

# Coding Challenge

The purpose of this challenge is to see what agile engineering looks like to you. We want clean, maintainable, production-quality code. Because we are focused on multiple dimensions of your code, the functional requirements are narrow and focused.

Please use React/Angular and Node to solve this challenge.

After we receive your code, we may schedule a discussion with you to talk about what you did, and why.

## The Problem:

Our users are science teachers who are as comfortable using the command line as they are using a browser. In their “Unit Conversion” science unit, they want to assign students unit-conversion problems on paper worksheets. After students turn in their completed worksheet, the teachers want to be able to enter the questions and student responses into a computer to be graded. Students will convert:

- *temperatures* between **Kelvin**, **Celsius**, **Fahrenheit**, and **Rankine**
- *volumes* between **liters**, **tablespoons**, **cubic-inches**, **cups**, **cubic-feet**, and **gallons**

## Requirements:

The requirements below are not intended to suggest a particular user interface, just what data the user must provide as input and what data the system must provide as output.

1. The teacher must be able to provide an input numerical value, an input unit of measure, a target unit of measure, and a student’s numeric response.
2. The system indicates that the response is **correct**, **incorrect**, or **invalid**. To be considered **correct**, the student’s response must match an authoritative answer after *both* the student’s response and authoritative answer are rounded to the *tenths* place.
3. **Optional Challenge:** Implement a basic continuous integration/continuous deployment (CI/CD) pipeline for your code using your solution of choice (cloud solutions are acceptable). What you provide should support a peer code review process and seamless app deployment when a commit is merged to trunk.

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## Example scenarios (not exhaustive):

Input Numerical Value	Input Unit of Measure	Target Unit of Measure	Student Response	Output
84.2	Fahrenheit	Rankine	543.94	correct
317.33	Kelvin	Fahrenheit	111.554	incorrect
25.6	cups	liters	6.1	correct
73.12	gallons	Kelvin	19.4	invalid
6.5	Fahrenheit	Rankine	dog	incorrect
136.1	dog	Celsius	45.32	invalid

## Submitting your response:

We understand that you probably have a lot going on. So make sure you negotiate enough time to do what you consider to be a good job. You will not be penalized for taking the time you need. Just keep in mind that we are continuing to screen candidates for the position you are applying for.

1. Create a private GitHub or GitLab repo that will contain your code. Share it with the GitHub user named “ventera-iques-challenge” giving that user permission to at least read your repo.
2. Include a `README.md` that explains how to install (or deploy) and run (or access) your program.
3. Notify your technical recruiter that you are done, and provide your repo URL.
4. No more changes can be committed after the deadline negotiated between you and our technical recruiter.