

Challenge: Larry Delivery Driver

Larry the duck has taken a career in post deliver service. However Larry, despite being a great driver, is not very good with directions. Your Task is to draw him a Map and show his progress as he delivers his goods.



Instructions

The map of the town will be displayed on a 200 x 200 grid.

There is a list of stops that Larry needs visit along his way. A stop has the following properties:

- **name:** the name of the stop
- **x:** The x-coordinate position of the stop (integer from 0 - 200)
- **y:** The y-coordinate position of the stop (integer from 0 – 200)

The name of the stop will be an uppercase letter character (i.e: “A”, “B”, “C”...). Larry must visit each stop along the route in ascending order of stop name (A -> B -> C -> D ...). The provided stop names will be in the range A-Z and will not skip letters.

A straight line segment between two stops is referred to as a **leg**. Each leg has properties:

- **startStop:** The name of the starting stop
- **endStop:** The name of the ending stop
- **speedLimit:** The maximum speed limit that the driver can travel on this leg (integer from 0 - 200 in kilometres per hour)
- **legID:** Identifier for the leg. The legID will be the concatenation of the startStop name and the endStop name. E.g. The legID for startStop=”A” and endStop=”B” is “AB”.

Larry’s current position is specified by:

- **activeLegID:** The ID of the leg that Larry is currently driving on
- **legProgress:** Larry’s percentage progress (integer from 0 - 100) along the current leg (line segment).

Your Task is to:

1. Add a REST API to retrieve the given list of stops and legs from server.
 - **GET /legs**
 - **GET /stops**
2. Visualize the stops
3. Add a REST API to get the Larry's current position.
 - **GET /driver**
4. Visualize the position of Larry. Visualize and highlight the completed section of the leg where Larry is, as well as completed legs.
6. Add a form to change Larry's current position.
 - Active leg must be selected via a dropdown menu
 - Percentage progress must be specified via a textbox
7. Add a REST API to update the Larry's current position
 - **PUT /driver**
8. Have the visualizations in #4 and #5 reflect the updates to the driver's current position

Minimal Requirements:

- README.md: clear step-by-step instruction of how to run the app
- FEATURES.md: a list of extra improvements (or bonuses) available on your page for us to test and to make a note
- A fully working page without any bugs
- Clean code implementation and organization
- Attention to detail, good usability of the tool as well as functionality and edge case scenarios
- Good and intuitive documentation which describe step by step of how to build, run and test the app

Initial Data

Driver location

```
{
  "activeLegID": "CD",
  "legProgress": "50"
}
```

Stops

```
[
  {
    "name": "A", "x": 30, "y": 10
  },
  {
    "name": "B", "x": 20, "y": 20
  },
  {
    "name": "C", "x": 25, "y": 20
  },
  {
    "name": "D", "x": 25, "y": 30
  },
  {
    "name": "E", "x": 10, "y": 100
  },
  {
    "name": "F", "x": 50, "y": 100
  },
  {
    "name": "G", "x": 35, "y": 30
  },
  {
    "name": "H", "x": 35, "y": 20
  },
  {
    "name": "I", "x": 40, "y": 20
  },
  {
    "name": "J", "x": 30, "y": 10
  }
]
```

Legs

```
[
  {
    "startStop": "A",
    "endStop": "B",
    "speedLimit": 100,
    "legID": "AB"
  },
  {
    "startStop": "B",
    "endStop": "C",
    "speedLimit": 60,
    "legID": "BC"
  },
  {
    "startStop": "C",
    "endStop": "D",
    "speedLimit": 80,
    "legID": "CD"
  },
  {
    "startStop": "D",
    "endStop": "E",
    "speedLimit": 80,
    "legID": "DE"
  },
  {
    "startStop": "E",
    "endStop": "F",
    "speedLimit": 40,
    "legID": "EF"
  },
  {
    "startStop": "F",
    "endStop": "G",
    "speedLimit": 40,
    "legID": "FG"
  },
  {
    "startStop": "G",
    "endStop": "H",
    "speedLimit": 100,
    "legID": "GH"
  },
  {
    "startStop": "H",
    "endStop": "I",
    "speedLimit": 100,
    "legID": "HI"
  },
  {
    "startStop": "I",
    "endStop": "J",
    "speedLimit": 50,
    "legID": "IJ"
  }
]
```