Assignment 2
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Data resource

The dataset used is gathered from website *City of Melbourne Open Data*. Dataset named *2020 Building Footprints*.

Features

The aim of this project is to represent building footprints in an interactive way. Besides basic techniques shown in tutorials, when hover over buildings, a popup containing brief introduction will be produced and it will move along the cursor. However, the *trackPointer()* function seems to introduce a bug: cursor remains pointer style even if try to set it to '' in code. By clicking at the buildings, camera will zoom in to the clicked position and details will be shown in a popup.

Clickable legend is added into the map where background colors respond to types of buildings, a white background indicates this layer (type of building) is hidden from the map.

A button can take the camera back to initial position is added into the map in case the coordinates or zoom level are lost.

The second map is a 3D view of buildings to provide a clearer feeling about them. However, due to the constraints of data source, only the 'Structure' layer in the above map can be shown in a 3D way. Comparing to bird eye's view, 3D map provides a more immediate sense and supports a greater zoom range. Zooming animations are also added.

Below the 3D map is a tableau dashboard. The main reason of having this dashboard is first to provide a hider zoom range since it is unlimited for tableau whereas dataset in Mapbox only support a limited one. Secondly, it provides analysis with respect to roof types and distribution of tiers is also informative. Although the loading might take a few seconds.

The reason chart.js is not used in this assignment is the size of dataset file is too large to put it in the script. It will make the code hardly readable and take forever to load. As a replacement, tableau has shown data in a similar way.

Appendix

The zoom functionality and geocoder are implemented as code examples provided in Mapbox GL JS.
3D view map refers to Mapbox example with minor changes.
Part of the codes (HTML, CSS, JS) are quoted from tutorials.
Tableau dashboard uses the code generated on Tableau Public.