305CDE Challenge 1

This challenge should be attempted after you have attended the first lab and worked through Worksheet 1. You may need to attend other labs to fulfil some of the requirements.

Guidelines

- Commit your solution to a new private project/repository in GitLab, and give it a sensible name: for example `305CDE Challenge 1`.
- Add the following members with *reporter* permissions under `Settings > Members` for your project:
  - Mark Tyers `marktyers`
  - Jianhua Yang `jianhua`
  - Colin Stephen `c0lin`
- You are free to commit changes to your code to improve it further at any point up to the assessment submission deadline.
- You may not manage to satisfy all of the requirements, but you should aim to do so.
- Extended requirements may require knowledge from future lab sessions to complete.
- Marking will be based on how closely you meet the requirements, whether you attempt any of the extended requirements, and how maintainable your JS code is.

Specification

Implement a browser-based calculator.

Requirements

Minimal

- The calculator contains form buttons for the numbers and all mathematical operations: "+, *, /, -, ="
- The calculator displays its result in an input field in the same form when the user clicks "=".
- Only single operations are permitted: for example "4-393" is OK, but "5+2+9" is not (it has two "+" operations).

Extended

- Either of:
  - The calculator displays “ERROR” if the calculation is not valid: for example, “123+*/321" is not valid.
  - The calculator prevents invalid calculations being input.
- The calculator has a “batch mode”:
  - It allows you to enter multiple calculations and queue them by pressing a new button “Q” on the calculator instead of “=”.
  - All queued calculations are shown on the page.
  - When the user presses “=” all the calculations are performed and the results ouput to the page.
- Your solution does not use `eval()`.

Constraints

Use only HTML, JavaScript, and optionally CSS styling.