

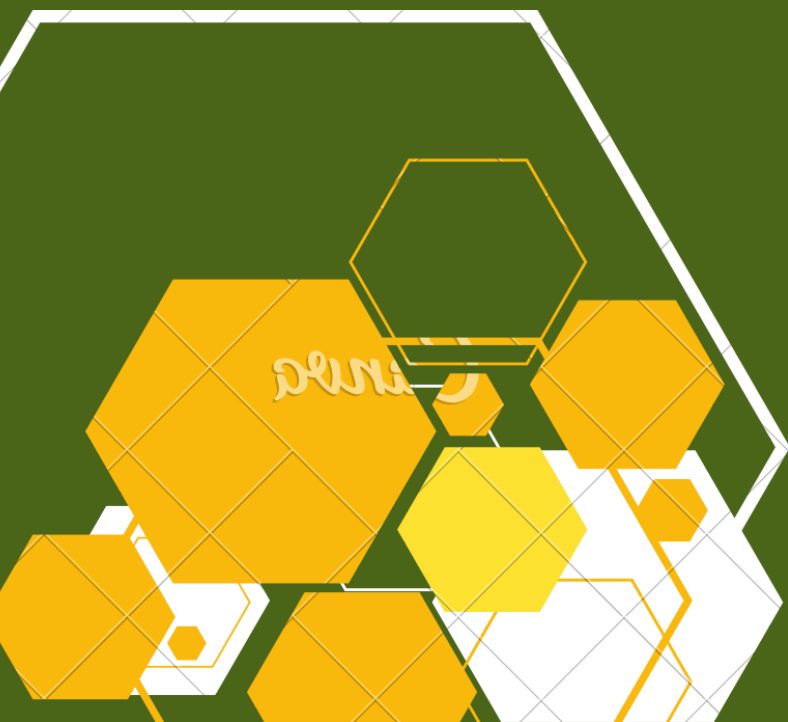
Statistics Case Study and Report

Presented by:

Ashish Higgins - 21BCS014

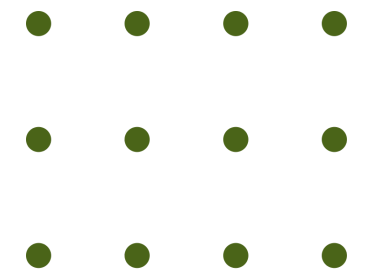
Nikhil Gorle - 21BCS041

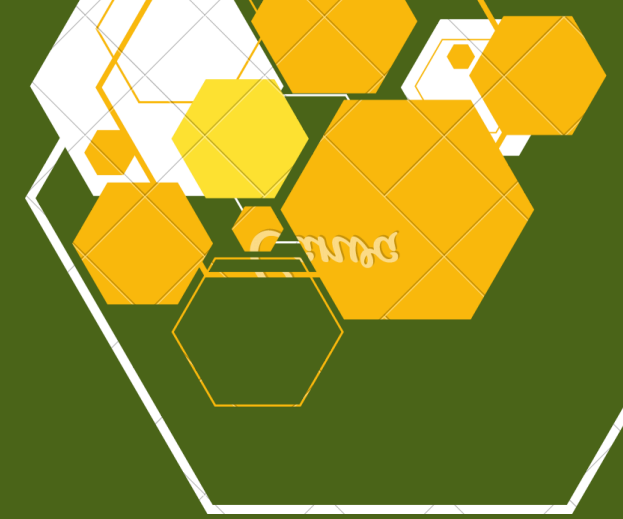
Kartheek Reddy - 21BCS055



Agenda

- Dataset
- Tools
- Libraries used
- Unit II
- Unit III
- Unit IV
- Unit V
- Conclusion





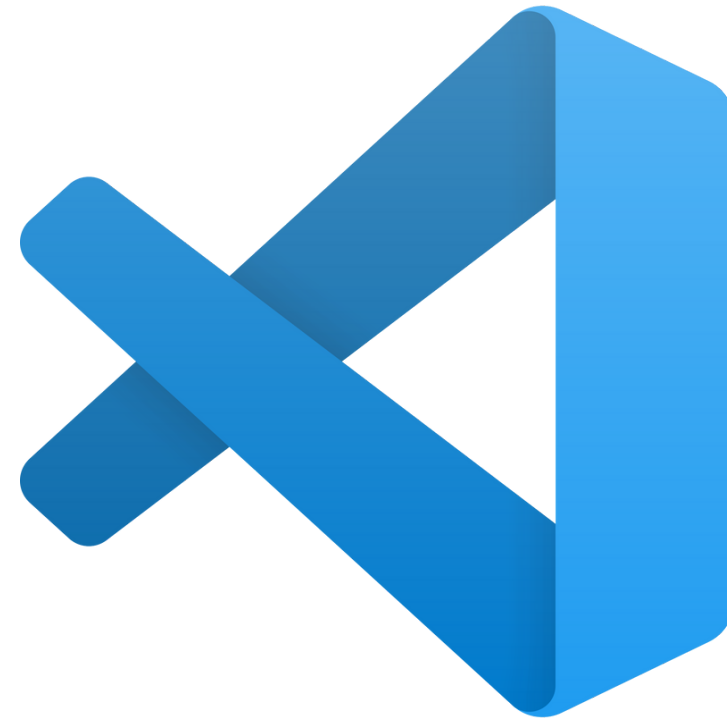
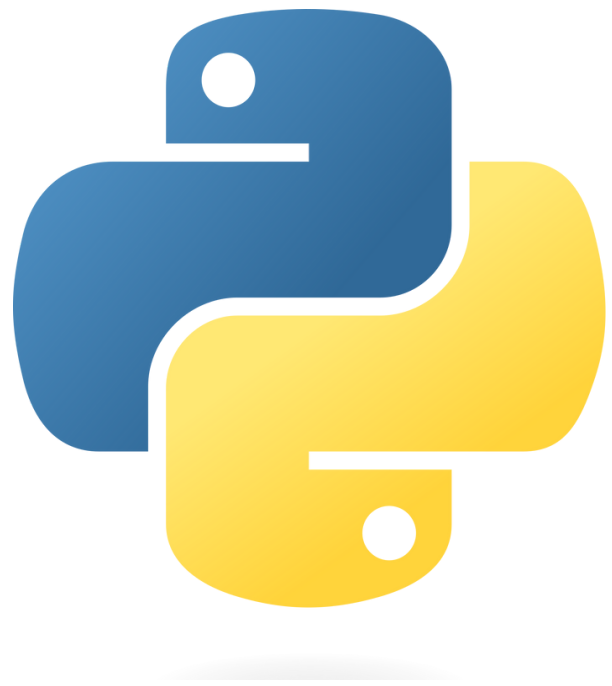
Dataset-Climate Change(WMO)

The Climate Change Data Repository compiles a comprehensive and accessible collection of environmental metrics, tracking critical factors in the ongoing shifts in Earth's climate patterns. This repository provides data spanning multiple years, documenting changes in temperature, CO2 emissions, sea level rise, precipitation, humidity, and wind speed across various regions globally.

It contains a wealth of information dating back to [Start Year] and continues to gather updated records, offering insights into the evolving environmental landscape. The repository's scope covers diverse geographical locations, offering a comprehensive understanding of climate trends and variations across different countries and regions.

This resource is maintained and curated by a consortium of environmental scientists, researchers, and institutions committed to studying climate change dynamics. The repository serves as an invaluable resource for scientists, policymakers, and the public, facilitating informed analysis, research, and decision-making related to climate science and its impact on our planet's ecosystems and inhabitants.

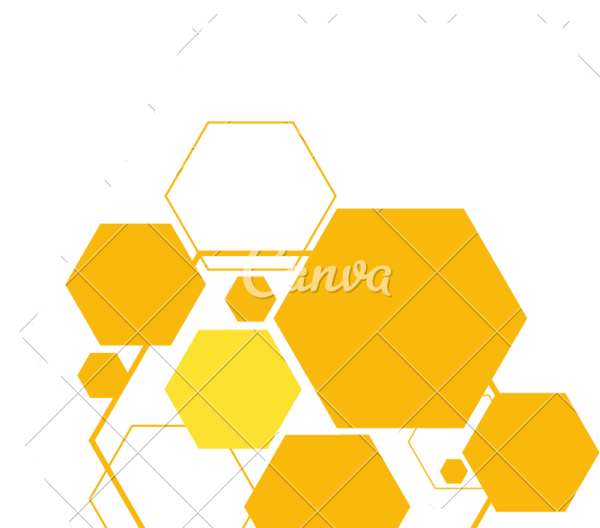
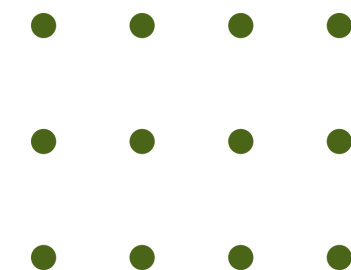
TOOLS:- Python,Jupyter,Google Collab,VS Code





Libraries Used

- **csv** - file handling
- **random** - for random sampling
- **math** - for formulas
- **copy** -create a shallow copy of an object





Unit II

- Large sample test - 1 sample
- Large sample test - 2 sample
- small sample test - 1 sample
- small sample test - 2 sample
- paired t test
- proportion test - 1 sample
- proportion test - 2 sample





Unit III

- The Runs Test
- Sign Test-One Sample
- Paired Sample- Sign Test
- The Wilcoxon Rank Sum Test or Mann-Whitney U test
- The Wilcoxon Signed-rank Test





Unit IV

- Chi-Square Test
- Ch-Square Test for Independence
- Test for Homogeneity
- 2 X 2 contingency
- 2 X 2 contingency - Yate's correction





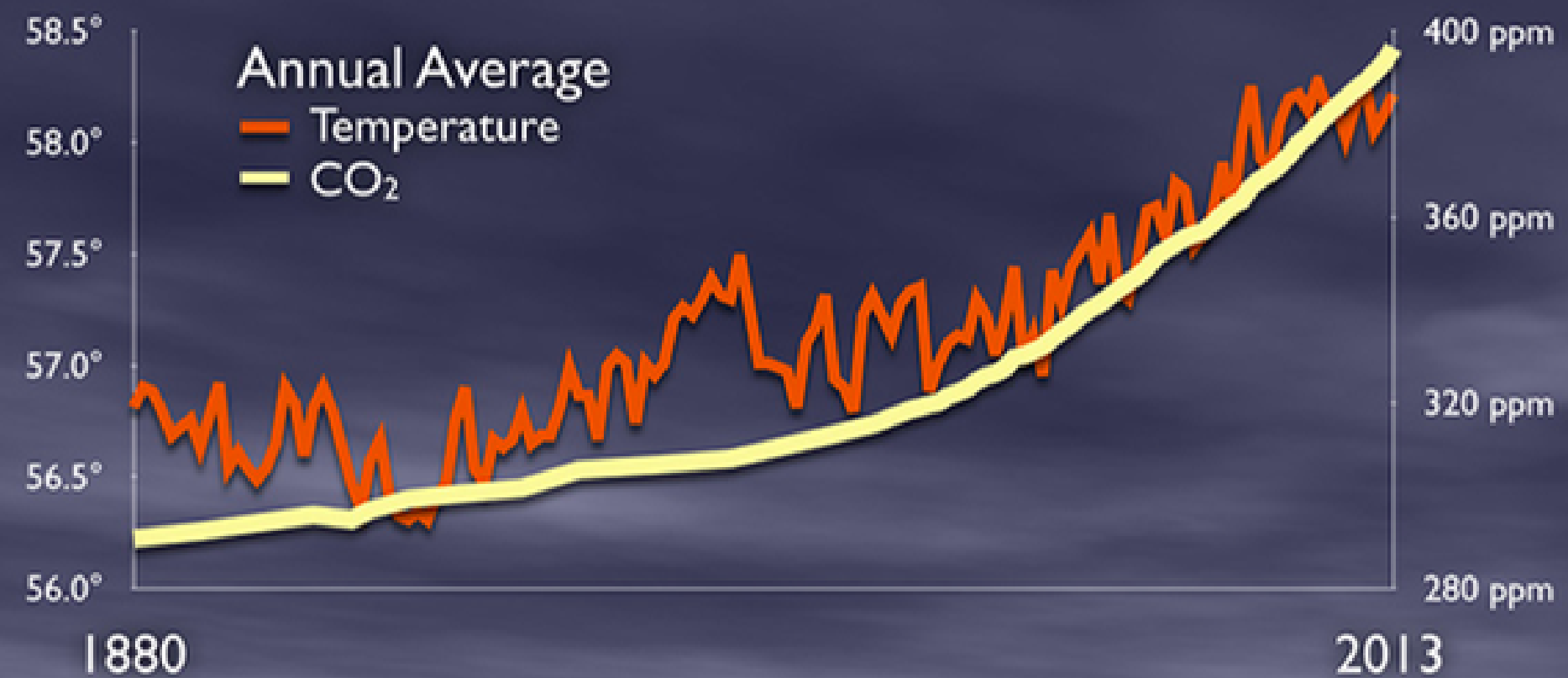
Unit V

- sample size estimation - 1 sample
- sample size estimation - 2 sample
- proportion test - 1 sample size estimation
- proportion test - 2 sample size estimation



Conclusion

Global Temperature and CO₂



Source: National Climate Assessment 2014

CLIMATE CO₂ CENTRAL

THANK YOU!