



## Ruby on Rails Engineering Take Home Exercise

### About this exercise

Hi! We use take home exercises as a quick way to get a sense of how you code. We want to respect your time, so **please don't spend more than two hours in total on this task**. We mean it! You don't get extra points for spending longer. Stop when you hit the two hour mark. It's okay if it's not completely done - just send us what you have.

Email your project files within five working days to [ben.werdmuller@forusall.com](mailto:ben.werdmuller@forusall.com). Feel free to ask questions as you go!

### Your task

You should build a simple interest calculator that, given a principal, rate of annual interest, and number of years, will display the total principal plus interest. Additionally, it should maintain a list of all the results it has been asked to calculate, including principal, rate, years, and the total. The user should be able to clear individual items on the list, or the whole list.

The formula for calculating principal with accrued interest is:

$$\text{TOTAL} = \text{principal} * (1 + (\text{rate} * \text{years}))$$

For example, a \$5,000 loan with an annual interest rate of 2.5% over 5 years will total \$5,625:

$$5000 * (1 + (0.025 * 5)) = 5625$$

### Restrictions

You should build this project using a Ruby on Rails back-end with an HTML form that accepts values via POST. Beyond that, feel free to use anything you think will be useful. The calculator should *not* use JavaScript to make its calculations, although you are free to use it to validate entries on the form. The calculations should be performed in the model that saves the list. For bonus points, write some tests for the model that ensure it produces the correct results.

Your goal here is not to make something pretty - just something that works. We're not assessing your interface design.

Finally, please include a README file with brief instructions on how your code should be run.