Arcade take home coding assessment

The following is a take home interview for Arcade. It is scoped to a narrow range of time, and demand that candidates make tradeoffs in how they spend their time. We'd like to be up front about what tradeoffs we'd like you to make, based on what we are hoping to learn about your skills and knowledge from this interview.

In particular we are interested in understanding

- Your ability to design intuitable, easy to reason about APIs and turn them into working and readable code

- Your ability to reason about performance, conceptual clarity and generally articulate tradeoffs in a system design.

- Your knowledge of the tools for common problems we expect to face.

- Your personal engineering philosophies

Key Value Store with Transactions

Implement a Key value store with transactions in Python.

- Implement the following high level API for a key value store

  - Initialization
    store = new Store(<anything>)

  - Data Manipulation

    store.set(K, V)
    store.get(K)
    store.delete(K)

  - Transactions

```
store.begin() # begins the transaction
store.commit() # commits the transaction
store.rollback() # rolls the transaction back
```

- Implement tests for the API

- Optionally, Implement additional public methods to this API that you think would be useful for a user of this store.
Example
```
store.begin()
store.set("a", 50)
store.begin()
store.set("a", 60)
```

Additional Integration suggestions (Also optional)

- Implement a REST API on top of the KV API using Django Rest Framework

  - You can use SQLite or Postgres to make KV store persistent.

- Implement the core KV API with asyncio to support concurrent transactions.

Submission Instructions

- Please submit your project as a zip file or a github repo

- Include a brief readme on how to run your project as a user

- Please be ready with your IDE to walk through and pair with your onsite interviewer to add more features or improvements.

We appreciate your time and effort and look forward to reviewing your submission together with you during your onsite. If you have any questions or concerns, please don't hesitate to reach out to us.