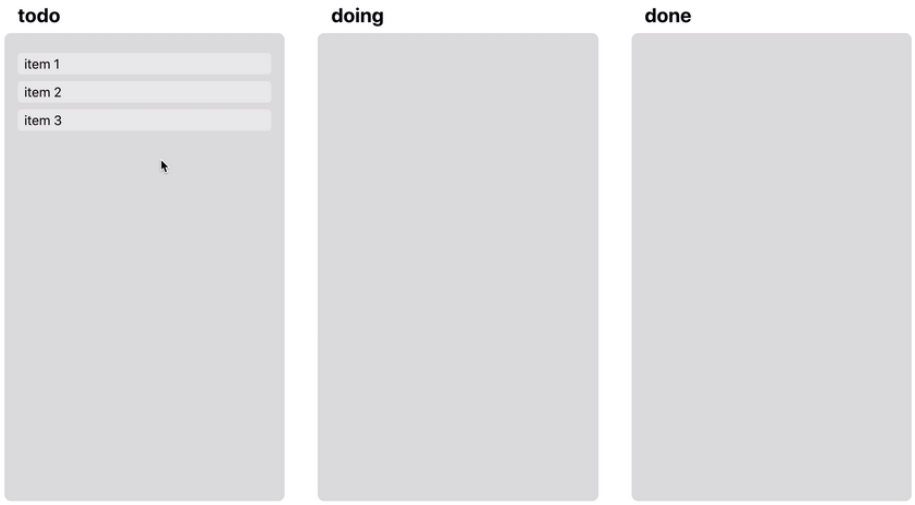
Parson's Problems React Library Research

Research Findings

After determining that there is no adequate built-in function or library in React for Parson's problems where you drag and drop the different code fragments, we set out to find an adequate library that would do just that. Ideally, the library should enable the different columns to store the order of the code fragment and snap to an available location once a fragment is dragged over. The two columns, the unordered fragments of code and ordered fragments of code, should be able to transfer their code fragment into the other one. While there are a lot of React libraries that perform simple drag and drop, the one that stood out among all the rest is **react-beautiful-dnd**. This library can do all the desired features such as dragging and dropping items, snapping the item back to its original slot if no location is found, snapping the item to the nearest available slot, storing the order of the items, and looking more aesthetically pleasing than any of the other examples.

Example

One of the best examples found was the one shown in Fig 1, of a simple drag and drop component that snaps the code fragment into the different columns and slots within the column. It stacks the fragments on top of each other and can be reordered to whatever order you want.
This example can be found running on Code Sandbox: https://codesandbox.io/s/react-beautiful-dnd-tutorial-6296o?file=/src/App.tsx



(Fig. 1) Example of react-beautiful-dnd columns Source: https://dev.to/imjoshellis/codealong-multi-column-drag-and-drop-in-react-3781

Implementation

Once the library has been installed using the **npm** installer with the command **npm install react-beautiful-dnd,** the code can be built around the library. The columns should be able to determine the location of the different code fragments, in order to grade the Parson's problems. Perhaps using a unique identifier for the correct order of the code fragments or parsing all the text inside the code fragments and matching it up to the correct code answer.