Decode 10.3

Round 1 - EDA and Dashboards

Problem Statement

Exploratory data analysis (EDA) is used by data scientists to analyze and investigate data sets and summarize their main characteristics, often employing data visualization methods. It helps determine how best to manipulate data sources to get the answers you need, making it easier for data scientists to discover patterns, spot anomalies, test a hypothesis, or check assumptions.
EDA is primarily used to see what data can reveal beyond the formal modeling or hypothesis testing task and provides a better understanding of data set variables and the relationships between them. It can also help determine if the statistical techniques you are considering for data analysis are appropriate.

We expect you to utilize the current large volume of research and development in this area to analyze the given use case of census data of individuals and present your analysis with the help of plots from seaborn, matplotlib, plotly or any other EDA software that you might prefer. The complete description of dataset variables can be found in the **data_desc.txt** file provided with the data. We also recommend you apply any preprocessing techniques that might seem necessary for a good analytical overview of the provided dataset

Following work must be present:

- **Basic graphs which give an overview of the data.** Eg. Scatterplots
- **Analytical EDA, with conclusions and recommendations (if any).** E.g. average educational requirement of an occupation varying for each country.
- **A good overall dashboard**/output that encompasses the complete work.
- **Interactivity** in the final solution is recommended but optional.

You can use any model/library/software.
- Tech Stack Recommendations:
- Analysis & Dashboards:

- Excel
- Tableau/Power BI
- Seaborn/Matplotlib
- Plotly/Dash

Development & Processing:

- Sklearn

- Pandas
- Numpy

Resources:

- EDA notebooks on Kaggle
- Plotly
- Seaborn

Note:

- You aren't restricted to any tech-stack, all the above info is just to help you get started. You are encouraged to go creative with your implementation and use whatever technologies you find interesting or want to try out.
- Don't forget to spare some time for preparing your presentations before the end of the hackathon.
- All hackathons target only a prototype proof-of-concept level development.

Keeping that in mind we wish you best of luck and expect great outputs from each and every team.