Goal of visualization:

The chart shows the comparison of effectiveness of the antibiotic on bacteria. The visualization is aimed to provide a general overview of how different antibiotic has effects on different bacteria, and especially performed best on which one(s). In microbiology, the minimum inhibitory concentration (MIC) is the lowest concentration of a chemical, usually a drug, which prevents visible growth of a bacterium or bacteria. This means the lower MIC is, the more effective the antibiotic on bacteria is. Therefore, as concluded from chart:

- Streptomycin works best for Staphylococcus aureus and Brucella anthracis.
- Penicilin works best for Staphylococcus aureus, Staphylococcus albus, Staphylococcus viridans and Diplococcus pneumoniae.
- Neomycin works best for Brucella abortus, Salmonella (Eberthella) typhosa and Brucella anthracis.

Design rational:

For encoding, I chose antibiotic and MIC as columns and bacteria as rows. MIC should be shown as bars since they are numeric values. Antibiotic and bacteria are categorical values, so they help to but the numeric values into different groups. I use different colors to distinguish gram staining. Bacteria that are stained dark blue or violet are Gram-positive, that's why I use violet color to show positive results. I also adjust the x axis for 3 antibiotics, so they can be comparable.

I want to emphasize the best performed antibiotic on certain bacteria, but I don't know how to make it visualized, so I wrote the conclusion below the chart to convey the message.