



Changes and Consistency

We will transcribe changes to a data collection

explicitly, as a (growing) set of updates:

{ (datum, time, diff) }

```
({"frank": "fretting"}, 35, +1)
```

({"frank": "speaking"}, 57, +1)

({"frank": "fretting"}, 57, -1)

```
({"frank": "speaking"}, 73,
                 -1)
```













Input:





Output: