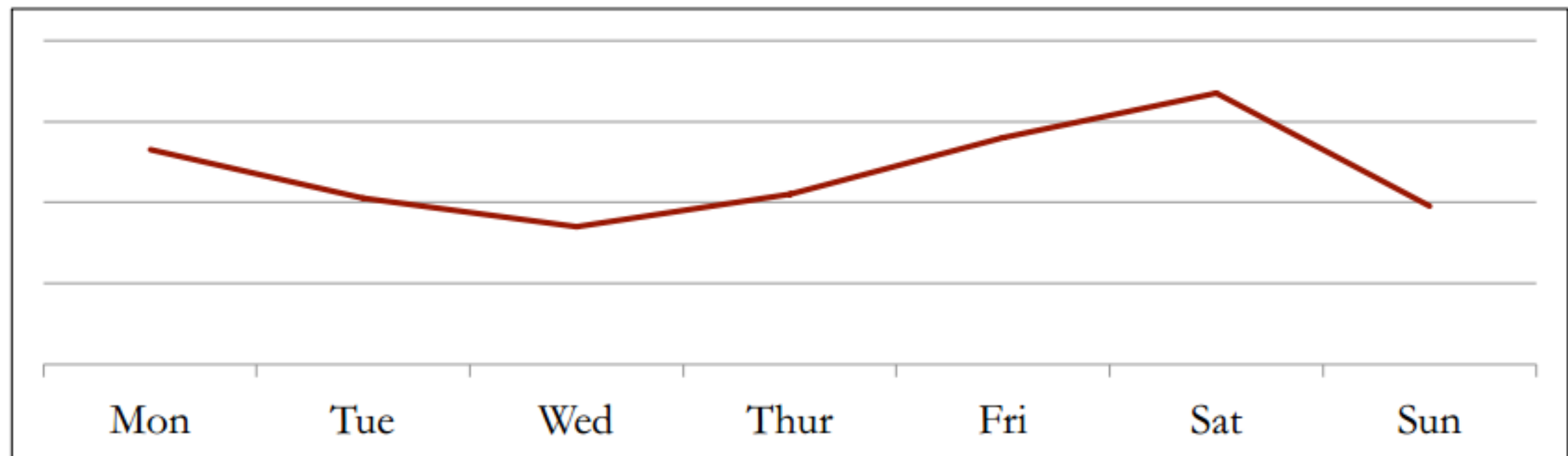


Crime Over Time

- Suppose we wanted to communicate crime patterns over the course of an average week
- We could display daily averages using a line graph, but this does not seem like it would be too useful



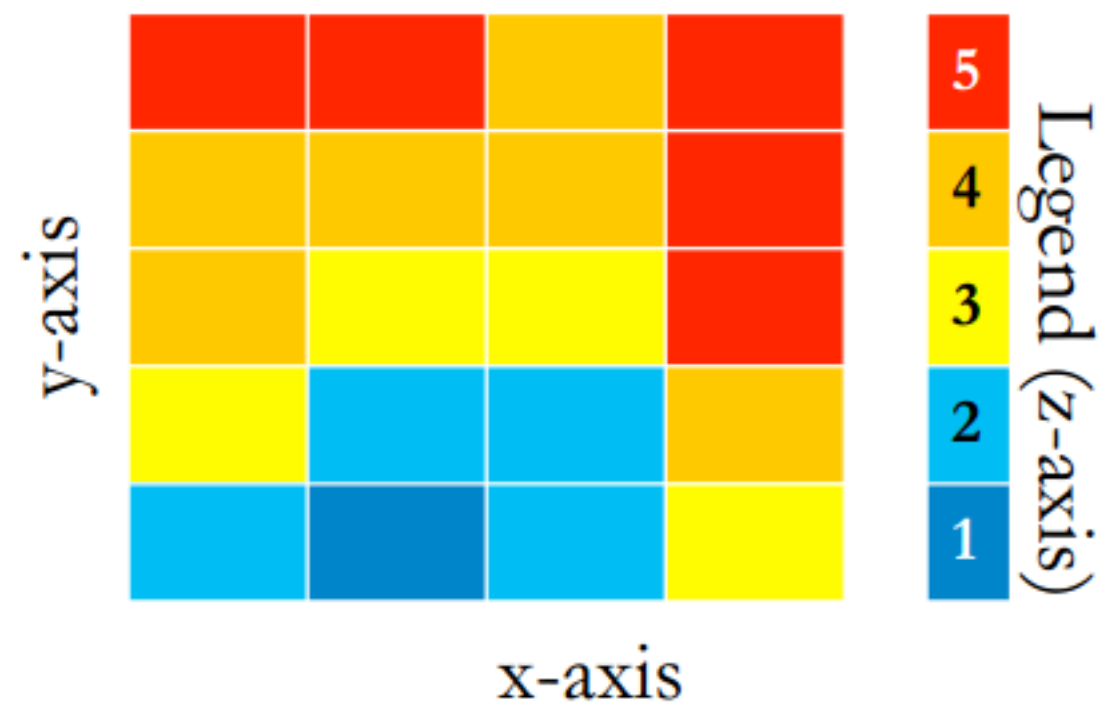
Crime Over Time

- We can replace our **x-axis** with the **hour of the day**, and have a different **line for every day of the week**, but this would be a jumbled mess with **7 lines**!
- We could use no visualization at all, and instead present the information in a table
- This is valid, but how can we make the table more interesting and usable?

	MO	TU	WE	TH
03:00	34	32	31	...
04:00	15	24	22	...
05:00	22	10	33	...
06:00	13	14	19	...
...

Heatmaps

- **Heatmaps** are a way of visualizing data using three attributes. The **x-axis** and **y-axis** are typically displayed horizontally and vertically
- The **third attribute** is represented by shades of color. For example, a **low** number might be **blue**, and a **high** number might be **red**



Heatmaps

- We can pick **different color schemes** based on the **type of data** to convey different messages



- The x-axis and y-axis don't need to be continuous – they can be **categorical**
- We could even combine a heatmap with a **geographical map** – we will discuss this later in the class