

## Quiz Section 2: React

In this section, we will create a simple Trivia React App that will count the number of answers that the user gets correct. To get started, check out the starter code using the command

```
git clone https://gitlab.cs.washington.edu/cse331-25wi/materials/sec02.git
```

To install the modules `cd sec02` and run `npm install --no-audit`. Then, start it with `npm run start`. Point your browser at `http://localhost:8080`. You should see an Application titled "Animal Trivia".

Take a moment to look at the starter code given. The Trivia question along with the answers to the questions are stored in an array in `src/trivia.ts`. You *should not* modify this file. The main logic of the application is in `App.tsx`. The `App` component has a state that keeps track of the current question, the user's score, and whether the user has answered all questions correctly. The `App` component also has methods to check if the user's answer is correct, to update the score, and to get a new question.

### Task 1 – React Bug

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Currently, when you submit your answer, nothing changes in the UI.

- (a) Add a debugger statement at the top of the `doCheckAnswerClick` method in `App.tsx`. Confirm that the method is being called with the result of the correctness check.
- (b) The `doCheckAnswerClick` method updates the state to include the field called "correct", but this information is not currently being used in render.

Update render to show some HTML (either a congratulatory message or one saying that the answer is incorrect) when `this.state.correct` is not undefined.

Verify that the HTML now appears on the screen when you submit an answer.

- (c) Add a log entry to the Debugging Log with the bug you found and how you fixed it

### Task 2 – Incorrect

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Currently, when you submit the correct answer, the app does not recognize it as correct.

- (a) Look at the `doCheckAnswerClick` method in `App.tsx` and add a debugger statement check what values are being compared. Are they what you expect?
- (b) Fix the bug so that the correct answer is recognized as correct.
- (c) Add a log entry to the Debugging Log with the bug you found and how you fixed it.

### Task 3 – State Bug

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Currently, when you submit the correct answer, the score does not increase.

- (a) Look at the `doCheckAnswerClick` method in `App.tsx` and add a debugger statement to check if the `score` field in the state is being updated when the user submits the correct answer.
- (b) How is the `score` field being updated in the `doCheckAnswerClick` method? Is the `score` field being updated correctly? Fix the bug so that the score increases when the user submits the correct answer.
- (c) Add a log entry to the Debugging Log with the bug you found and how you fixed it.

### Task 4 – Score Again

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Currently, when you submit the correct answer to a question multiple times, the number of correct answers increases each time you submit the answer. The score should only increase the first time you submit the correct answer.

- (a) Look at the `doCheckAnswerClick` method in `App.tsx` and add a debugger statement to see why the score is increasing each time you submit the correct answer.
- (b) Notice that we have an Array of string `questionsAnswered` in our app state that keep track of the answers the user has answered the question correctly. Is this field being set correctly?
- (c) Fix the bug so that the score only increases the first time the user submits the correct answer.
- (d) Add a log entry to the Debugging Log with the bug you found and how you fixed it. Was bug was due to mutating something that should not have been mutated?