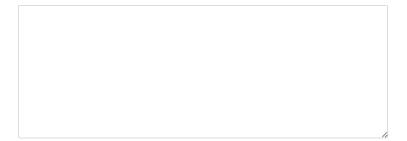# Engineering Fellows Program

The 2018 Kleiner Perkins Engineering Fellows Program is open to outstanding undergraduate and graduate students enrolled at U.S. universities who are studying computer science, engineering, mathematics, physics or fields related to software development. For only the Engineering Program, a requirement is that all applicants be enrolled in school for the 2018-2019 school year.

* required field

General Information

* (required) First name

* (required) Last name

* (required) Email

LinkedIn URL

* (required) Phone number

☑ Stay connected with 'Ventured' to receive updates about tech, venture capital and the KPCB Fellows Program.

School Information

* (required) College or university

* (required) Major

* (required) Graduation year   * (required) Semester

* (required) Degree

* (required) Grade Point Average (GPA)

Personal Statement

* (required) What impact do you want to have on the world and why? (500 words maximum)

```



```

Experience

* (required) Attach Your Resumé

Choose File | no file selected

Answer the challenge question (optional)

Make your application stand out.

Problem

Using only primitive types, implement a fixed-size hash map that associates string keys with arbitrary data object references (you don't need to copy the object). Your data structure should be optimized for algorithmic runtime and memory usage. You should not import any external libraries, and may not use primitive hash map or dictionary types in languages like Python or Ruby.

The solution should be delivered in one class (or your language's equivalent) that provides the following functions:

- **constructor(size)**: return an instance of the class with pre-allocated space for the given number of objects.
- **boolean set(key, value)**: stores the given key/value pair in the hash map. Returns a boolean value indicating success / failure of the operation.
- **get(key)**: return the value associated with the given key, or null if no value is set.
- **delete(key)**: delete the value associated with the given key, returning the value on success or null if the key has no value.
- **float load()**: return a float value representing the load factor (`(items in hash map)/(size of hash map)`) of the data structure. Since the size of the dat structure is fixed, this should never be greater than 1.

If your language provides a built-in hashing function for strings (ex. `hashCode` in Java or `__hash__` in Python) you are welcome to use that. If not, you are welcome to do something naive, or use something you find online with proper attribution.

Instructions

Please provide the source, tests, runnable command-line function and all the resources required to compile (if necessary) and run the following program. You are free to use any coding language that compiles/runs on *nix operating systems and requires no licensed software.

Upload your answer as a compressed file (.zip or .tar)

Choose File | no file selected

Continue To Community Values

 (https://www.facebook.com/KPCBFellows)

 (https://www.linkedin.co

trk=tyah&trkInfo=clickedVertical%3Ashowcase%

1-2%2CtarId%3A144355941962

 (https://twitter.com/kpcbfellows)

The Kleiner Perkins Caufield & Byers Fellowship Program offers top U.S. college and graduate students a chance to work inside innovative Silicon Valley startups. The three-month summer program is focused on engineering and design. A new year-long program is focused on product management.

Visit kpcb.com (http://kpcb.com)   Terms of Use (/terms)   Privacy Policy (/privacy)