Software Engineer Take Home Exam

General instructions

You are given **72 hours** upon receiving the exam to complete the deliverables.

Index all your **files in one document**, and upload it in the *Exam* folder. For **code and test cases**, we require uploading them to a GitHub repository.

Make sure they are **properly linked inside the document**. Other files must be uploaded as well, again with links in the main document.

Remember: **do not upload any parts of this exam or your answers on publicly accessible sites**. Make sure that the GitHub Repository is **private**. This is to ensure that the exam will not be leaked to future applicants.

Upon completion, send an email to peopleops@thinkingmachin.es with a link to your deliverables to stop the timer. Good luck!

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Personal time tracking web app

Hello there aspiring Software Engineer! Here be a challenge for ye.

In Thinking Machines, we are given the flexibility to manage our time day-to-day. The only ask is to have everyone post a **check in** of what they've done throughout the day. Keeping track of your own tasks can get tedious, so as an engineer, you've decided to create something to help you out.

Your task is to **create a personal time tracking web app** to help you do check ins, as well as keep track of what you've been doing through a longer stretch of time.

You must be able to do the following with the web app:

1. **Input a check in**
   A check in declares how much time you've spent on an activity. This has the following format:

   <number> [hr | hrs] #<tag> <activities>

   For example:
   - 5.5 hrs #project-x fix login issue
   - 2 hrs #learning docker

2. **View checkins. Display should be able support cases when there are 1000 checkins in the database.**
   Bonus points if you add multiple ways to view checkins

3. **Visualize where you spend time, grouped by #<tag>, grouped by date, and a combination of both groupings**
   It's up to you how you'd like to present this data, and what other grouping functions you'd like to add.

4. **Delete a check in**

5. Features to support **100 users** instead of just you.
   Bonus points if users can access their data from any web browser.

Additional requirements include:
- **Must have an HTML frontend.** Up to you whether you want a single page application or a collection of pages. Also up to you if you want to do it completely in the frontend or create a backend for it.

- **Data must persist.** You must be able to look back on your check ins last month and beyond, and between sessions.
- **Document your code.** Of course, you'll eventually share this with everyone on the team. Imagine others who may be less or more advanced programmers maintaining your code.
- Have **well-segregated** and **clean code**. This reduces the need for manual documentation, as the code would be self-documenting.
- Have the app be **accessible via a URL.**

Bonus points:
- **Maintain a project journal** detailing your thought process while taking this test. This helps us grade your submission better.
- Create an **admin** feature where as the CEO of the company, you can view the checkins of every user. Bonus sub feature:
  - View users who checked in more than 45 hours in a given week.
- **Dockerize** your submission.
- Add any of your **own flair or features!** This task can be as simple or complex as you want. We advise you to bring your whole developer self. Be creative and show us your strengths!

You are free to **use any language and any framework**. We use Python and Javascript here at Thinking Machines so you'll get extra brownie points for using either or both. However, we value clean and idiomatic solutions regardless of language more than the actual language used. *(A well-made solution in your language of choice > A shoddy solution in Python and Javascript)*

Once done, share your private repo to:
- https://github.com/ajatamayo
- https://github.com/binkymilk
- https://github.com/jtmiclat
- https://github.com/bongtavas
- https://github.com/levymedina
- https://github.com/mamerisawesome
- https://github.com/janzkyle

We're looking forward to being impressed by your work!