Data Visualization – Assignment 2

The (mostly) good:

Block explorers display historical and real-time transactions of a cryptocurrency's blockchain. Mempool (https://mempool.space/) is one such tool – displaying intuitive visualizations of transactions on the Bitcoin blockchain.

What is immediately obvious upon visiting the site is its visual appeal. There is an underlying tranquility conveyed by the minimalist design and the layout is intuitive. For example, a dashed line separates completed blocks from those in progress.

The data is divided into four sections on each side, allowing users – both novices and experts – to focus on whatever they deem relevant.

Reproducibility: Both the Bitcoin blockchain data and Mempool's code are open source, giving the site a relatively high level of reproducibility, although it falls short of the recommendations put forward by the American Statistical Association. For example, details on data collection and processing procedures are not provided.

Accessibility: The site's graphs and charts feature helpful alt text with good contrast, although the primary typeface is Segoe UI, which is not on the list of accessible fonts recommended by Rello and Baeza-Yates (Good fonts for dyslexia).

Equitability: The fact that Mempool is an open source project gives it an element of equitability since all (or at least most) contributors are credited on the project's GitHub page (as per D'Ignazio and Klein's [principle](#) of "making labour visible").
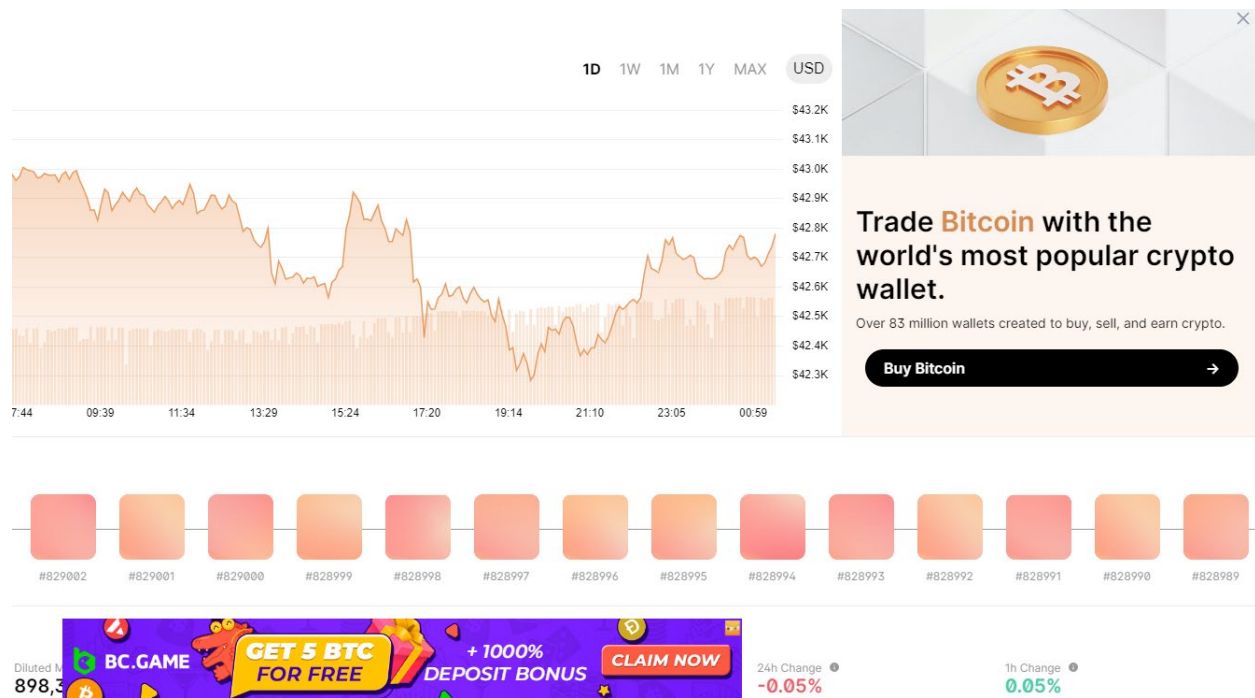
<u>Suggestions for improvement:</u>

- Provide more details about data collection and processing to facilitate reproducibility.
- Use accessible typefaces (e.g. Sans serif, monospaced and roman styles).

The bad:

The website blockchain.com also features a Bitcoin block explorer (https://www.blockchain.com/explorer/assets/btc).

The floating animated ads and the pop-up window that appears on the right-hand side, make the site look cheap and suspicious.

A block explorer's primary purpose is to display transaction data, yet blockchain.com places its explorer under a giant bitcoin price chart. The layout seems to nudge users to focus on price rather than transaction data.

As if that's not confusing enough, right at the bottom is a large banner advertising price charts for about a hundred other cryptocurrencies. The overall design of blockchain.com can be summed in one word – noisy.

Both sites use the same open-source data. What is interesting is that mempool.space was launched about 8 years after blockchain.com. The former recognized the visualization mistakes made by the latter and capitalized on them.

Reproducibility: Blockchain.com operates several online tools (e.g. wallets), many of which are open source. However, the code for its block explorer is either proprietary or extremely difficult to find. While the Bitcoin data is indeed publicly accessible, the availability of blockchain.com's code remains a mystery, and the site misses the mark on reproducibility as [defined](#) by the National Academies Press in 2019.

Accessibility: The site makes use of alt text, but has poor contrast (light grey and orange on a white background), which according to [Sarah Fossheim](#) is likely to cause issues for people with vision challenges.

Equitability: Blockchain.com does get one thing right – Bitcoin advocacy. The site includes a brief description of what Bitcoin is and why it matters.

Suggestions for improvement:

- Provide the site's source code for better reproducibility.
- Use complimentary colours that create accessible contrast (e.g. use of the [Viridis](#) colormap).
- Credit every one who has contributed to the project as per as per D'Ignazio and Klein's [principle](#) of "making labour visible."