Homework 2

Mini Portal, Force-Directed Layout, and D3.js Practices

Total Points: 16
Number of Tasks: 3
Release Date: Wed, Jan 19, 2022 7:00 PM EST
Deadline: Part I: Fri, Jan 28, 2022 11:55 PM EST
Part II: Wed, Feb 2, 2022 4:00 PM EST

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Homework Description

This homework is about "*Plotly Practices*". You have two tasks to complete before the due date. This is an individual assignment. Before you start, we highly suggest you reading the document Plotly Python Open Source Graphing Library.

Grading

Part I: Task 1: 3 points
Task 2: 4 points
Part II: Task 3: 9 points

Tasks:

1. **Mini Portal Practice**: Follow the documents in Project Template for Rutgers CS526 repository, and create a student list page containing your own information.
   Please submit a screenshot of the resulting portal webpage named "`HW2_<YourNetID>_miniPortal.png`".
2. **Force Directed Layout Practice**: In this task you will visualize `asoiaf_edges_decomposition.csv`, and `asoiaf_nodes_prop.csv` with 3D Force-Directed Graph.
   a) Create a graph whose vertex set is `asoiaf_nodes_prop.csv`, and edge set is `asoiaf_edges_decomposition.csv`. Use it as the input of 3D Force-Directed Graph.
   b) Represent `value` of each edge by its thickness.
   c) Color nodes according their `peel` value.
   d) Encode nodes' `diversity` by their size.
   e) When hovering on a node, show a tooltip contains its `name`, `degree`, `peel`, `pagerank`, `diversity` and `betweenness`.
   Please submit your script named "`HW2_<YourNetID>_layout.<js/html>`", and a screenshot of the resulting graph layout named "`HW2_<YourNetID>_layout.png`".
3. **D3.js Practices**: In this task you will use D3.js to draw all the three plots for `asoiaf_nodes_prop.csv` you created in Homework 1 with Plotly (The scatter plot, tree map, and Barycentric plot with all specifications).
   Please submit your scripts named "`HW2_<YourNetID>_<scatter/treemap/barycentric>.<js/html>`", and a screenshot of the resulting plots named "`HW2_<YourNetID>_<scatter/treemap/barycentric>.png`".

GOOD LUCK!!!