticating with firebase using google credentials.
02-17 18:56:18.901 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Authentication with firebase succeeded, transitioning to main menu.
02-17 18:56:22.071 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Joining game with board name: Board Name
02-17 18:56:22.241 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Creating a placeholder board until we get data from firebase.
02-17 18:56:23.111 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|0|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|0|-|1|0|-
|1|5|-|0|0|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-
|1|2|-|0|0|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|
02-17 18:56:23.111 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

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3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|0|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|0|-|1|0|-
|1|5|-|0|0|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-
|1|2|-|0|0|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
02-17 18:56:26.001 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Joining game with board name: Board Name
02-17 18:56:26.061 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Creating a placeholder board until we get data from firebase.
02-17 18:56:26.101 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|0|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|0|-|1|0|-
|1|5|-|0|0|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-
|1|2|-|0|0|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|
02-17 18:56:26.101 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|0|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|0|-|1|0|-
|1|5|-|0|0|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-
|1|2|-|0|0|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:56:27.921 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|0|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|0|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-
|1|2|-|0|0|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:56:27.941 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|0|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|0|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-
|1|2|-|0|0|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:56:27.941 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|0|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|0|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-
|1|2|-|0|0|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:56:27.941 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received

02-17 18:56:29.841 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|0|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|0|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|0|-|1|0|-|1|0|-
|1|2|-|0|0|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:56:29.841 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-

```

```

1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|0|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|0|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|0|-1|0|-
1|2|-0|0|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|0|-1|0|-1|9|-0|0|-1|8|-0|

```

02-17 18:56:29.841 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|0|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|0|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|0|-1|0|-
1|2|-0|0|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|0|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:56:29.851 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:00.251 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|0|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|0|-1|0|-
1|2|-0|0|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|0|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:00.251 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|0|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|0|-1|0|-
1|2|-0|0|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|0|-1|0|-1|9|-0|0|-1|8|-0|

```

02-17 18:57:00.251 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|0|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|0|-1|0|-
1|2|-0|0|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|0|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:00.251 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:02.251 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-

```

```

1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|0|-1|0|-
1|2|-0|0|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|0|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:02.271 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|0|-1|0|-
1|2|-0|0|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|0|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:02.271 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|0|-1|0|-
1|2|-0|0|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|0|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:02.271 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received

02-17 18:57:05.411 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|0|-1|0|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|0|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:05.421 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|0|-1|0|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|0|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:05.431 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|0|-1|0|-

```



```

1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
1|5|-|0|3|-|0|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

```

02-17 18:57:05.431 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:07.691 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|3|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|0|-|1|4|-|1|0|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

```

02-17 18:57:07.721 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|3|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|0|-|1|4|-|1|0|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

```

02-17 18:57:07.721 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|3|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|0|-|1|4|-|1|0|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

```

02-17 18:57:07.721 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:10.281 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|3|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|0|-|1|4|-|1|0|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

```

02-17 18:57:10.281 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|3|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|0|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|0|-|1|4|-|1|0|-

```

```

1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|
02-17 18:57:10.281 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|4|-1|0|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

```

02-17 18:57:10.281 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:10.721 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

```

02-17 18:57:10.731 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

```

02-17 18:57:10.731 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|0|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

```

02-17 18:57:10.731 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:10.911 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|4|-1|4|-

```

```

1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

```

02-17 18:57:10.921 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|

```

```

02-17 18:57:10.931 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

```

02-17 18:57:10.931 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received

```

```

02-17 18:57:11.251 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

```

02-17 18:57:11.261 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|

```

```

02-17 18:57:11.261 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|0|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:11.261 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:11.541 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|3|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|0|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|4|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:11.541 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|3|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|0|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|4|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:11.541 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|3|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|0|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|4|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:11.541 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:11.801 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|3|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|0|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:11.811 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.
02-17 18:57:11.811 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.
02-17 18:57:12.061 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|3|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|0|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
```

```

1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:12.071 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:12.071 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|0|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:12.071 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received

02-17 18:57:12.331 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:12.331 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:12.341 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|0|-
1|0|-1|0|-1|0|-1|4|-0|0|-1|0|-1|0|-1|3|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:12.341 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
 Ignoring repeated firebase message with board data we've already received
 02-17 18:57:12.621 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
 Updating firebase database with new board data: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:12.641 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
 Received new board data from firebase: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:12.641 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
 Updating firebase database with new board data: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:12.641 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
 Ignoring repeated firebase message with board data we've already received
 02-17 18:57:12.911 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
 Updating firebase database with new board data: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|4|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:12.921 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
 Received new board data from firebase: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|4|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:12.921 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|4|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:12.921 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received

02-17 18:57:13.191 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:13.201 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.

02-17 18:57:13.201 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.

02-17 18:57:13.421 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|4|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:13.421 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|4|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
```

02-17 18:57:13.421 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```
3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|4|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
```

```

1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

```

02-17 18:57:13.421 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:13.641 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|4|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|4|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

```

02-17 18:57:13.651 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|4|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|4|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

```

02-17 18:57:13.651 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|4|-
|1|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|0|-|1|4|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

```

02-17 18:57:13.651 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:13.901 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|4|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

```

02-17 18:57:13.911 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|4|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-

```



```

1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|

```

```

02-17 18:57:13.911 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|4|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

```

02-17 18:57:13.911 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:14.111 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|4|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|4|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

```

02-17 18:57:14.111 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|4|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|4|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

```

02-17 18:57:14.111 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|4|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|4|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

```

02-17 18:57:14.111 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:14.341 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|0|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|4|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-

```

```

|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
02-17 18:57:14.341 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.
02-17 18:57:14.341 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.
02-17 18:57:15.791 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|4|-|1|0|-|1|4|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
02-17 18:57:15.801 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|4|-|1|0|-|1|4|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
02-17 18:57:15.801 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|4|-|1|0|-|1|4|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
02-17 18:57:15.801 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:15.971 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|4|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.
02-17 18:57:15.981 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.
02-17 18:57:15.981 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.
02-17 18:57:16.171 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:16.171 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:16.171 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|0|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:16.171 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:16.351 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:16.361 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|0|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|0|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:16.371 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-

```

```

1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|0|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:16.371 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:35.411 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:35.421 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:35.421 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:35.421 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:35.601 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|0|-1|5|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:35.631 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-

```

```

|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|

```

02-17 18:57:35.631 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:35.631 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:35.791 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|4|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:35.801 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Resetting our message buffer after 25 queued messages.
02-17 18:57:35.801 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|4|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|

```

02-17 18:57:35.801 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|4|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:35.801 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Resetting our message buffer after 25 queued messages.

02-17 18:57:35.801 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:35.931 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:35.931 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:35.941 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|5|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:35.941 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:36.071 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|4|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:36.071 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|4|-|1|4|-|1|4|-|1|4|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:36.071 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-

```

```

1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|4|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:36.071 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:36.191 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|4|-1|4|-1|4|-1|0|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:36.201 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|4|-1|4|-1|4|-1|0|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:36.201 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|4|-1|4|-1|4|-1|0|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:36.201 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:36.311 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|4|-1|4|-1|4|-1|0|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|4|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:36.311 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.
02-17 18:57:36.311 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.
02-17 18:57:36.441 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|4|-|1|4|-|1|0|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:36.451 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|4|-|1|4|-|1|0|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:36.451 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|4|-|1|4|-|1|0|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:36.451 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:36.931 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|4|-|1|4|-|1|0|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:36.941 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|4|-|1|4|-|1|0|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|0|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:36.941 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-

```



```

1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|4|-1|4|-1|4|-1|0|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:36.941 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:37.181 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|4|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:37.181 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|4|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:37.181 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|4|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:37.181 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:57:37.361 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-0|0|-1|2|-0|0|-1|0|-1|0|-1|0|-1|8|-0|9|-0|0|-1|6|-0|8|-
0|0|-1|5|-0|2|-0|7|-0|3|-0|4|-0|0|-1|0|-1|9|-0|0|-1|4|-1|4|-
1|0|-1|4|-1|0|-1|4|-0|0|-1|0|-1|0|-1|4|-1|7|-0|0|-1|0|-1|0|-
1|0|-1|8|-0|3|-0|2|-0|4|-1|1|-0|5|-0|9|-0|0|-1|4|-1|1|-1|0|-
1|5|-0|5|-1|4|-1|0|-1|0|-1|2|-0|0|-1|4|-1|4|-1|4|-1|4|-
1|2|-0|9|-1|0|-1|2|-0|1|-0|4|-0|7|-0|8|-0|0|-1|3|-0|5|-0|0|-
1|5|-0|3|-0|0|-1|0|-1|2|-1|0|-1|9|-0|0|-1|8|-0|.

```

02-17 18:57:37.361 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.
02-17 18:57:37.361 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.
02-17 18:57:37.501 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|0|-|1|8|-|0|9|-|0|0|-|1|6|-|0|8|-
|0|0|-|1|5|-|0|2|-|0|7|-|0|3|-|0|4|-|0|0|-|1|0|-|1|9|-|0|0|-|1|4|-|1|4|-
|1|0|-|1|4|-|1|0|-|1|4|-|0|0|-|1|0|-|1|0|-|1|4|-|1|7|-|0|0|-|1|0|-|1|0|-
|1|0|-|1|8|-|0|3|-|0|2|-|0|4|-|1|1|-|0|5|-|0|9|-|0|0|-|1|4|-|1|1|-|1|0|-
|1|5|-|0|5|-|1|4|-|1|0|-|1|0|-|1|2|-|0|0|-|1|4|-|1|4|-|1|4|-|1|0|-
|1|2|-|0|9|-|1|0|-|1|2|-|0|1|-|0|4|-|0|7|-|0|8|-|0|4|-|1|3|-|0|5|-|0|0|-
|1|5|-|0|3|-|0|0|-|1|0|-|1|2|-|1|0|-|1|9|-|0|0|-|1|8|-|0|.

```

02-17 18:57:37.511 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.

02-17 18:57:37.511 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring duplicated firebase message with board data we already have.

02-17 18:58:50.041 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Creating game with board name: Board2

02-17 18:58:50.101 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Creating a new board and sending it's contents to firebase with name:
Board2.

02-17 18:58:50.191 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Received new board data from firebase: version: 1

```

3|-|0|8|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|5|-|0|4|-|0|0|-
|1|0|-|1|0|-|1|9|-|0|0|-|1|7|-|0|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|7|-
|0|5|-|0|0|-|1|3|-|0|0|-|1|0|-|1|0|-|1|1|-|0|4|-|0|5|-|0|2|-|0|0|-|1|9|-
|0|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|5|-
|0|3|-|0|6|-|0|2|-|0|0|-|1|0|-|1|0|-|1|6|-|0|0|-|1|9|-|0|8|-|0|0|-|1|4|-
|0|0|-|1|0|-|1|0|-|1|1|-|0|7|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|4|-|0|5|-
|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|2|-|0|.

```

02-17 18:58:50.191 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|8|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|5|-|0|4|-|0|0|-
|1|0|-|1|0|-|1|9|-|0|0|-|1|7|-|0|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|7|-
|0|5|-|0|0|-|1|3|-|0|0|-|1|0|-|1|0|-|1|1|-|0|4|-|0|5|-|0|2|-|0|0|-|1|9|-
|0|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|5|-
|0|3|-|0|6|-|0|2|-|0|0|-|1|0|-|1|0|-|1|6|-|0|0|-|1|9|-|0|8|-|0|0|-|1|4|-
|0|0|-|1|0|-|1|0|-|1|1|-|0|7|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|4|-|0|5|-
|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|9|-|0|2|-|0|.

```

02-17 18:58:52.831 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|8|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|5|-|0|4|-|0|0|-
|1|0|-|1|0|-|1|9|-|0|0|-|1|7|-|0|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|7|-
|0|5|-|0|0|-|1|3|-|0|0|-|1|0|-|1|0|-|1|1|-|0|4|-|0|5|-|0|2|-|0|0|-|1|9|-
|0|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|5|-
|0|3|-|0|6|-|0|2|-|0|0|-|1|0|-|1|0|-|1|6|-|0|0|-|1|9|-|0|8|-|0|0|-|1|4|-
|0|0|-|1|0|-|1|0|-|1|1|-|0|7|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|4|-|0|5|-
|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|2|-|1|9|-|0|2|-|0|.

```

02-17 18:58:52.841 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received

02-17 18:58:52.921 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```

3|-|0|8|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|5|-|0|4|-|0|0|-
|1|0|-|1|0|-|1|9|-|0|0|-|1|7|-|0|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|7|-
|0|5|-|0|0|-|1|3|-|0|0|-|1|0|-|1|0|-|1|1|-|0|4|-|0|5|-|0|2|-|0|0|-|1|9|-

```

```
|0|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|5|-
|0|3|-|0|6|-|0|2|-|0|0|-|1|0|-|1|0|-|1|6|-|0|0|-|1|9|-|0|8|-|0|0|-|1|4|-
|0|0|-|1|0|-|1|0|-|1|1|-|0|7|-|0|0|-|1|2|-|0|0|-|1|0|-|1|0|-|1|4|-|0|5|-
|0|0|-|1|0|-|1|2|-|1|0|-|1|0|-|1|0|-|1|2|-|1|9|-|0|2|-|0|.
```

02-17 18:58:52.921 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:58:53.021 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```
3|-|0|8|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|5|-|0|4|-|0|0|-
|1|0|-|1|0|-|1|9|-|0|0|-|1|7|-|0|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|7|-
|0|5|-|0|0|-|1|3|-|0|0|-|1|0|-|1|0|-|1|1|-|0|4|-|0|5|-|0|2|-|0|0|-|1|9|-
|0|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|5|-
|0|3|-|0|6|-|0|2|-|0|0|-|1|0|-|1|0|-|1|6|-|0|0|-|1|9|-|0|8|-|0|0|-|1|4|-
|0|0|-|1|0|-|1|0|-|1|1|-|0|7|-|0|0|-|1|2|-|0|0|-|1|0|-|1|2|-|1|4|-|0|5|-
|0|0|-|1|0|-|1|2|-|1|0|-|1|0|-|1|0|-|1|2|-|1|9|-|0|2|-|0|.
```

02-17 18:58:53.021 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:58:53.101 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

```
3|-|0|8|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|5|-|0|4|-|0|0|-
|1|0|-|1|0|-|1|9|-|0|0|-|1|7|-|0|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|7|-
|0|5|-|0|0|-|1|3|-|0|0|-|1|0|-|1|0|-|1|1|-|0|4|-|0|5|-|0|2|-|0|0|-|1|9|-
|0|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|5|-
|0|3|-|0|6|-|0|2|-|0|0|-|1|0|-|1|0|-|1|6|-|0|0|-|1|9|-|0|8|-|0|0|-|1|4|-
|0|0|-|1|0|-|1|0|-|1|1|-|0|7|-|0|0|-|1|2|-|0|0|-|1|0|-|1|2|-|1|4|-|0|5|-
|0|0|-|1|2|-|1|2|-|1|0|-|1|0|-|1|0|-|1|2|-|1|9|-|0|2|-|0|.
```

02-17 18:58:53.111 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received
02-17 18:58:53.201 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Updating firebase database with new board data: version: 1

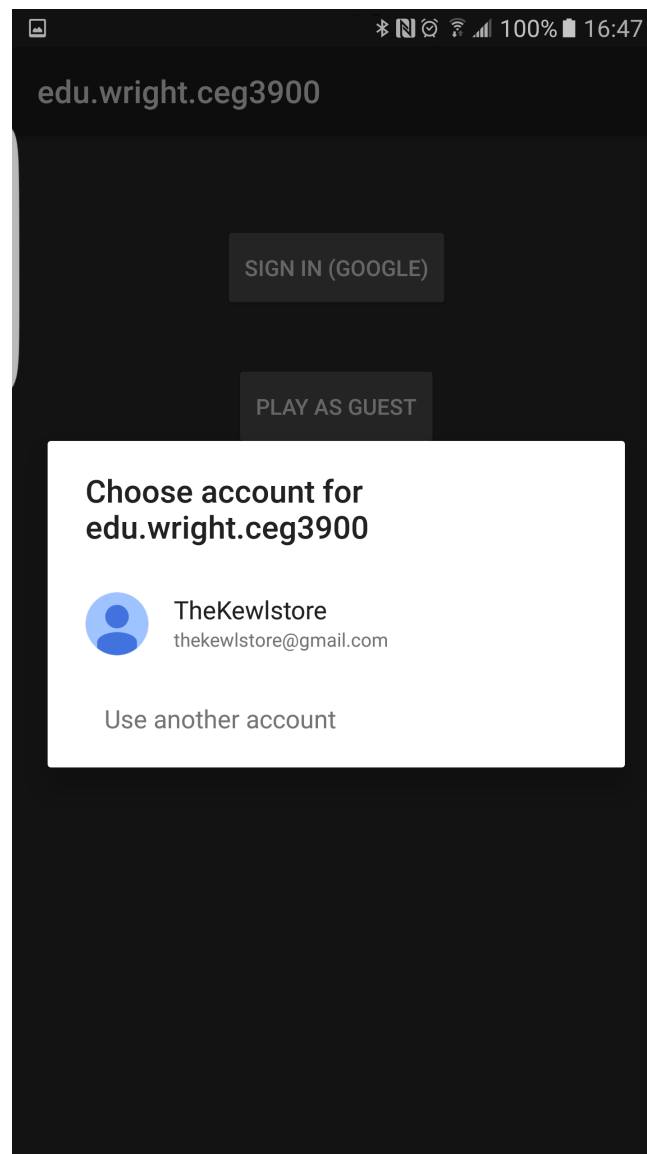
```
3|-|0|8|-|0|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|0|-|1|5|-|0|4|-|0|0|-
|1|0|-|1|0|-|1|9|-|0|0|-|1|7|-|0|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|7|-
|0|5|-|0|0|-|1|3|-|0|0|-|1|0|-|1|0|-|1|1|-|0|4|-|0|5|-|0|2|-|0|0|-|1|9|-
|0|0|-|1|0|-|1|0|-|1|9|-|0|0|-|1|8|-|0|0|-|1|0|-|1|0|-|1|4|-|0|0|-|1|5|-
|0|3|-|0|6|-|0|2|-|0|0|-|1|0|-|1|0|-|1|6|-|0|0|-|1|9|-|0|8|-|0|0|-|1|4|-
|0|0|-|1|0|-|1|0|-|1|1|-|0|7|-|0|0|-|1|2|-|0|0|-|1|0|-|1|2|-|1|4|-|0|5|-
|0|0|-|1|2|-|1|2|-|1|0|-|1|2|-|1|0|-|1|2|-|1|9|-|0|2|-|0|.
```

02-17 18:58:53.201 32608-32608/org.moire.opensudoku D/edu.wright.ceg3900:
Ignoring repeated firebase message with board data we've already received

Task 2

Deliverables

- Screenshot of app: pg.27
- Screenshot of firebase console: pg. 28
- APK: <https://github.com/IanDavis1995/P3/authentication/>



The screenshot shows the Firebase Authentication console in a web browser. The URL is <https://console.firebase.google.com/project/ceg3900-p3/authentication/users>. The page title is "Authentication" and the sub-header is "USERS". There are tabs for "SIGN-IN METHOD" and "EMAIL TEMPLATES". A search bar at the top of the table says "Search by email address or user UID". A blue "ADD USER" button is in the top right of the table area. The table lists 10 users, all with email addresses in parentheses. The columns are "Email", "Providers", "Created", "Signed in", and "User UID".

Email	Providers	Created	Signed in	User UID
(anonymous)		Feb 17, 2017	Feb 17, 2017	Scwhnxm2q6fznFhcHPvDAbwr...
(anonymous)		Feb 16, 2017	Feb 16, 2017	6VIECD9Y8bgvasutfcVDLo6g63
(anonymous)		Feb 16, 2017	Feb 16, 2017	7opdqlaEt2c6TPqWs7swgm9s...
(anonymous)		Feb 16, 2017	Feb 16, 2017	7sbW3z8RbPaLsjaHUqeh5vAIP...
(anonymous)		Feb 16, 2017	Feb 16, 2017	BEGYNb1hHibYOS5GZbCduRq...
(anonymous)		Feb 17, 2017	Feb 17, 2017	D8WLuH0B9AX2XaU8A09CZPb...
(anonymous)		Feb 16, 2017	Feb 16, 2017	H6hrMzKKIibQ4dNRfusG5X6pd...
(anonymous)		Feb 17, 2017	Feb 17, 2017	N2ceeBo1QpSDMC7Njk2dN19L...
(anonymous)		Feb 16, 2017	Feb 16, 2017	TG5Y9zuxyfcdrll1X0APwq2kTji

Task 3

Deliverables:

- Pre/Post conditions (English): pg. 30
- Pre/Post conditions (as asserts): pg. 30
- Diff of Javadoc: pg. 31-38

NewPostActivity.showImagePicker

English

Preconditions:

- Application has permission to access the camera

Postconditions:

- An image picker dialog is shown on the screen
- The image picker shows pictures taken by the camera and stored on the device

Asserts

Preconditions:

assert EasyPermissions.hasPermissions(this, cameraPerms);

Postconditions:

assert activityActive(imagePicker);

assert containsCameraImages(imagePicker);

1,14c1,2

< /*

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< *

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< * distributed under the License is distributed on an "AS IS" BASIS,

< * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

< * See the License for the specific language governing permissions and

< * limitations under the License.

> /**

> * Created by ian on 2/17/17.

16a5,21

```
> public class NewClass {  
  
> }/*  
  
> * Copyright 2016 Google Inc. All Rights Reserved.  
  
> *  
  
> * Licensed under the Apache License, Version 2.0 (the "License");  
  
> * you may not use this file except in compliance with the License.  
  
> * You may obtain a copy of the License at  
  
> *  
  
> * http://www.apache.org/licenses/LICENSE-2.0  
  
> *  
  
> * Unless required by applicable law or agreed to in writing, software  
  
> * distributed under the License is distributed on an "AS IS" BASIS,  
  
> * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.  
  
> * See the License for the specific language governing permissions and  
  
> * limitations under the License.  
  
> */  
  
>
```


49a55,57

> /**

> * NewPostActivity handles submitting a new image post to the app.

> */

51,52c59,60

< EasyPermissions.PermissionCallbacks,

< NewPostUploadTaskFragment.TaskCallbacks {

> EasyPermissions.PermissionCallbacks,

> NewPostUploadTaskFragment.TaskCallbacks {

70c78

< Manifest.permission.READ_EXTERNAL_STORAGE

> Manifest.permission.READ_EXTERNAL_STORAGE

73a82,85

> /**

> * Called when the activity is first created.

> * @param savedInstanceState: Instance data to restore the activity from.

```
> */
```

```
115c127
```

```
< Toast.LENGTH_SHORT).show();
```

```
---
```

```
> Toast.LENGTH_SHORT).show();
```

```
131c143
```

```
< postText);
```

```
---
```

```
> postText);
```

```
135a148,151
```

```
> /**
```

```
> * When a post finishes uploading to the server, display a dialog to notify the user.
```

```
> * @param error: A description of any error that occurred on upload.
```

```
> */
```

```
152a169,173
```

```
> /**
```

```
> * Display an image picker dialog to the user, showing images from the camera storage.
```

```
> *
```

```
> * Requires proper camera permissions from the user to function.
```

```
> */
```

```
158,159c179,180
```

```
<         "This sample will upload a picture from your Camera",
```

```
<         RC_CAMERA_PERMISSIONS, cameraPerms);
```

```
---
```

```
>         "This sample will upload a picture from your Camera",
```

```
>         RC_CAMERA_PERMISSIONS, cameraPerms);
```

```
183c204
```

```
<         MediaStore.Images.Media.EXTERNAL_CONTENT_URI);
```

```
---
```

```
>         MediaStore.Images.Media.EXTERNAL_CONTENT_URI);
```

```
186c207
```

```
<         getString(R.string.picture_chooser_title));
```

```
---
```

```
>         getString(R.string.picture_chooser_title));
```

```
188c209
```

```
<         Parcelable[cameraIntents.size()]));
```

> Parcelable[cameraIntents.size()]);

191a213,218

> /**

> * Called when the image picker dialog finishes with a result.

> * @param requestCode: The code requested when the activity was created
(TC_PICK_IMAGE).

> * @param resultCode: The code the activity resulted with (RESULT_OK).

> * @param data: Will contain the image file the user selected.

> */

214a242,244

> /**

> * Store data about our selected image before the activity is destroyed for later use.

> */

226a257,261

> /**

> * Update our thumbnails and/or image preview when our image is resized.

> * @param resizedBitmap: The updated bitmap.

> * @param mMaxDimension: Denotes whether the thumbnail or full size image was resized.

> */

232c267

< Toast.LENGTH_SHORT).show();

> Toast.LENGTH_SHORT).show();

246a282,287

> /**

> * Update permissions after requesting access to the camera from the user.

> * @param requestCode: The code that was requested (RC_CAMERA_PERMISSIONS).

> * @param permissions: The code that resulted (RESULT_OK).

> * @param grantResults: Whether or not the user granted the permissions.

> */

254a296,300

> /**

> * Handle new permissions being granted to the application.

> * @param requestCode: The type of permission that was requested.

> * @param perms: The permissions that are granted.

> */

257c303,308

<

>

> /**

> * Handle new permission request being denied.

> * @param requestCode: The type of permission that was request.

> * @param perms: The permissions that are currently granted.

> */

261a313

>

Task 4 & 5

Deliverables:

- Code smells: pg. 39
- Code Factorization: pg. 39-40
- Size Reduction Results: pg. 40
- Time Reduction not successful
- Diff of revised files: pg. 40-81
- New APK: <https://github.com/IanDavis1995/P3/collab-sudoku/code-improvement/apk/>
- Source Code: <https://github.com/IanDavis1995/P3/collab-sudoku/code-improvement/src/>

Code Smells

- IMControlPanel.activateInputMethod: Lines 106-111 (Useless while Boolean)
- SudokuBoardView.onMeasure: Line 321 (Useless initialization of variables)

Code Factorization

- CellGroup.validate: Lines 73-79
 - This for loop should be replaced with a for-each loop as there is no need to loop over the indexes of the list.

- Proposed change:

```
public boolean contains(int value) {
    for (Cell cell: mCells) {
        if (cell.getValue() == value) {
            return true;
        }
    }
    return false;
}
```

- CellCollection.getValuesUseCount: Lines 212-215

- This for loop could be replaced by instead using getOrDefault in the second for loop at 218-225 (Requires Java 8 or a custom HashMap class)

- Proposed change:

```
public Map<Integer, Integer> getValuesUseCount() {
    DefaultHashMap<Integer, Integer> valuesUseCount = new DefaultHashMap<>();

    for (int r = 0; r < CellCollection.SUDOKU_SIZE; r++) {
        for (int c = 0; c < CellCollection.SUDOKU_SIZE; c++) {
            int value = getCell(r, c).getValue();
            if (value != 0) {
                valuesUseCount.put(value, valuesUseCount.get(value, 0) + 1);
            }
        }
    }
    return valuesUseCount;
}
```


Size Reduction

Original: 4830 lines

Totals grouped by language (dominant language first):
 java: 4830 (100.00%)

Total Physical Source Lines of Code (SLOC) = 4,830
 Development Effort Estimate, Person-Years (Person-Months) = 1.05 (12.54)
 (Basic COCOMO model, Person-Months = $2.4 * (KSLOC ** 1.05)$)
 Schedule Estimate, Years (Months) = 0.54 (6.54)
 (Basic COCOMO model, Months = $2.5 * (person-months ** 0.38)$)
 Estimated Average Number of Developers (Effort/Schedule) = 1.92
 Total Estimated Cost to Develop = \$ 141,184
 (average salary = \$56,286/year, overhead = 2.40).
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 -"

New: 3856 lines

```

src — -bash — 80x24
0      top_dir      (none)

Totals grouped by language (dominant language first):
java:      3856 (100.00%)

Total Physical Source Lines of Code (SLOC)          = 3,856
Development Effort Estimate, Person-Years (Person-Months) = 0.83 (9.90)
  (Basic COCOMO model, Person-Months = 2.4 * (KSLOC**1.05))
Schedule Estimate, Years (Months)                  = 0.50 (5.97)
  (Basic COCOMO model, Months = 2.5 * (person-months**0.38))
Estimated Average Number of Developers (Effort/Schedule) = 1.66
Total Estimated Cost to Develop                     = $ 111,451
  (average salary = $56,286/year, overhead = 2.40).
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Ians-MBP:src ian$

```

Diff: <https://github.com/IanDavis1995/P3/collab-sudoku/code-improvement/code-improvements.patch>

```

Index: app/src/main/java/org/moire/opensudoku/gui/SudokuPlayActivity.java
IDEA additional info:
Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP
<+>UTF-8
=====
--- app/src/main/java/org/moire/opensudoku/gui/SudokuPlayActivity.java
    (date 1487379812000)
+++ app/src/main/java/org/moire/opensudoku/gui/SudokuPlayActivity.java
    (revision )
@@ -20,7 +20,6 @@

    package org.moire.opensudoku.gui;

    -import android.app.Activity;
    import android.app.AlertDialog;
    import android.app.Dialog;

```

```

import android.content.ComponentName;
Index: app/src/main/java/org/moire/opensudoku/gui/Timer.java
IDEA additional info:
Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP
<+>UTF-8
=====
--- app/src/main/java/org/moire/opensudoku/gui/Timer.java (date
1487379812000)
+++ app/src/main/java/org/moire/opensudoku/gui/Timer.java (revision )
@@ -57,7 +57,6 @@
    mAccumTime = 0;
}

-
//
***** //
// Timer Control.
//
***** //
Index: app/src/main/java/org/moire/opensudoku/game/CellNote.java
IDEA additional info:
Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP
<+>UTF-8
=====
--- app/src/main/java/org/moire/opensudoku/game/CellNote.java (date
1487379812000)
+++ app/src/main/java/org/moire/opensudoku/game/CellNote.java (revision )
@@ -87,7 +87,6 @@
    return new CellNote(notedNumbers);
}

-
/**
 * Appends string representation of this object to the given
<code>StringBuilder</code>.
 * You can later recreate object from this string by calling {@link
#deserialize(String)}.
Index: app/src/main/java/org/moire/opensudoku/game/FolderInfo.java
=====
--- app/src/main/java/org/moire/opensudoku/game/FolderInfo.java (date
1487379812000)
+++ app/src/main/java/org/moire/opensudoku/game/FolderInfo.java (date
1487379812000)
@@ -1,108 +0,0 @@
-/*
- * Copyright (C) 2009 Roman Masek
- *
- * This file is part of OpenSudoku.
- *
- * OpenSudoku is free software: you can redistribute it and/or modify
- * it under the terms of the GNU General Public License as published by
- * the Free Software Foundation, either version 3 of the License, or
- * (at your option) any later version.
- *
- * OpenSudoku is distributed in the hope that it will be useful,

```

```

- * but WITHOUT ANY WARRANTY; without even the implied warranty of
- * MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
- * GNU General Public License for more details.
- *
- * You should have received a copy of the GNU General Public License
- * along with OpenSudoku. If not, see <http://www.gnu.org/licenses/>.
- *
- */
-
-package org.moire.opensudoku.game;
-
-import org.moire.opensudoku.R;
-import android.content.Context;
-
-/**
- * Some information about folder, used in FolderListActivity.
- *
- * @author romario
- */
-public class FolderInfo {
-
-    /**
-     * Primary key of folder.
-     */
-    public long id;
-
-    /**
-     * Name of the folder.
-     */
-    public String name;
-
-    /**
-     * Total count of puzzles in the folder.
-     */
-    public int puzzleCount;
-
-    /**
-     * Count of solved puzzles in the folder.
-     */
-    public int solvedCount;
-
-    /**
-     * Count of puzzles in "playing" state in the folder.
-     */
-    public int playingCount;
-
-    public FolderInfo() {
-
-    }
-
-    public FolderInfo(long id, String name) {
-        this.id = id;
-        this.name = name;
-    }
-
-}

```

```

-     public String getDetail(Context c) {
-         StringBuilder sb = new StringBuilder();
-
-         if (puzzleCount == 0) {
-             // no puzzles in folder
-             sb.append(c.getString(R.string.no_puzzles));
-         } else {
-             // there are some puzzles
-             sb.append(puzzleCount == 1 ?
c.getString(R.string.one_puzzle) : c.getString(R.string.n_puzzles,
puzzleCount));
-
-             int unsolvedCount = puzzleCount - solvedCount;
-
-             // if there are any playing or unsolved puzzles, add info
about them
-             if (playingCount != 0 || unsolvedCount != 0) {
-                 sb.append(" (");
-
-                 if (playingCount != 0) {
-                     sb.append(c.getString(R.string.n_playing,
playingCount));
-                     if (unsolvedCount != 0) {
-                         sb.append(", ");
-                     }
-                 }
-
-                 if (unsolvedCount != 0) {
-                     sb.append(c.getString(R.string.n_unsolved,
unsolvedCount));
-                 }
-
-                 sb.append(")");
-             }
-
-             // maybe all puzzles are solved?
-             if (unsolvedCount == 0 && puzzleCount != 0) {
-                 sb.append("
(").append(c.getString(R.string.all_solved)).append(")");
-             }
-
-         }
-
-         return sb.toString();
-     }
- }
- }
- }

```

Index:

app/src/main/java/org/moire/opensudoku/gui/inputmethod/InputMethod.java

IDEA additional info:

Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP

<+>UTF-8

=====

```

---
app/src/main/java/org/moire/opensudoku/gui/inputmethod/InputMethod.java
    (date 1487379812000)
+++
app/src/main/java/org/moire/opensudoku/gui/inputmethod/InputMethod.java
    (revision )
@@ -75,7 +75,6 @@
        Button switchModeButton = (Button) switchModeView;
        switchModeButton.setText(getAbbrName());
        switchModeButton.getBackground().setColorFilter(new
LightningColorFilter(Color.parseColor("#00695c"), 0));
-        onControlPanelCreated(mInputMethodView);
    }

    return mInputMethodView;
@@ -136,10 +135,6 @@
    }

    protected abstract View createControlPanelView();
-
-    protected void onControlPanelCreated(View controlPanel) {
-
-    }

    protected void onActivated() {
    }
Index: app/src/main/java/org/moire/opensudoku/game/SudokuGame.java
IDEA additional info:
Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP
<+>UTF-8
=====
--- app/src/main/java/org/moire/opensudoku/game/SudokuGame.java      (date
1487379812000)
+++ app/src/main/java/org/moire/opensudoku/game/SudokuGame.java
    (revision )
@@ -25,7 +25,6 @@
    import android.util.Log;

    import com.google.firebase.database.DatabaseReference;
-import com.google.firebase.database.FirebaseDatabase;

    import org.moire.opensudoku.game.command.ClearAllNotesCommand;
    import org.moire.opensudoku.game.command.AbstractCommand;
Index: app/src/androidTest/java/org/moire/opensudoku/ApplicationTest.java
=====
--- app/src/androidTest/java/org/moire/opensudoku/ApplicationTest.java
    (date 1487379812000)
+++ app/src/androidTest/java/org/moire/opensudoku/ApplicationTest.java
    (date 1487379812000)
@@ -1,13 +0,0 @@
-package org.moire.opensudoku;
-
-
-import android.app.Application;
-import android.test.ApplicationTestCase;
-

```

```

-/**
- * <a
href="http://d.android.com/tools/testing/testing_android.html">Testing
Fundamentals</a>
- */
-public class ApplicationTest extends ApplicationTestCase<Application> {
-     public ApplicationTest() {
-         super(Application.class);
-     }
-}
\ No newline at end of file
Index:
app/src/main/java/org/moire/opensudoku/gui/inputmethod/IMControlPanel.java
IDEA additional info:
Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP
<+>UTF-8
=====
---
app/src/main/java/org/moire/opensudoku/gui/inputmethod/IMControlPanel.java
    (date 1487379812000)
+++
app/src/main/java/org/moire/opensudoku/gui/inputmethod/IMControlPanel.java
    (revision )
@@ -108,11 +108,11 @@
        int numOfCycles = 0;

        if (id != -1) {
-            while (!idFound && numOfCycles <= mInputMethods.size()) {
+            while (numOfCycles <= mInputMethods.size()) {
                if (mInputMethods.get(id).isEnabled()) {
                    ensureControlPanel(id);
                    idFound = true;
-                    break;
+                    // Don't need a break here.
                }

                id++;
@@ -138,10 +138,6 @@
        if (mActiveMethodIndex != -1) {
            InputMethod activeMethod =
mInputMethods.get(mActiveMethodIndex);
            activeMethod.activate();
-
-//            if (mHintsQueue != null) {
-//
                mHintsQueue.showOneTimeHint(activeMethod.getInputMethodName(),
activeMethod.getNameResID(), activeMethod.getHelpResID());
-//            }
        }
    }

Index: app/src/main/java/org/moire/opensudoku/db/SudokuDatabase.java
IDEA additional info:
Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP
<+>UTF-8

```

```

=====
--- app/src/main/java/org/moire/opensudoku/db/SudokuDatabase.java    (date
1487379812000)
+++ app/src/main/java/org/moire/opensudoku/db/SudokuDatabase.java
    (revision )
@@ -23,14 +23,10 @@
    import android.content.ContentValues;
    import android.content.Context;
    import android.database.Cursor;
-   import android.database.SQLException;
    import android.database.sqlite.SQLiteDatabase;
    import android.database.sqlite.SQLiteQueryBuilder;
-   import android.database.sqlite.SQLiteStatement;
    import org.moire.opensudoku.game.CellCollection;
-   import org.moire.opensudoku.game.FolderInfo;
    import org.moire.opensudoku.game.SudokuGame;
-   import org.moire.opensudoku.gui.SudokuListFilter;

    /**
     * Wrapper around opensudoku's database.
@@ -40,21 +36,13 @@
     * <p/>
     * You have to explicitly close connection when you're done with database
    (see {@link #close()}).
     * <p/>
-   * This class supports database transactions using {@link
    #beginTransaction()}, \
-   * {@link #setTransactionSuccessful()} and {@link #endTransaction()}.
-   * See {@link SQLiteDatabase} for details on how to use them.
-   *
     * @author romario
     */
    public class SudokuDatabase {
        public static final String DATABASE_NAME = "opensudoku";
-
-
        public static final String SUDOKU_TABLE_NAME = "sudoku";
        public static final String FOLDER_TABLE_NAME = "folder";

-        //private static final String TAG = "SudokuDatabase";
-
        private DatabaseHelper mOpenHelper;

        public SudokuDatabase(Context context) {
@@ -62,237 +50,6 @@
        }

        /**
-
-   * Returns list of puzzle folders.
-   *
-   * @return
-   */
        public Cursor getFolderList() {
-            SQLiteQueryBuilder qb = new SQLiteQueryBuilder();
-

```



```

-         qb.setTables(FOLDER_TABLE_NAME);
-
-         SQLiteDatabase db = mOpenHelper.getReadableDatabase();
-         return qb.query(db, null, null, null, null, null, "created
ASC");
-     }
-
-     /**
-      * Returns the folder info.
-      *
-      * @param folderID Primary key of folder.
-      * @return
-      */
-     public FolderInfo getFolderInfo(long folderID) {
-         SQLiteQueryBuilder qb = new SQLiteQueryBuilder();
-
-         qb.setTables(FOLDER_TABLE_NAME);
-         qb.appendWhere(FolderColumns._ID + "=" + folderID);
-
-         Cursor c = null;
-
-         try {
-             SQLiteDatabase db = mOpenHelper.getReadableDatabase();
-             c = qb.query(db, null, null, null, null, null, null);
-
-             if (c.moveToFirst()) {
-                 long id =
c.getLong(c.getColumnIndex(FolderColumns._ID));
-                 String name =
c.getString(c.getColumnIndex(FolderColumns.NAME));
-
-                 FolderInfo folderInfo = new FolderInfo();
-                 folderInfo.id = id;
-                 folderInfo.name = name;
-
-                 return folderInfo;
-             } else {
-                 return null;
-             }
-         } finally {
-             if (c != null) c.close();
-         }
-     }
-
-     /**
-      * Returns the full folder info - this includes count of games in
particular states.
-      *
-      * @param folderID Primary key of folder.
-      * @return
-      */
-     public FolderInfo getFolderInfoFull(long folderID) {
-         FolderInfo folder = null;
-
-         SQLiteDatabase db = null;

```

```

-         Cursor c = null;
-         try {
-             db = mOpenHelper.getReadableDatabase();
-
-             // selectionArgs: You may include ?s in where clause in
the query, which will be replaced by the values from selectionArgs. The
values will be bound as Strings.
-             String q = "select folder._id as _id, folder.name as
name, sudoku.state as state, count(sudoku.state) as count from folder left
join sudoku on folder._id = sudoku.folder_id where folder._id = " +
folderID + " group by sudoku.state";
-             c = db.rawQuery(q, null);
-
-             while (c.moveToNext()) {
-                 long id =
c.getLong(c.getColumnIndex(FolderColumns._ID));
-                 String name =
c.getString(c.getColumnIndex(FolderColumns.NAME));
-                 int state =
c.getInt(c.getColumnIndex(SudokuColumns.STATE));
-                 int count = c.getInt(c.getColumnIndex("count"));
-
-                 if (folder == null) {
-                     folder = new FolderInfo(id, name);
-                 }
-
-                 folder.puzzleCount += count;
-                 if (state == SudokuGame.GAME_STATE_COMPLETED) {
-                     folder.solvedCount += count;
-                 }
-                 if (state == SudokuGame.GAME_STATE_PLAYING) {
-                     folder.playingCount += count;
-                 }
-             }
-         } finally {
-             if (c != null) {
-                 c.close();
-             }
-         }
-
-         return folder;
-     }
-
-     private static final String INBOX_FOLDER_NAME = "Inbox";
-
-     /**
-      * Returns folder which acts as a holder for puzzles imported
without folder.
-      * If this folder does not exists, it is created.
-      *
-      * @return
-      */
-     public FolderInfo getInboxFolder() {
-         FolderInfo inbox = findFolder(INBOX_FOLDER_NAME);
-         if (inbox != null) {

```

```

-         inbox = insertFolder(INBOX_FOLDER_NAME,
System.currentTimeMillis());
-     }
-     return inbox;
- }
-
- /**
-  * Find folder by name. If no folder is found, null is returned.
-  *
-  * @param folderName
-  * @param db
-  * @return
-  */
- public FolderInfo findFolder(String folderName) {
-     SQLiteQueryBuilder qb = new SQLiteQueryBuilder();
-
-     qb.setTables(FOLDER_TABLE_NAME);
-     qb.appendWhere(FolderColumns.NAME + " = ?");
-
-     Cursor c = null;
-
-     try {
-         SQLiteDatabase db = mOpenHelper.getReadableDatabase();
-         c = qb.query(db, null, null, new String[]{folderName},
null, null, null);
-
-         if (c.moveToFirst()) {
-             long id =
c.getLong(c.getColumnIndex(FolderColumns._ID));
-             String name =
c.getString(c.getColumnIndex(FolderColumns.NAME));
-
-             FolderInfo folderInfo = new FolderInfo();
-             folderInfo.id = id;
-             folderInfo.name = name;
-
-             return folderInfo;
-         } else {
-             return null;
-         }
-     } finally {
-         if (c != null) c.close();
-     }
- }
-
- /**
-  * Inserts new puzzle folder into the database.
-  *
-  * @param name      Name of the folder.
-  * @param created Time of folder creation.
-  * @return
-  */
- public FolderInfo insertFolder(String name, Long created) {
-     ContentValues values = new ContentValues();
-     values.put(FolderColumns.CREATED, created);

```

```

-         values.put(FolderColumns.NAME, name);
-
-         long rowId;
-         SQLiteDatabase db = mOpenHelper.getWritableDatabase();
-         rowId = db.insert(FOLDER_TABLE_NAME, FolderColumns._ID,
values);
-
-         if (rowId > 0) {
-             FolderInfo fi = new FolderInfo();
-             fi.id = rowId;
-             fi.name = name;
-             return fi;
-         }
-
-         throw new SQLException(String.format("Failed to insert folder
'%s'." , name));
-     }
-
-     /**
-     * Updates folder's information.
-     *
-     * @param folderID Primary key of folder.
-     * @param name      New name for the folder.
-     */
-     public void updateFolder(long folderID, String name) {
-         ContentValues values = new ContentValues();
-         values.put(FolderColumns.NAME, name);
-
-         SQLiteDatabase db = null;
-         db = mOpenHelper.getWritableDatabase();
-         db.update(FOLDER_TABLE_NAME, values, FolderColumns._ID + "=" +
folderID, null);
-     }
-
-     /**
-     * Deletes given folder.
-     *
-     * @param folderID Primary key of folder.
-     */
-     public void deleteFolder(long folderID) {
-
-         // TODO: should run in transaction
-         SQLiteDatabase db = mOpenHelper.getWritableDatabase();
-         // delete all puzzles in folder we are going to delete
-         db.delete(SUDOKU_TABLE_NAME, SudokuColumns.FOLDER_ID + "=" +
folderID, null);
-         // delete the folder
-         db.delete(FOLDER_TABLE_NAME, FolderColumns._ID + "=" +
folderID, null);
-     }
-
-     /**
-     * Returns list of puzzles in the given folder.
-     *
-     * @param folderID Primary key of folder.

```

```

-     * @return
-     */
-     public Cursor getSudokuList(long folderID, SudokuListFilter filter)
-     {
-         SQLiteQueryBuilder qb = new SQLiteQueryBuilder();
-
-         qb.setTables(SUDOKU_TABLE_NAME);
-         //qb.setProjectionMap(sPlacesProjectionMap);
-         qb.appendWhere(SudokuColumns.FOLDER_ID + "=" + folderID);
-
-         if (filter != null) {
-             if (!filter.showStateCompleted) {
-                 qb.appendWhere(" and " + SudokuColumns.STATE + "!="
+ SudokuGame.GAME_STATE_COMPLETED);
-             }
-             if (!filter.showStateNotStarted) {
-                 qb.appendWhere(" and " + SudokuColumns.STATE + "!="
+ SudokuGame.GAME_STATE_NOT_STARTED);
-             }
-             if (!filter.showStatePlaying) {
-                 qb.appendWhere(" and " + SudokuColumns.STATE + "!="
+ SudokuGame.GAME_STATE_PLAYING);
-             }
-         }
-
-         SQLiteDatabase db = mOpenHelper.getReadableDatabase();
-         return qb.query(db, null, null, null, null, null, "created
DESC");
-     }
-
-     /**
-      * Returns sudoku game object.
-      *
-      * @param sudokuID Primary key of folder.
@@ -339,101 +96,7 @@
-     }
-
-     /**
-      * Inserts new puzzle into the database.
-      *
-      * @param folderID Primary key of the folder in which puzzle should
be saved.
-      * @param sudoku
-      * @return
-      */
-     public long insertSudoku(long folderID, SudokuGame sudoku) {
-         SQLiteDatabase db = mOpenHelper.getWritableDatabase();
-         ContentValues values = new ContentValues();
-         values.put(SudokuColumns.DATA, sudoku.getCells().serialize());
-         values.put(SudokuColumns.CREATED, sudoku.getCreated());
-         values.put(SudokuColumns.LAST_PLAYED, sudoku.getLastPlayed());
-         values.put(SudokuColumns.STATE, sudoku.getState());
-         values.put(SudokuColumns.TIME, sudoku.getTime());

```

```

-         values.put(SudokuColumns.PUZZLE_NOTE, sudoku.getNote());
-         values.put(SudokuColumns.FOLDER_ID, folderID);
-
-         long rowId = db.insert(SUDOKU_TABLE_NAME, FolderColumns.NAME,
values);
-         if (rowId > 0) {
-             return rowId;
-         }
-
-         throw new SQLException("Failed to insert sudoku.");
-     }
-
-     private SQLiteStatement mInsertSudokuStatement;
-
-     public long importSudoku(long folderID, SudokuImportParams pars)
throws SudokuInvalidFormatException {
-         if (pars.data == null) {
-             throw new SudokuInvalidFormatException(pars.data);
-         }
-
-         if (!CellCollection.isValid(pars.data,
CellCollection.DATA_VERSION_PLAIN)) {
-             if (!CellCollection.isValid(pars.data,
CellCollection.DATA_VERSION_1)) {
-                 throw new SudokuInvalidFormatException(pars.data);
-             }
-         }
-
-         if (mInsertSudokuStatement == null) {
-             SQLiteDatabase db = mOpenHelper.getWritableDatabase();
-             mInsertSudokuStatement = db.compileStatement(
-                 "insert into sudoku (folder_id, created,
state, time, last_played, data, puzzle_note) values (?, ?, ?, ?, ?, ?, ?)"
-             );
-         }
-
-         mInsertSudokuStatement.bindLong(1, folderID);
-         mInsertSudokuStatement.bindLong(2, pars.created);
-         mInsertSudokuStatement.bindLong(3, pars.state);
-         mInsertSudokuStatement.bindLong(4, pars.time);
-         mInsertSudokuStatement.bindLong(5, pars.lastPlayed);
-         mInsertSudokuStatement.bindString(6, pars.data);
-         if (pars.note == null) {
-             mInsertSudokuStatement.bindNull(7);
-         } else {
-             mInsertSudokuStatement.bindString(7, pars.note);
-         }
-
-         long rowId = mInsertSudokuStatement.executeInsert();
-         if (rowId > 0) {
-             return rowId;
-         }
-
-         throw new SQLException("Failed to insert sudoku.");
-     }

```

```

-
- /**
-  * Returns List of sudokus to export.
-  *
-  * @param folderID Id of folder to export, -1 if all folders will be
exported.
-  * @return
-  */
- public Cursor exportFolder(long folderID) {
-     String query = "select f._id as folder_id, f.name as
folder_name, f.created as folder_created, s.created, s.state, s.time,
s.last_played, s.data, s.puzzle_note from folder f left outer join sudoku
s on f._id = s.folder_id";
-     SQLiteDatabase db = mOpenHelper.getReadableDatabase();
-     if (folderID != -1) {
-         query += " where f._id = ?";
-     }
-     return db.rawQuery(query, folderID != -1 ? new
String[]{String.valueOf(folderID)} : null);
- }
-
- /**
-  * Returns one concrete sudoku to export. Folder context is not
exported in this case.
-  *
-  * @param sudokuID
-  * @return
-  */
- public Cursor exportSudoku(long sudokuID) {
-     String query = "select f._id as folder_id, f.name as
folder_name, f.created as folder_created, s.created, s.state, s.time,
s.last_played, s.data, s.puzzle_note from sudoku s inner join folder f on
s.folder_id = f._id where s._id = ?";
-     SQLiteDatabase db = mOpenHelper.getReadableDatabase();
-     return db.rawQuery(query, new
String[]{String.valueOf(sudokuID)});
- }
-
- /**
-  * Updates sudoku game in the database.
-  *
-  * @param sudoku
@@ -450,34 +113,7 @@
-         db.update(SUDOKU_TABLE_NAME, values, SudokuColumns._ID + "=" +
sudoku.getId(), null);
-     }
-
- /**
-  * Deletes given sudoku from the database.
-  *
-  * @param sudokuID
-  */
- public void deleteSudoku(long sudokuID) {
-     SQLiteDatabase db = mOpenHelper.getWritableDatabase();

```



```

--- app/src/main/java/org/moire/opensudoku/game/Cell.java (date
1487379812000)
+++ app/src/main/java/org/moire/opensudoku/game/Cell.java (revision )
@@ -222,7 +222,6 @@
        return mValid;
    }

-
-    /**
-     * Creates instance from given <code>StringTokenizer</code>.
-     *
@@ -239,19 +238,6 @@
    }

    /**
-    * Creates instance from given string (string which has been
-    * created by {@link #serialize(StringBuilder)} or {@link
-    #serialize()} method).
-    * earlier.
-    *
-    * @param note
-    */
-    public static Cell deserialize(String cellData) {
-        StringTokenizer data = new StringTokenizer(cellData, "|");
-        return deserialize(data);
-    }
-
-    /**
-     * Appends string representation of this object to the given
-     <code>StringBuilder</code>.
-     * You can later recreate object from this string by calling {@link
-     #deserialize}.
-     *
@@ -266,12 +252,6 @@
        data.append("|");
    }
    data.append(mEditable ? "1" : "0").append("|");
-    }
-
-    public String serialize() {
-        StringBuilder sb = new StringBuilder();
-        serialize(sb);
-        return sb.toString();
-    }

    /**
Index: app/src/main/AndroidManifest.xml
IDEA additional info:
Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP
<+>UTF-8
=====
--- app/src/main/AndroidManifest.xml      (date 1487379812000)
+++ app/src/main/AndroidManifest.xml      (revision )
@@ -6,7 +6,7 @@

```

```

        <uses-permission android:name="android.permission.INTERNET" />
        <uses-permission android:name="android.permission.WAKE_LOCK" />
        <uses-permission
android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
-    >
+
    <application
        android:name="android.support.multidex.MultiDexApplication"
        android:allowBackup="true"
\ No newline at end of file
Index: app/src/main/java/org/moire/opensudoku/gui/FolderListActivity.java
=====
--- app/src/main/java/org/moire/opensudoku/gui/FolderListActivity.java
    (date 1487379812000)
+++ app/src/main/java/org/moire/opensudoku/gui/FolderListActivity.java
    (date 1487379812000)
@@ -1,257 +0,0 @@
-/*
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- *
- */
-
-package org.moire.opensudoku.gui;
-
-import android.app.AlertDialog;
-import android.app.Dialog;
-import android.app.ListActivity;
-import android.content.ComponentName;
-import android.content.Context;
-import android.content.DialogInterface;
-import android.content.Intent;
-import android.database.Cursor;
-import android.os.Bundle;
-import android.util.Log;
-import android.view.ContextMenu;
-import android.view.ContextMenu.ContextMenuInfo;
-import android.view.LayoutInflater;
-import android.view.Menu;
-import android.view.MenuItem;
-import android.view.View;

```

```

-import android.widget.AdapterView;
-import android.widget.ListView;
-import android.widget.SimpleCursorAdapter;
-import android.widget.SimpleCursorAdapter.ViewBinder;
-import android.widget.TextView;
-import org.moire.opensudoku.R;
-import org.moire.opensudoku.db.FolderColumns;
-import org.moire.opensudoku.db.SudokuDatabase;
-import org.moire.opensudoku.game.FolderInfo;
-import org.moire.opensudoku.gui.FolderDetailLoader.FolderDetailCallback;
-import org.moire.opensudoku.utils.AndroidUtils;
-
-/**
- * List of puzzle's folder. This activity also serves as root activity of
- application.
- *
- * @author romario
- */
-public class FolderListActivity extends ListActivity {
-
-    public static final int MENU_ITEM_ADD = Menu.FIRST;
-    public static final int MENU_ITEM_RENAME = Menu.FIRST + 1;
-    public static final int MENU_ITEM_DELETE = Menu.FIRST + 2;
-    public static final int MENU_ITEM_ABOUT = Menu.FIRST + 3;
-    public static final int MENU_ITEM_EXPORT = Menu.FIRST + 4;
-    public static final int MENU_ITEM_EXPORT_ALL = Menu.FIRST + 5;
-    public static final int MENU_ITEM_IMPORT = Menu.FIRST + 6;
-
-    private static final int DIALOG_ABOUT = 0;
-    private static final int DIALOG_ADD_FOLDER = 1;
-    private static final int DIALOG_RENAME_FOLDER = 2;
-    private static final int DIALOG_DELETE_FOLDER = 3;
-
-    private static final String TAG = "FolderListActivity";
-
-    private Cursor mCursor;
-    private SudokuDatabase mDatabase;
-    private FolderListViewBinder mFolderListBinder;
-
-    // input parameters for dialogs
-    private TextView mAddFolderNameInput;
-    private TextView mRenameFolderNameInput;
-    private long mRenameFolderID;
-    private long mDeleteFolderID;
-
-    @Override
-    protected void onCreate(Bundle savedInstanceState) {
-        super.onCreate(savedInstanceState);
-
-        setContentView(R.layout.folder_list);
-
-        setDefaultKeyMode(DEFAULT_KEYS_SHORTCUT);
-        // Inform the list we provide context menus for items
-        getListView().setOnCreateContextMenuListener(this);
-
-    }
-}

```

```

-         mDatabase = new SudokuDatabase(getApplicationContext());
-         mCursor = mDatabase.getFolderList();
-         startManagingCursor(mCursor);
-         SimpleCursorAdapter adapter = new SimpleCursorAdapter(this,
R.layout.folder_list_item,
-             mCursor, new String[]{FolderColumns.NAME,
FolderColumns._ID},
-             new int[]{R.id.name, R.id.detail});
-         mFolderListBinder = new FolderListViewBinder(this);
-         adapter.setViewBinder(mFolderListBinder);
-
-         setListAdapter(adapter);
-
-         // show changelog on first run
-         Changelog changelog = new Changelog(this);
-         changelog.showOnFirstRun();
-     }
-
-     @Override
-     protected void onStart() {
-         super.onStart();
-
-         updateList();
-     }
-
-     @Override
-     protected void onDestroy() {
-         super.onDestroy();
-         mDatabase.close();
-         mFolderListBinder.destroy();
-     }
-
-     @Override
-     protected void onSaveInstanceState(Bundle outState) {
-         super.onSaveInstanceState(outState);
-
-         outState.putLong("mRenameFolderID", mRenameFolderID);
-         outState.putLong("mDeleteFolderID", mDeleteFolderID);
-     }
-
-     @Override
-     protected void onRestoreInstanceState(Bundle state) {
-         super.onRestoreInstanceState(state);
-
-         mRenameFolderID = state.getLong("mRenameFolderID");
-         mDeleteFolderID = state.getLong("mDeleteFolderID");
-     }
-
-     @Override
-     protected Dialog onCreateDialog(int id) {
-         LayoutInflater factory = LayoutInflater.from(this);
-
-         switch (id) {
-             case DIALOG_ABOUT:

```

```

-         final View aboutView =
factory.inflate(R.layout.about, null);
-         TextView versionLabel = (TextView)
aboutView.findViewById(R.id.version_label);
-         String versionName =
AndroidUtils.getAppVersionName(getApplicationContext());
-         versionLabel.setText(getString(R.string.version,
versionName));
-         return new AlertDialog.Builder(this)
-             .setIcon(R.mipmap.ic_launcher)
-             .setTitle(R.string.app_name)
-             .setView(aboutView)
-             .setPositiveButton("OK", null)
-             .create();
-     }
-
-     return null;
- }
-
- @Override
- protected void onPrepareDialog(int id, Dialog dialog) {
-     super.onPrepareDialog(id, dialog);
-
-     switch (id) {
-         case DIALOG_ADD_FOLDER:
-             break;
-         case DIALOG_RENAME_FOLDER: {
-             FolderInfo folder =
mDatabase.getFolderInfo(mRenameFolderID);
-             String folderName = folder != null ? folder.name :
"";
-
-             dialog.setTitle(getString(R.string.rename_folder_title,
folderName));
-
-             mRenameFolderNameInput.setText(folderName);
-             break;
-         }
-         case DIALOG_DELETE_FOLDER: {
-             FolderInfo folder =
mDatabase.getFolderInfo(mDeleteFolderID);
-             String folderName = folder != null ? folder.name :
"";
-
-             dialog.setTitle(getString(R.string.delete_folder_title,
folderName));
-
-             break;
-         }
-     }
- }
-
- @Override
- public boolean onContextItemSelected(MenuItem item) {
-     AdapterView.AdapterContextMenuInfo info;
-     try {

```

```

-         info = (AdapterView.AdapterContextMenuInfo)
item.getMenuInfo();
-     } catch (ClassCastException e) {
-         Log.e(TAG, "bad menuInfo", e);
-         return false;
-     }
-
-
-     switch (item.getItemId()) {
-     case MENU_ITEM_RENAME:
-         mRenameFolderID = info.id;
-         showDialog(DIALOG_RENAME_FOLDER);
-         return true;
-     case MENU_ITEM_DELETE:
-         mDeleteFolderID = info.id;
-         showDialog(DIALOG_DELETE_FOLDER);
-         return true;
-     }
-     return false;
- }
-
- @Override
- protected void onItemClick(AdapterView l, View v, int position,
long id) {
-     Intent i = new Intent(this, SudokuListActivity.class);
-     i.putExtra(SudokuListActivity.EXTRA_FOLDER_ID, id);
-     startActivity(i);
- }
-
- private void updateList() {
-     mCursor.requery();
- }
-
- private static class FolderListViewBinder implements ViewBinder {
-     private Context mContext;
-     private FolderDetailLoader mDetailLoader;
-
-     public FolderListViewBinder(Context context) {
-         mContext = context;
-         mDetailLoader = new FolderDetailLoader(context);
-     }
-
-     @Override
-     public boolean setViewValue(View view, Cursor c, int
columnIndex) {
-
-         switch (view.getId()) {
-         case R.id.name:
-             ((TextView)
view).setText(c.getString(columnIndex));
-             break;
-         case R.id.detail:
-             final long folderID = c.getLong(columnIndex);
-             final TextView detailView = (TextView) view;

```

```

-         detailView.setText(mContext.getString(R.string.loading));
-                                     mDetailLoader.loadDetailAsync(folderID, new
FolderDetailCallback() {
-                                     @Override
-                                     public void onLoaded(FolderInfo
folderInfo) {
-                                     if (folderInfo != null)
-
-                                     detailView.setText(folderInfo.getDetail(mContext));
-                                     }
-                                     });
-                                     }
-
-                                     return true;
-                                     }
-
-                                     public void destroy() {
-                                     mDetailLoader.destroy();
-                                     }
-                                     }
-
-
-}
Index: app/src/main/java/org/moire/opensudoku/gui/FolderDetailLoader.java
=====
--- app/src/main/java/org/moire/opensudoku/gui/FolderDetailLoader.java
    (date 1487379812000)
+++ app/src/main/java/org/moire/opensudoku/gui/FolderDetailLoader.java
    (date 1487379812000)
@@ -1,88 +0,0 @@
-/*
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- *
- */
-
-package org.moire.opensudoku.gui;
-
-import java.util.concurrent.ExecutorService;
-import java.util.concurrent.Executors;

```

```

-
-import android.content.Context;
-import android.os.Handler;
-import android.util.Log;
-import org.moire.opensudoku.db.SudokuDatabase;
-import org.moire.opensudoku.game.FolderInfo;
-
-/**
- * Loads details of given folders on one single background thread.
- * Results are published on GUI thread via {@link FolderDetailCallback}
- * interface.
- * <p/>
- * Please note that instance of this class has to be created on GUI
- * thread!
- * <p/>
- * You should explicitly call {@link #destroy()} when this object is no
- * longer needed.
- *
- * @author romario
- */
-public class FolderDetailLoader {
-
-    private static final String TAG = "FolderDetailLoader";
-
-    private Context mContext;
-    private SudokuDatabase mDatabase;
-    private Handler mHandler;
-    private ExecutorService mLoaderService =
-    Executors.newSingleThreadExecutor();
-
-    public FolderDetailLoader(Context context) {
-        mContext = context;
-        mDatabase = new SudokuDatabase(mContext);
-        mHandler = new Handler();
-    }
-
-    public void loadDetailAsync(long folderID, FolderDetailCallback
-    loadedCallback) {
-        final long folderIDFinal = folderID;
-        final FolderDetailCallback loadedCallbackFinal =
-        loadedCallback;
-        mLoaderService.execute(new Runnable() {
-            @Override
-            public void run() {
-                try {
-                    final FolderInfo folderInfo =
-    mDatabase.getFolderInfoFull(folderIDFinal);
-
-                    mHandler.post(new Runnable() {
-                        @Override
-                        public void run() {
-                            loadedCallbackFinal.onLoaded(folderInfo);
-                        }
-                    });
-                }
-            }
-        });
-    }
-
-}

```



```

-                                     } catch (Exception e) {
-                                     // this is some unimportant background stuff,
do not fail
-                                     Log.e(TAG, "Error occured while loading full
folder info.", e);
-                                     }
-                                     }
-                                     });
-                                     }
-
-     public void destroy() {
-         mLoaderService.shutdownNow();
-         mDatabase.close();
-     }
-
-     public interface FolderDetailCallback {
-         void onLoaded(FolderInfo folderInfo);
-     }
- }
-}
Index: app/src/main/java/org/moire/opensudoku/utils/StringUtils.java
=====
--- app/src/main/java/org/moire/opensudoku/utils/StringUtils.java      (date
1487379812000)
+++ app/src/main/java/org/moire/opensudoku/utils/StringUtils.java      (date
1487379812000)
@@ -1,40 +0,0 @@
-/*
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- * along with OpenSudoku. If not, see <http://www.gnu.org/licenses/>.
- */
-
-package org.moire.opensudoku.utils;
-
-import java.util.Collection;
-import java.util.Iterator;
-
-public class StringUtils {
-    public static String join(Collection<?> s, String delimiter) {
-        StringBuilder builder = new StringBuilder();

```

```

-         Iterator<?> iter = s.iterator();
-         while (iter.hasNext()) {
-             builder.append(iter.next());
-             if (iter.hasNext()) {
-                 builder.append(delimiter);
-             }
-         }
-         return builder.toString();
-     }
- }
-}
Index: app/src/main/java/org/moire/opensudoku/gui/GameTimeFormat.java
IDEA additional info:
Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP
<+>UTF-8
=====
--- app/src/main/java/org/moire/opensudoku/gui/GameTimeFormat.java      (date
1487379812000)
+++ app/src/main/java/org/moire/opensudoku/gui/GameTimeFormat.java
    (revision )
@@ -31,7 +31,6 @@
     private static final int TIME_99_99 = 99 * 99 * 1000;

     private StringBuilder mTimeText = new StringBuilder();
-
-     private Formatter mGameTimeFormatter = new Formatter(mTimeText);

    /**
Index: app/src/main/java/org/moire/opensudoku/gui/SudokuListActivity.java
=====
--- app/src/main/java/org/moire/opensudoku/gui/SudokuListActivity.java
    (date 1487379812000)
+++ app/src/main/java/org/moire/opensudoku/gui/SudokuListActivity.java
    (date 1487379812000)
@@ -1,425 +0,0 @@
-/*
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- * along with OpenSudoku. If not, see <http://www.gnu.org/licenses/>.
- *
- */
-

```

```

-package org.moire.opensudoku.gui;
-
-import java.text.DateFormat;
-import java.util.Date;
-
-import android.app.AlertDialog;
-import android.app.Dialog;
-import android.app.ListActivity;
-import android.content.ComponentName;
-import android.content.Context;
-import android.content.DialogInterface;
-import android.content.Intent;
-import android.content.SharedPreferences;
-import android.database.Cursor;
-import android.graphics.Color;
-import android.os.Bundle;
-import android.preference.PreferenceManager;
-import android.util.Log;
-import android.view.ContextMenu;
-import android.view.KeyEvent;
-import android.view.LayoutInflater;
-import android.view.Menu;
-import android.view.MenuItem;
-import android.view.View;
-import android.view.ContextMenu.ContextMenuInfo;
-import android.widget.AdapterView;
-import android.widget.ListView;
-import android.widget.SimpleCursorAdapter;
-import android.widget.TextView;
-import android.widget.SimpleCursorAdapter.ViewBinder;
-import org.moire.opensudoku.R;
-import org.moire.opensudoku.db.SudokuColumns;
-import org.moire.opensudoku.db.SudokuDatabase;
-import org.moire.opensudoku.game.FolderInfo;
-import org.moire.opensudoku.game.CellCollection;
-import org.moire.opensudoku.game.SudokuGame;
-import org.moire.opensudoku.gui.FolderDetailLoader.FolderDetailCallback;
-import org.moire.opensudoku.utils.AndroidUtils;
-
-/**
- * List of puzzles in folder.
- *
- * @author romario
- */
-public class SudokuListActivity extends ListActivity {
-
-    public static final String EXTRA_FOLDER_ID = "folder_id";
-
-    public static final int MENU_ITEM_INSERT = Menu.FIRST;
-    public static final int MENU_ITEM_DELETE = Menu.FIRST + 2;
-    public static final int MENU_ITEM_PLAY = Menu.FIRST + 3;
-    public static final int MENU_ITEM_RESET = Menu.FIRST + 4;
-    public static final int MENU_ITEM_EDIT_NOTE = Menu.FIRST + 5;
-    public static final int MENU_ITEM_FILTER = Menu.FIRST + 6;
-    public static final int MENU_ITEM_FOLDERS = Menu.FIRST + 7;

```

```

-
-     private static final int DIALOG_DELETE_PUZZLE = 0;
-     private static final int DIALOG_RESET_PUZZLE = 1;
-     private static final int DIALOG_EDIT_NOTE = 2;
-     private static final int DIALOG_FILTER = 3;
-
-     private static final String FILTER_STATE_NOT_STARTED = "filter" +
SudokuGame.GAME_STATE_NOT_STARTED;
-     private static final String FILTER_STATE_PLAYING = "filter" +
SudokuGame.GAME_STATE_PLAYING;
-     private static final String FILTER_STATE_SOLVED = "filter" +
SudokuGame.GAME_STATE_COMPLETED;
-
-     private static final String TAG = "SudokuListActivity";
-
-     private long mFolderID;
-
-     // input parameters for dialogs
-     private long mDeletePuzzleID;
-     private long mResetPuzzleID;
-     private long mEditNotePuzzleID;
-     private TextView mEditNoteInput;
-     private SudokuListFilter mListFilter;
-
-     private TextView mFilterStatus;
-
-     private SimpleCursorAdapter mAdapter;
-     private Cursor mCursor;
-     private SudokuDatabase mDatabase;
-     private FolderDetailLoader mFolderDetailLoader;
-
-     @Override
-     protected void onCreate(Bundle savedInstanceState) {
-         super.onCreate(savedInstanceState);
-
-         // theme must be set before setContentView
-         AndroidUtils.setThemeFromPreferences(this);
-
-         setContentView(R.layout.sudoku_list);
-         mFilterStatus = (TextView) findViewById(R.id.filter_status);
-
-         getListView().setOnCreateContextMenuListener(this);
-         setDefaultKeyMode(DEFAULT_KEYS_SHORTCUT);
-
-         mDatabase = new SudokuDatabase(getApplicationContext());
-         mFolderDetailLoader = new
FolderDetailLoader(getApplicationContext());
-
-         Intent intent = getIntent();
-         if (intent.hasExtra(EXTRA_FOLDER_ID)) {
-             mFolderID = intent.getLongExtra(EXTRA_FOLDER_ID, 0);
-         } else {
-             Log.d(TAG, "No 'folder_id' extra provided, exiting.");
-             finish();
-             return;
-         }
-     }

```

```

-         }
-
-         final SharedPreferences settings =
PreferenceManager.getDefaultSharedPreferences(getApplicationContext());
-         mListFilter = new SudokuListFilter(getApplicationContext());
-         mListFilter.showStateNotStarted =
settings.getBoolean(FILTER_STATE_NOT_STARTED, true);
-         mListFilter.showStatePlaying =
settings.getBoolean(FILTER_STATE_PLAYING, true);
-         mListFilter.showStateCompleted =
settings.getBoolean(FILTER_STATE_SOLVED, true);
-
-         mAdapter = new SimpleCursorAdapter(this,
R.layout.sudoku_list_item,
-             null, new String[]{SudokuColumns.DATA,
SudokuColumns.STATE,
-             SudokuColumns.TIME, SudokuColumns.LAST_PLAYED,
SudokuColumns.CREATED, SudokuColumns.PUZZLE_NOTE},
-             new int[]{R.id.sudoku_board, R.id.state, R.id.time,
R.id.last_played, R.id.created,
R.id.note});
-         mAdapter.setViewBinder(new SudokuListViewBinder(this));
-         updateList();
-         setListAdapter(mAdapter);
-     }
-
-     @Override
-     protected void onDestroy() {
-         super.onDestroy();
-
-         mDatabase.close();
-         mFolderDetailLoader.destroy();
-     }
-
-     @Override
-     protected void onSaveInstanceState(Bundle outState) {
-         super.onSaveInstanceState(outState);
-
-         outState.putLong("mDeletePuzzleID", mDeletePuzzleID);
-         outState.putLong("mResetPuzzleID", mResetPuzzleID);
-         outState.putLong("mEditNotePuzzleID", mEditNotePuzzleID);
-     }
-
-     @Override
-     protected void onRestoreInstanceState(Bundle state) {
-         super.onRestoreInstanceState(state);
-
-         mDeletePuzzleID = state.getLong("mDeletePuzzleID");
-         mResetPuzzleID = state.getLong("mResetPuzzleID");
-         mEditNotePuzzleID = state.getLong("mEditNotePuzzleID");
-     }
-
-     @Override
-     protected void onResume() {
-         super.onResume();

```

```

-         // the puzzle list is naturally refreshed when the window
-         // regains focus, so we only need to update the title
-         updateTitle();
-     }
-
-     @Override
-     public boolean onKeyDown(int keyCode, KeyEvent event) {
-         // if there is no activity in history and back button was
-         // pressed, go
-         // to FolderListActivity, which is the root activity.
-         if (isTaskRoot() && keyCode == KeyEvent.KEYCODE_BACK) {
-             Intent i = new Intent();
-             i.setClass(this, FolderListActivity.class);
-             startActivity(i);
-             finish();
-             return true;
-         }
-
-         return super.onKeyDown(keyCode, event);
-     }
-
-     @Override
-     public boolean onCreateOptionsMenu(Menu menu) {
-         super.onCreateOptionsMenu(menu);
-
-         // This is our one standard application action -- inserting a
-         // new note into the list.
-         menu.add(0, MENU_ITEM_FOLDERS, 0,
- R.string.folders).setShortcut('1', 'f')
-             .setIcon(R.drawable.ic_sort);
-         menu.add(0, MENU_ITEM_FILTER, 1,
- R.string.filter).setShortcut('1', 'f')
-             .setIcon(R.drawable.ic_view);
-         // I'm not sure this one is ready for release
-         menu.add(0, MENU_ITEM_GENERATE, 3,
- R.string.generate_sudoku).setShortcut('4', 'g')
-             .setIcon(R.drawable.ic_add);
-
-         // Generate any additional actions that can be performed on
-         // the
-         // overall list. In a normal install, there are no additional
-         // actions found here, but this allows other applications to
-         // extend
-         // our menu with their own actions.
-         Intent intent = new Intent(null, getIntent().getData());
-         intent.addCategory(Intent.CATEGORY_ALTERNATIVE);
-         menu.addIntentOptions(Menu.CATEGORY_ALTERNATIVE, 0, 0,
-             new ComponentName(this, SudokuListActivity.class),
- null,
-             intent, 0, null);
-
-         return true;
-     }
-
- }
-

```

```

-     @Override
-     public boolean onOptionsItemSelected(MenuItem item) {
-         switch (item.getItemId()) {
-             case MENU_ITEM_FILTER:
-                 showDialog(DIALOG_FILTER);
-                 return true;
-             case MENU_ITEM_FOLDERS: {
-                 Intent i = new Intent(this,
FolderListActivity.class);
-                 startActivity(i);
-                 finish();
-                 return true;
-             }
-         }
-         return super.onOptionsItemSelected(item);
-     }
-
-     @Override
-     protected void onItemClick(AdapterView l, View v, int position,
long id) {
-         playSudoku(id);
-     }
-
-     /**
-      * Updates whole list.
-      */
-     private void updateList() {
-         updateTitle();
-         updateFilterStatus();
-
-         if (mCursor != null) {
-             stopManagingCursor(mCursor);
-         }
-         mCursor = mDatabase.getSudokuList(mFolderID, mListFilter);
-         startManagingCursor(mCursor);
-         mAdapter.changeCursor(mCursor);
-     }
-
-     private void updateFilterStatus() {
-
-         if (mListFilter.showStateCompleted &&
mListFilter.showStateNotStarted && mListFilter.showStatePlaying) {
-             mFilterStatus.setVisibility(View.GONE);
-         } else {
-             mFilterStatus.setText(getString(R.string.filter_active,
mListFilter));
-             mFilterStatus.setVisibility(View.VISIBLE);
-         }
-     }
-
-     private void updateTitle() {
-         FolderInfo folder = mDatabase.getFolderInfo(mFolderID);
-         setTitle(folder.name);
-     }

```

```

-         mFolderDetailLoader.loadDetailAsync(mFolderID, new
FolderDetailCallback() {
-             @Override
-             public void onLoaded(FolderInfo folderInfo) {
-                 if (folderInfo != null)
-                     setTitle(folderInfo.name + " - " +
folderInfo.getDetail(getApplicationContext()));
-             }
-         });
-     }

-     private void playSudoku(long sudokuID) {
-         Intent i = new Intent(SudokuListActivity.this,
SudokuPlayActivity.class);
-         // i.putExtra(SudokuPlayActivity.EXTRA_SUDOKU_ID, sudokuID);
-         startActivity(i);
-     }

-     private static class SudokuListViewBinder implements ViewBinder {
-         private Context mContext;
-         private GameTimeFormat mGameTimeFormatter = new
GameTimeFormat();
-         private DateFormat mDateTimeFormatter =
DateFormat.getDateTimeInstance(
-             DateFormat.SHORT, DateFormat.SHORT);
-         private DateFormat mTimeFormatter = DateFormat
.getTimeInstance(DateFormat.SHORT);
-
-         public SudokuListViewBinder(Context context) {
-             mContext = context;
-         }

-         @Override
-         public boolean setViewValue(View view, Cursor c, int
columnIndex) {
-
-             int state =
c.getInt(c.getColumnIndex(SudokuColumns.STATE));
-
-             TextView label = null;
-
-             switch (view.getId()) {
-                 case R.id.sudoku_board:
-                     String data = c.getString(columnIndex);
-                     // TODO: still can be faster, I don't have to
call initCollection and read notes
-                     CellCollection cells = null;
-                     ;
-                     try {
-                         cells =
CellCollection.deserialize(data);
-                     } catch (Exception e) {
-                         long id =
c.getLong(c.getColumnIndex(SudokuColumns._ID));

```



```

-                                     Log.e(TAG, String.format("Exception
occurred when deserializing puzzle with id %s.", id), e);
-                                     }
-                                     SudokuBoardView board = (SudokuBoardView)
view;
-                                     board.setReadOnly(true);
-                                     board.setFocusable(false);
-                                     ((SudokuBoardView) view).setCells(cells);
-                                     break;
-                                     case R.id.state:
-                                     label = ((TextView) view);
-                                     String stateString = null;
-                                     switch (state) {
-                                     case SudokuGame.GAME_STATE_COMPLETED:
-                                     stateString =
mContext.getString(R.string.solved);
-                                     break;
-                                     case SudokuGame.GAME_STATE_PLAYING:
-                                     stateString =
mContext.getString(R.string.playing);
-                                     break;
-                                     }
-                                     label.setVisibility(stateString == null ?
View.GONE
-                                     : View.VISIBLE);
-                                     label.setText(stateString);
-                                     if (state == SudokuGame.GAME_STATE_COMPLETED)
{
-                                     // TODO: read colors from android
resources
-                                     label.setTextColor(Color.rgb(150, 150,
150));
-                                     } else {
-                                     label.setTextColor(Color.rgb(255, 255,
255));
-                                     //label.setTextColor(SudokuListActivity.this.getResources().getColor
(R.));
-                                     }
-                                     break;
-                                     case R.id.time:
-                                     long time = c.getLong(columnIndex);
-                                     label = ((TextView) view);
-                                     String timeString = null;
-                                     if (time != 0) {
-                                     timeString =
mGameTimeFormatter.format(time);
-                                     }
-                                     label.setVisibility(timeString == null ?
View.GONE
-                                     : View.VISIBLE);
-                                     label.setText(timeString);
-                                     if (state == SudokuGame.GAME_STATE_COMPLETED)
{

```



```

-                                     break;
-                                     }
-
-                                     return true;
-                                     }
-
-     private String getDateAndTimeForHumans(long datetime) {
-         Date date = new Date(datetime);
-
-         Date now = new Date(System.currentTimeMillis());
-         Date today = new Date(now.getYear(), now.getMonth(),
now.getDate());
-         Date yesterday = new Date(System.currentTimeMillis()
-                                     - (1000 * 60 * 60 * 24));
-
-         if (date.after(today)) {
-             return mContext.getString(R.string.at_time,
mTimeFormatter.format(date));
-         } else if (date.after(yesterday)) {
-             return
mContext.getString(R.string.yesterday_at_time,
mTimeFormatter.format(date));
-         } else {
-             return mContext.getString(R.string.on_date,
mDateTimeFormatter.format(date));
-         }
-     }
- }
-
-}
Index: app/src/main/java/org/moire/opensudoku/game/CellCollection.java
IDEA additional info:
Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP
<+>UTF-8
=====
--- app/src/main/java/org/moire/opensudoku/game/CellCollection.java (date
1487379812000)
+++ app/src/main/java/org/moire/opensudoku/game/CellCollection.java
(revision )
@@ -20,6 +20,8 @@

package org.moire.opensudoku.game;

+import org.moire.opensudoku.utils.DefaultHashMap;
+
import java.util.ArrayList;
import java.util.HashMap;
import java.util.List;
@@ -80,23 +82,6 @@
    }

    /**
-    * Return true, if no value is entered in any of cells.
-    *

```

```

-     * @return
-     */
-     public boolean isEmpty() {
-         for (int r = 0; r < SUDOKU_SIZE; r++) {
-             for (int c = 0; c < SUDOKU_SIZE; c++) {
-                 Cell cell = mCells[r][c];
-                 if (cell.getValue() != 0)
-                     return false;
-             }
-         }
-         return true;
-     }
-
-
-     /**
-      * Generates debug game.
-      *
-      * @return
-      @@ -145,11 +130,13 @@
-
-     public void markAllCellsAsValid() {
-         mOnChangeEnabled = false;
+
-         for (int r = 0; r < SUDOKU_SIZE; r++) {
-             for (int c = 0; c < SUDOKU_SIZE; c++) {
-                 mCells[r][c].setValid(true);
-             }
+
-         }
+
-         mOnChangeEnabled = true;
-         onChange();
-     }
-     @@ -205,18 +192,6 @@
-     }
-
-     /**
-     * Marks all cells as editable.
-     */
-     public void markAllCellsAsEditable() {
-         for (int r = 0; r < SUDOKU_SIZE; r++) {
-             for (int c = 0; c < SUDOKU_SIZE; c++) {
-                 Cell cell = mCells[r][c];
-                 cell.setEditable(true);
-             }
-         }
-     }
-
-     /**
-     * Marks all filled cells (cells with value other than 0) as not
-     editable.
-     */
-     public void markFilledCellsAsNotEditable() {
-     @@ -228,7 +203,6 @@
-         }
-     }

```

```

-
-    /**
-     * Returns how many times each value is used in
-     * <code>CellCollection</code>.
-     * Returns map with entry for each value.
-     * @return
-     */
-    public Map<Integer, Integer> getValuesUseCount() {
-        Map<Integer, Integer> valuesUseCount = new HashMap<Integer,
-        Integer>();
-        for (int value = 1; value <= CellCollection.SUDOKU_SIZE;
-        value++) {
-            valuesUseCount.put(value, 0);
-        }
-        // Use a DefaultHashMap instance instead of the basic to add
-        // support for a default argument
-        // without requiring support for java 8.
-        DefaultHashMap<Integer, Integer> valuesUseCount = new
-        DefaultHashMap<>();
-
-        for (int r = 0; r < CellCollection.SUDOKU_SIZE; r++) {
-            for (int c = 0; c < CellCollection.SUDOKU_SIZE; c++) {
-                int value = getCell(r, c).getValue();
-                if (value != 0) {
-                    valuesUseCount.put(value,
-                    valuesUseCount.get(value) + 1);
-                }
-                // Use a default value of 0 to get past having to
-                // initialize the map to zeroes
-                // and save some time.
-                valuesUseCount.put(value,
-                valuesUseCount.get(value, 0) + 1);
-            }
-        }
-    }
-    /**
-     * created by {@link #serialize(StringBuilder)} or {@link
-     * #serialize()} method).
-     * earlier.
-     *
-     * @param note
-     * @param data: The data to deserialize.
-     */
-    public static CellCollection deserialize(String data) {
-        // TODO: use DATA_PATTERN_VERSION_1 to validate and extract
-        puzzle data
-    }
-    /**
-     * to be in format "00002343243202...", where each number represents
-     * cell value, no other information can be set using this method.
-     *
-     * @param data
-     * @return
-     * @param data: The data to build the cell collection from.
-     * @return new CellCollection from the data given.

```

```

        */
        public static CellCollection fromString(String data) {
            // TODO: validate
@@ -417,40 +392,6 @@
            mChangeListeners.add(listener);
        }
    }

-
-    public void removeOnChangeListener(OnChangeListener listener) {
-        if (listener == null) {
-            throw new IllegalArgumentException("The listener is
null.");
-        }
-        synchronized (mChangeListeners) {
-            if (!mChangeListeners.contains(listener)) {
-                throw new IllegalStateException("Listener " +
listener + " was not registered.");
-            }
-            mChangeListeners.remove(listener);
-        }
-    }

-    /**
-     * Returns whether change notification is enabled.
-     *
-     * If true, change notifications are distributed to the listeners
-     * registered by {@link #addOnChangeListener(OnChangeListener)}.
-     *
-     * @return
-     */
-    public boolean isOnChangeEnabled() {
-        return mOnChangeEnabled;
-    }

-    /**
-     * Enables or disables change notifications, that are distributed to
the listeners
-     * registered by {@link #addOnChangeListener(OnChangeListener)}.
-     *
-     * @param onChangeEnabled
-     */
-    public void setOnChangeEnabled(boolean onChangeEnabled) {
-        mOnChangeEnabled = onChangeEnabled;
-    }

    /**
     * Notify all registered listeners that something has changed.
Index: app/src/main/java/org/moire/opensudoku/gui/SeekBarPreference.java
IDEA additional info:
Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP
<+>UTF-8
=====
--- app/src/main/java/org/moire/opensudoku/gui/SeekBarPreference.java
    (date 1487379812000)

```

```

+++ app/src/main/java/org/moire/opensudoku/gui/SeekBarPreference.java
    (revision )
@@ -220,7 +220,7 @@
    private void updateValueLabel(int progress) {
        if (mValueLabel != null) {
            int value = progress + mMin;
-           if (mValueFormat != null && mValueFormat != "") {
+           if (mValueFormat != null && !mValueFormat.equals("")) {
                mValueLabel.setText(String.format(mValueFormat,
value));
            } else {
                mValueLabel.setText(String.valueOf(value));
\ No newline at end of file
Index: app/src/main/java/org/moire/opensudoku/utils/DefaultHashMap.java
IDEA additional info:
Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP
<+>UTF-8
=====
--- app/src/main/java/org/moire/opensudoku/utils/DefaultHashMap.java
    (revision )
+++ app/src/main/java/org/moire/opensudoku/utils/DefaultHashMap.java
    (revision )
@@ -0,0 +1,19 @@
+package org.moire.opensudoku.utils;
+
+import java.util.HashMap;
+
+/**
+ * Create a HashMap that supports a default value parameter.
+ * Created by ian on 2/17/17.
+ */
+public class DefaultHashMap<K,V> extends HashMap<K,V> {
+    /**
+     * Overload the default HashMap get method with an additional
defaultValue parameter.
+     * @param key The key to get from the map
+     * @param defaultValue The value that will be returned if the key
doesn't exist.
+     * @return The value for the given key, or defaultValue if the key
doesn't exist.
+     */
+    public V get(Object key, V defaultValue) {
+        return containsKey(key) ? super.get(key): defaultValue;
+    }
+}
Index: app/src/main/java/org/moire/opensudoku/game/CellGroup.java
IDEA additional info:
Subsystem: com.intellij.openapi.diff.impl.patch.CharsetEP
<+>UTF-8
=====
--- app/src/main/java/org/moire/opensudoku/game/CellGroup.java (date
1487379812000)
+++ app/src/main/java/org/moire/opensudoku/game/CellGroup.java (revision )
@@ -40,7 +40,6 @@
    mPos++;

```

```

    }

-
    /**
     * Validates numbers in given sudoku group - numbers must be unique.
     Cells with invalid
     * numbers are marked (see {@link Cell#isValid}).
@@ -57,6 +56,7 @@
        for (int i = 0; i < mCells.length; i++) {
            Cell cell = mCells[i];
            int value = cell.getValue();
+
            if (cellsByValue.get(value) != null) {
                mCells[i].setValid(false);
                cellsByValue.get(value).setValid(false);
@@ -72,8 +72,9 @@
        }

        public boolean contains(int value) {
-            for (int i = 0; i < mCells.length; i++) {
-                if (mCells[i].getValue() == value) {
+            // Use a for-each loop instead of a for loop with index counter
+            // which is unused.
+            for (Cell cell: mCells) {
+                if (cell.getValue() == value) {
                    return true;
                }
            }
        }
Index: app/src/main/java/org/moire/opensudoku/gui/SudokuListFilter.java
=====
--- app/src/main/java/org/moire/opensudoku/gui/SudokuListFilter.java (date
1487379812000)
+++ app/src/main/java/org/moire/opensudoku/gui/SudokuListFilter.java (date
1487379812000)
@@ -1,59 +0,0 @@
-/*
- * Copyright (C) 2009 Roman Masek
- *
- * This file is part of OpenSudoku.
- *
- * OpenSudoku is free software: you can redistribute it and/or modify
- * it under the terms of the GNU General Public License as published by
- * the Free Software Foundation, either version 3 of the License, or
- * (at your option) any later version.
- *
- * OpenSudoku is distributed in the hope that it will be useful,
- * but WITHOUT ANY WARRANTY; without even the implied warranty of
- * MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
- * GNU General Public License for more details.
- *
- * You should have received a copy of the GNU General Public License
- * along with OpenSudoku. If not, see <http://www.gnu.org/licenses/>.
- *
- */
-

```



```

-package org.moire.opensudoku.gui;
-
-import java.util.ArrayList;
-import java.util.List;
-
-import android.content.Context;
-
-import org.moire.opensudoku.R;
-import org.moire.opensudoku.utils.StringUtils;
-
-public class SudokuListFilter {
-
-    private Context mContext;
-
-    public boolean showStateNotStarted = true;
-    public boolean showStatePlaying = true;
-    public boolean showStateCompleted = true;
-
-    public SudokuListFilter(Context context) {
-        mContext = context;
-    }
-
-    @Override
-    public String toString() {
-        List<String> visibleStates = new ArrayList<String>();
-        if (showStateNotStarted) {
-
-            visibleStates.add(mContext.getString(R.string.not_started));
-        }
-        if (showStatePlaying) {
-            visibleStates.add(mContext.getString(R.string.playing));
-        }
-        if (showStateCompleted) {
-            visibleStates.add(mContext.getString(R.string.solved));
-        }
-        return StringUtils.join(visibleStates, ",");
-    }
-}
Index: app/src/main/java/org/moire/opensudoku/gui/Changelog.java
=====
--- app/src/main/java/org/moire/opensudoku/gui/Changelog.java    (date
1487379812000)
+++ app/src/main/java/org/moire/opensudoku/gui/Changelog.java    (date
1487379812000)
@@ -1,95 +0,0 @@
-package org.moire.opensudoku.gui;
-
-
-import java.io.IOException;
-import java.io.InputStream;
-import java.io.InputStreamReader;
-import java.io.Reader;
-
-import android.app.AlertDialog;

```

```

-import android.content.Context;
-import android.content.SharedPreferences;
-import android.content.SharedPreferences.Editor;
-import android.util.Log;
-import android.webkit.WebView;
-import org.moire.opensudoku.R;
-import org.moire.opensudoku.utils.AndroidUtils;
-
-public class Changelog {
-
-    private static final String TAG = "Changelog";
-
-    private static final String PREF_FILE_CHANGELOG = "changelog";
-
-    private Context mContext;
-    private SharedPreferences mPrefs;
-
-    public Changelog(Context context) {
-        mContext = context;
-        mPrefs = mContext.getSharedPreferences(PREF_FILE_CHANGELOG,
Context.MODE_PRIVATE);
-    }
-
-    public void showOnFirstRun() {
-        String versionKey = "changelog_" +
AndroidUtils.getAppVersionCode(mContext);
-
-        if (!mPrefs.getBoolean(versionKey, false)) {
-            showChangelogDialog();
-
-            Editor editor = mPrefs.edit();
-            editor.putBoolean(versionKey, true);
-            editor.commit();
-        }
-    }
-
-    private void showChangelogDialog() {
-
-        String changelog = getChangelogFromResources();
-
-        WebView webView = new WebView(mContext);
-        webView.loadData(changelog, "text/html", "utf-8");
-
-        AlertDialog changelogDialog = new
AlertDialog.Builder(mContext)
-            .setIcon(R.drawable.ic_info)
-            .setTitle(R.string.what_is_new)
-            .setView(webView)
-            .setPositiveButton(R.string.close, null).create();
-
-        changelogDialog.show();
-    }
-
-    private String getChangelogFromResources() {

```

```
-      InputStream is = null;
-      try {
-          is =
mContext.getResources().openRawResource(R.raw.changelog);
-
-          final char[] buffer = new char[0x10000];
-          StringBuilder out = new StringBuilder();
-          Reader in = new InputStreamReader(is, "UTF-8");
-          int read;
-          do {
-              read = in.read(buffer, 0, buffer.length);
-              if (read > 0) {
-                  out.append(buffer, 0, read);
-              }
-          } while (read >= 0);
-
-          return out.toString();
-      } catch (IOException e) {
-          e.printStackTrace();
-          Log.e(TAG, "Error when reading changelog from raw
resources.", e);
-      } finally {
-          if (is != null) {
-              try {
-                  is.close();
-              } catch (IOException e) {
-                  e.printStackTrace();
-                  Log.e(TAG, "Error when reading changelog from
raw resources.", e);
-              }
-          }
-      }
-
-      return "";
-  }
-}
-
```