

Data Science

Chapter 6: Advanced Visualization tools

Chapter outline

This chapter covers

- Heat Map
- Tree Map

I.

Heat Map

➤ Definition

A heat map (or heatmap) is a graphical representation of data where values are depicted by color. Heat maps make it easy to visualize complex data and understand it at a glance

➤ When to use Heatmap

Heatmaps are used to show relationships between two variables, one plotted on each axis. By observing how cell colors change across each axis, you can observe if there are any patterns in value for one or both variables.

I.

Heat Map

You can read quickly, when there is low / high returns

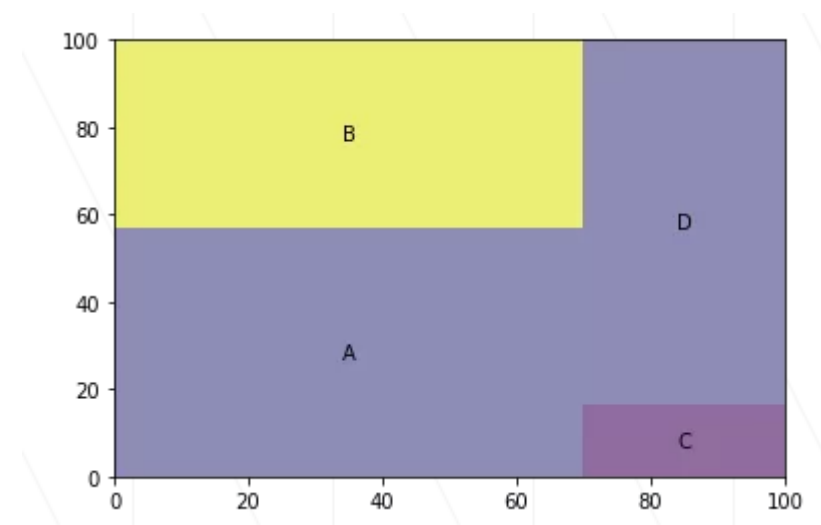


II.

Tree Map

A treemap in Python is a visualization of data that splits a rectangle into sub-parts. The size of each subpart is in proportion to the data it represents.

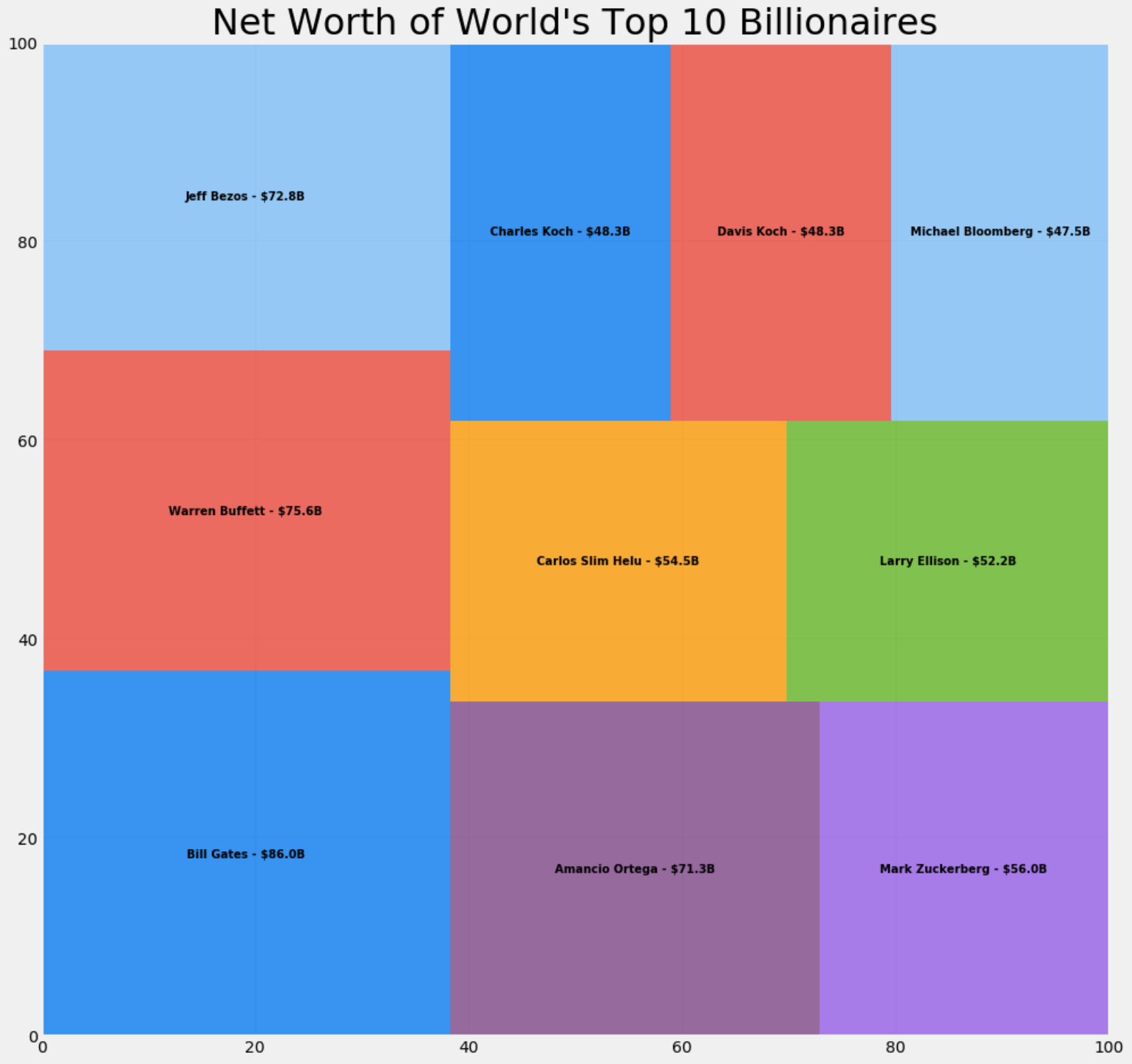
```
import matplotlib.pyplot as plt
import squarify
sizes=[40, 30, 5, 25]
label=["A", "B", "C", "D"]
squarify.plot(sizes=sizes, label=label, alpha=0.6 )
plt.show()
```



II.

Tree Map

Example



II.

Tree Map

➤ Definition

Treemaps are an alternative way of visualising the hierarchical structure of a Tree Diagram while also displaying quantities for each category via area size. Each category is assigned a rectangle area with their subcategory rectangles nested inside of it.

When a quantity is assigned to a category, its area size is displayed in proportion to that quantity and to the other quantities within the same parent category in a part-to-whole relationship. Also, the area size of the parent category is the total of its subcategories. If no quantity is assigned to a subcategory, then it's area is divided equally amongst the other subcategories within its parent category.

The downside to a Treemap is that it doesn't show the hierarchal levels as clearly as other charts that visualize hierarchal data

