**Project: Stack Overflow Developer Survey 2023**

This data explores insights from a survey conducted among developers worldwide.

*The Stack Overflow Developer Survey of 2023 aims to capture comprehensive insights into the global developer community, shedding light on their technical expertise, tools, work preferences, and challenges. The analysis identifies technology trends, developer demographics, work environment preferences, and compensation trends. By understanding these key areas, the survey provides valuable data to inform stakeholders, including companies, educators, and policymakers, helping them adapt strategies and align with the evolving needs of the developer ecosystem.*

**Main Research Question**:

**What are the experiences, preferences, and trends among developers in terms of programming languages, tools, job satisfaction, and diversity?**

**Audience**:

* The primary audience includes developers, software engineers, and technology professionals.

*The Stack Overflow Developer Survey targets developers, software engineers, and technology professionals, offering them valuable insights into the global tech community.*

1. *By analyzing the popularity of programming languages, age distribution, and coding experience levels among respondents, the survey reveals industry trends and evolving generational dynamics.*
2. *It provides insights into compensation by developer type, enabling professionals to benchmark salaries and make informed career decisions.*
3. *It explores location work preferences and programming language usage across organizations of various sizes, offering guidance on aligning career goals with preferred work environments and industry demands.*
4. *The global distribution of respondents provides a comprehensive snapshot of regional trends, helping tech professionals understand how they compare with international peers and adapt to emerging opportunities.*

**Milestones for the Project**

1. **Milestone 1: Data Collection and Preparation**:
   * Identify a dataset.

*I used data from stack overflow website*.

* + Clean and preprocess the data to ensure accuracy and consistency.

*I deleted columns that were not relevant in my analysis.*

*I also removed NaN values.*

1. **Milestone 2: Survey Analysis and Insights**:
   * Analyze responses to identify popular programming languages, frameworks, and tools.
   * Explore job satisfaction, location work preferences, and salary trends.

My focus was understanding:

1. *Popularity of programming languages among the respondents.*
2. *The age distribution.*
3. *The distribution of coding experience.*
4. *Compensation by developer type.*
5. *Location work preferences of the developers.*
6. *Programming language usage by organization size.*
7. *Global distribution of respondents.*
8. **Milestone 3: Visualization**
   * + - Develop an interactive dashboard using data visualization tools.
       - Include dynamic charts, graphs, and filters to allow users to explore survey insights.
       - Visualize trends in programming languages, salary distributions, job satisfaction, and remote work preferences.

*I used bar plots, histograms, boxplots, a pie chart, and a choropleth to visualize my data. The bar plots, histograms and pie chart represent static data while the boxplots and choropleth are interactive.*

*The choropleth also gives insight into counties that majo-rly took part in the survey and those that did not. This is important to the audience as it enables them to look out for bias while interpreting the analysis.*