Course Project Checkpoint 1

Andrex Ibiza

Scenario:

As a Ph.D. student in Biology, I am deeply engrossed in understanding the impact of climate change on the biodiversity of polar regions. For my dissertation, I have chosen to analyze the Palmer Penguins dataset, a comprehensive collection of biometric data from three penguin species (Adelie, Chinstrap, and Gentoo) inhabiting the Palmer Archipelago in Antarctica. This dataset, with dimensions indicating over 300 individual observations, provides a rich source of variables such as species type, island location, bill dimensions (length and depth), flipper length, body mass, gender, and the year of data collection.

The reason I chose this dataset for my research is to understand how these penguin species are adapting to their changing environment, especially with the ongoing climate changes. By analyzing their physical features, like the length and depth of their beaks and the size of their flippers, I hope to uncover patterns that show how they've evolved over time. This can tell us a lot about how each species is uniquely adapting to changes in temperature and food availability in Antarctica. Also, by looking at the data collected over several years, I can identify if these changes are happening quickly or over a longer period. This information is crucial for wildlife conservation. It helps scientists and policymakers create better strategies to protect these penguins. Understanding these adaptations also gives us a clearer picture of the broader impact of climate change on the Antarctic ecosystem, which is important for the global discussion on climate action and environmental protection.