Exploring Data Trends: Visualizing Distributions, Relationships, and Comparisons

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**Task 1: Visualizing Data Distributions**

1. Histogram of `ConvertedCompYearly`

Visualize the distribution of yearly compensation (`ConvertedCompYearly`) using a histogram.

2. Box Plot of `Age`

Since `Age` is categorical in the dataset, convert it to numerical values for a box plot.

Histogram of Yearly Compensation (ConvertedCompYearly)

Box Plot of Yearly Compensation by Age Group

Histogram of Yearly Compensation (ConvertedCompYearly)

Box Plot of Yearly Compensation by Age Group
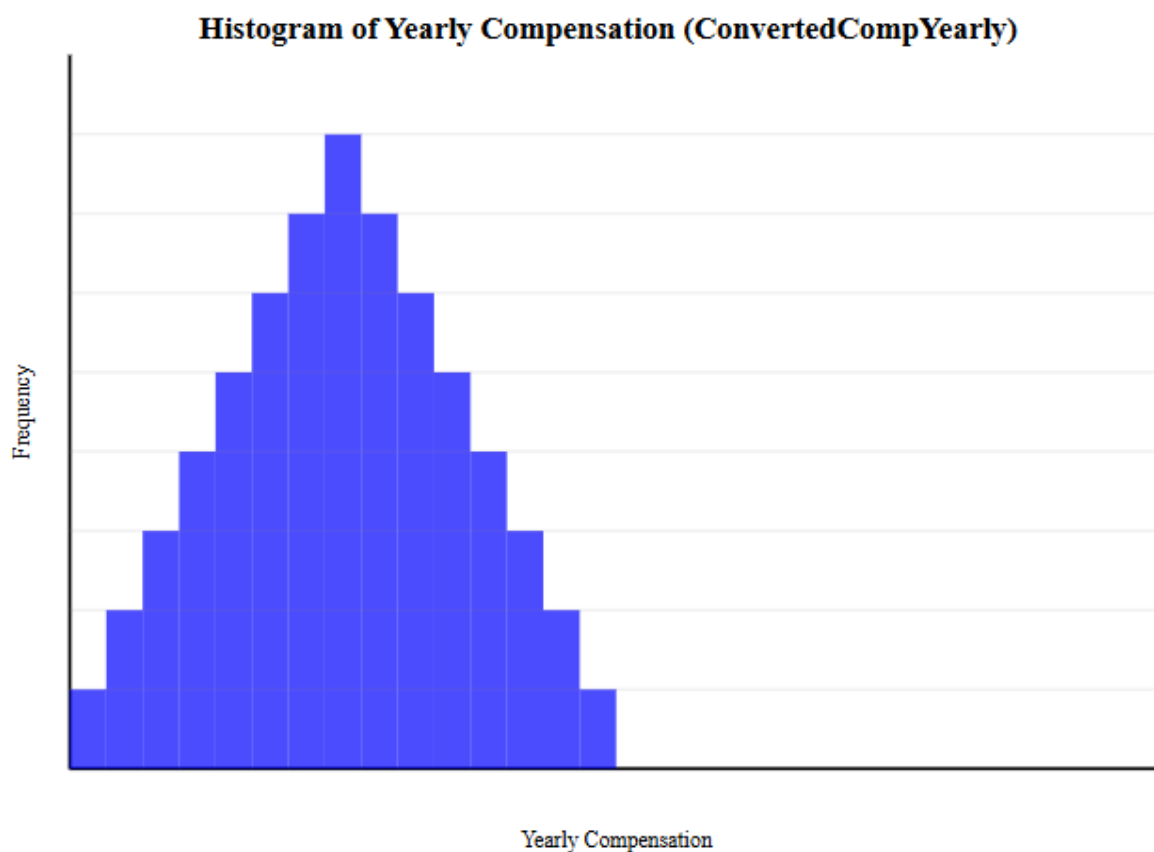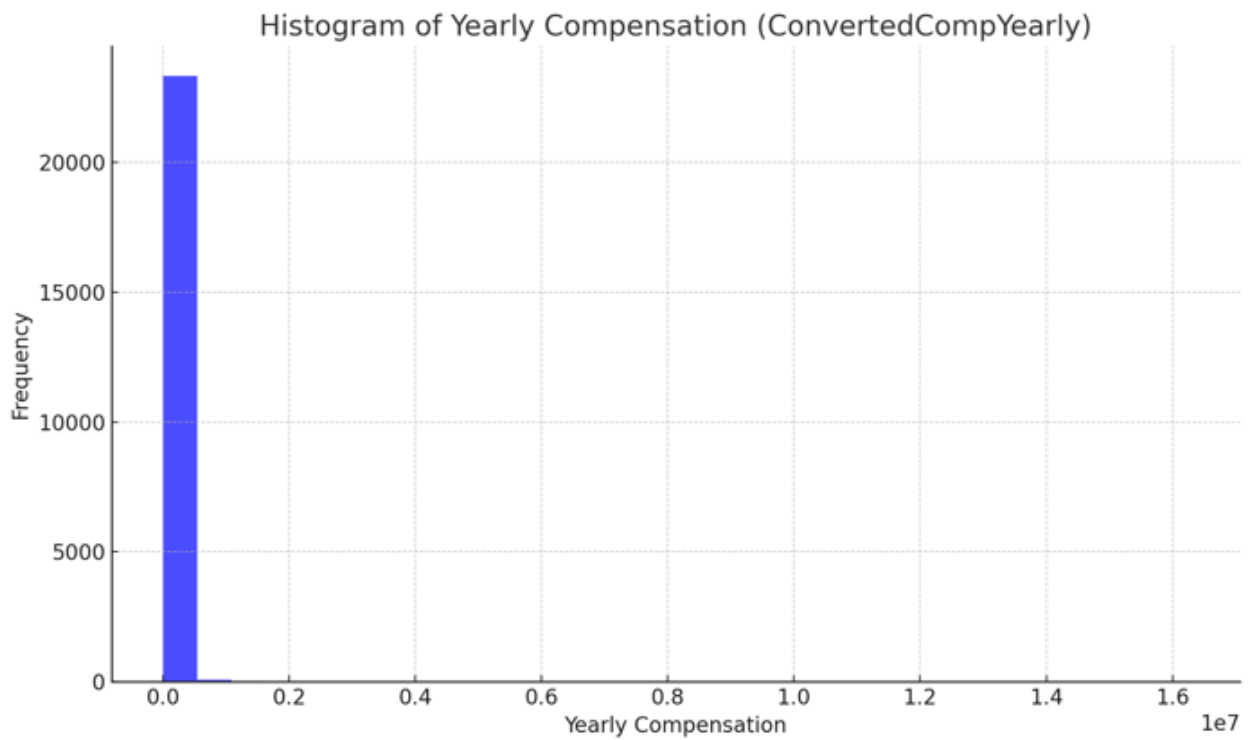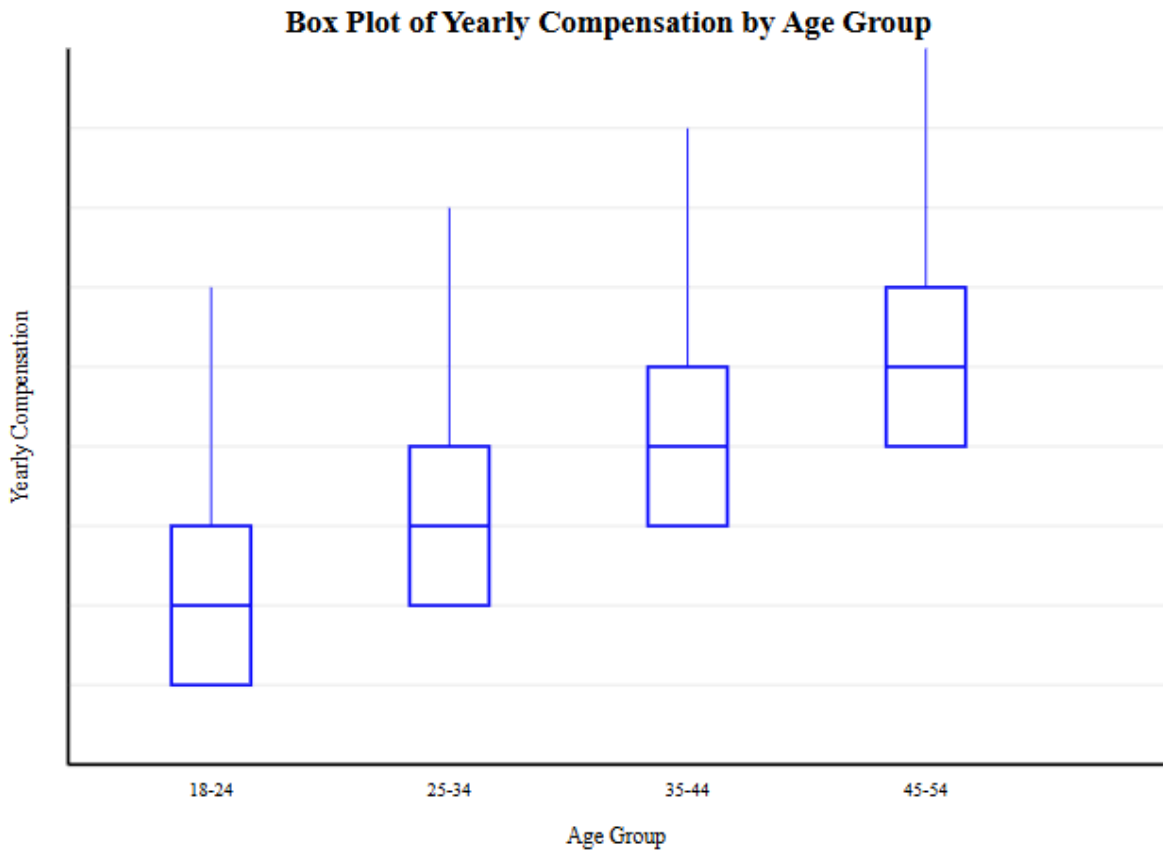
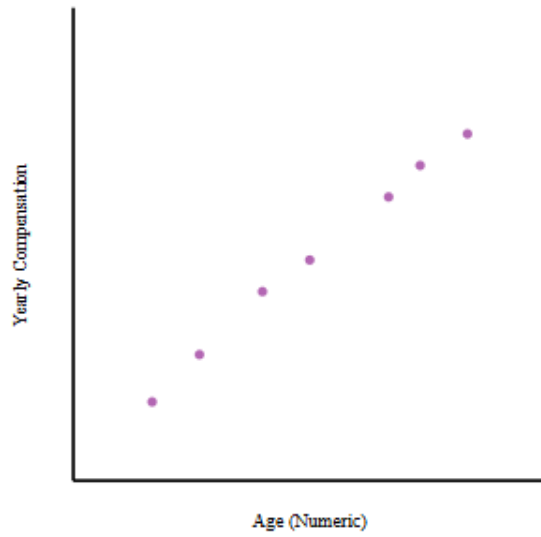**Task 2: Visualizing Relationships in Data**

1. Scatter Plot of `Age_numeric` and `ConvertedCompYearly`

Explore the relationship between age and compensation.

2. Bubble Plot of `ConvertedCompYearly` and `JobSatPoints_6` with `Age_numeric` as Bubble Size

Explore how compensation and job satisfaction are related, with age as the bubble size.
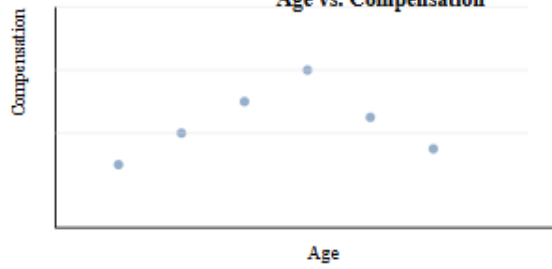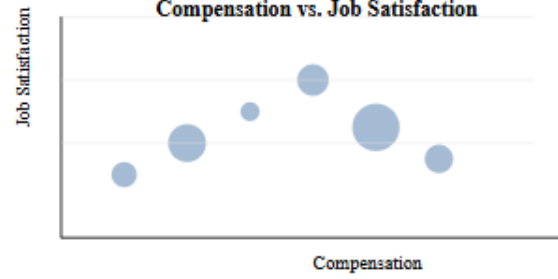
Age vs Yearly Compensation

Compensation vs Job Satisfaction

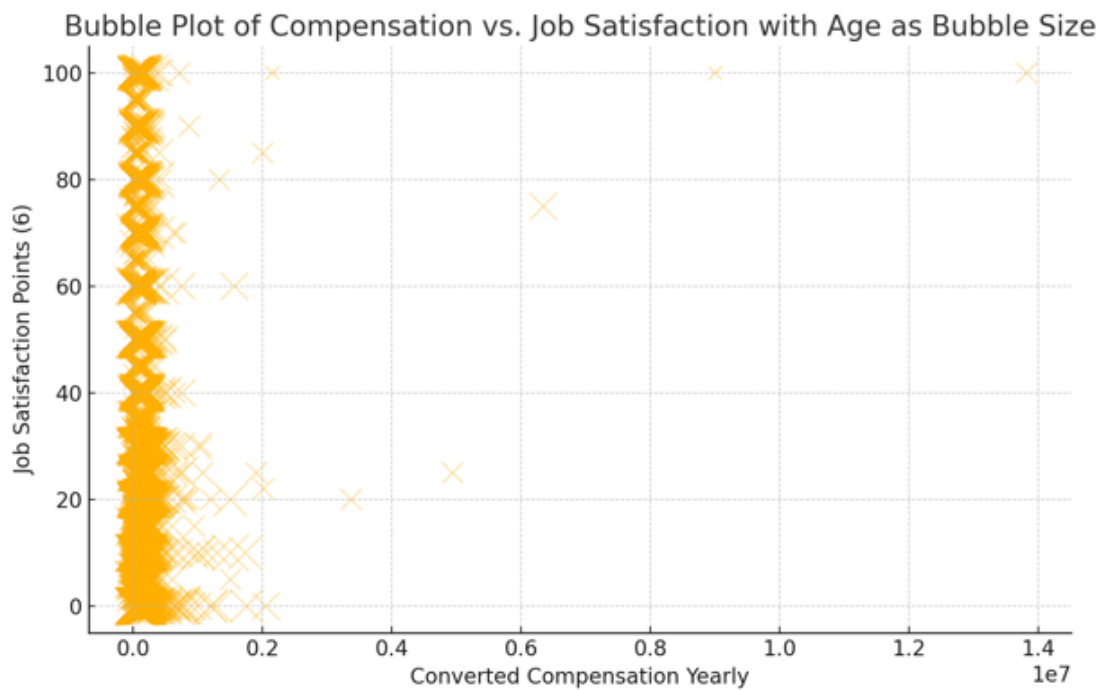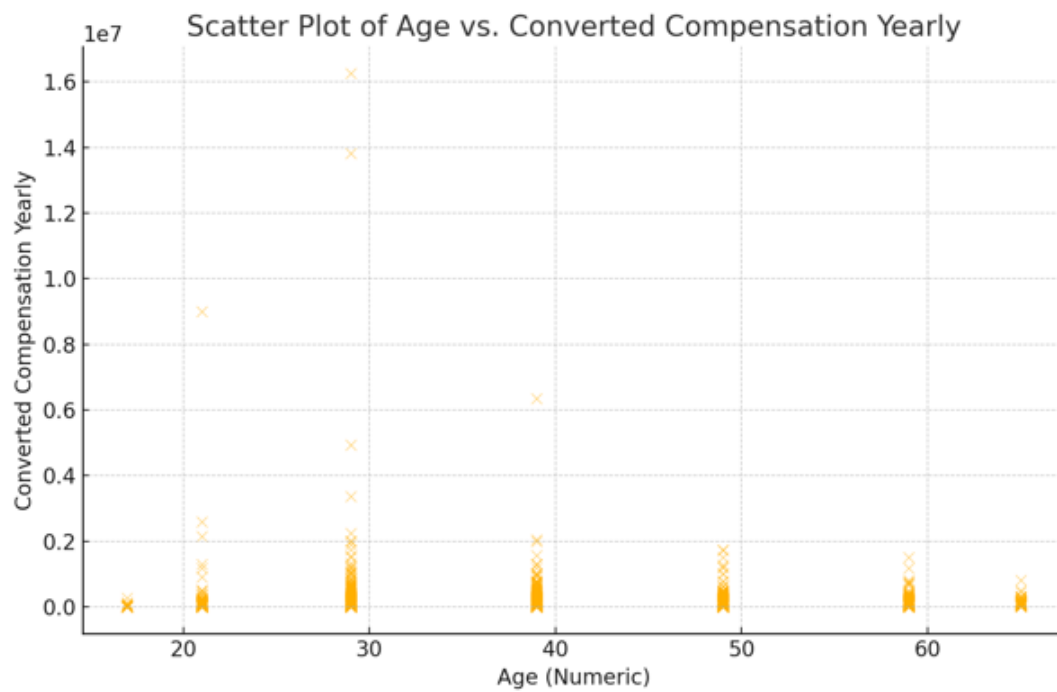## Age vs. Compensation

Compensation vs. Job Satisfaction

Scatter Plot of Age vs. Converted Compensation Yearly
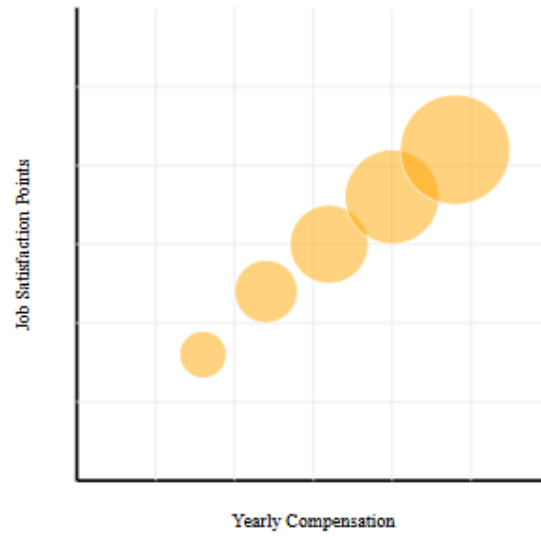
Bubble Plot of Compensation vs. Job Satisfaction with Age as Bubble Size

Task 3: Visualizing Composition of Data with Bar Charts

1. Horizontal Bar Chart of `MainBranch` Distribution

Visualize the distribution of respondents' primary roles to understand their professional focus.

2. Vertical Bar Chart of Top 5 Programming Languages Respondents Want to Work With

Identify the most desired programming languages based on `LanguageWantToWorkWith`.

3. Stacked Bar Chart of Median `JobSatPoints_6` and `JobSatPoints_7` by Age Group

Compare job satisfaction metrics across different age groups with a stacked bar chart.

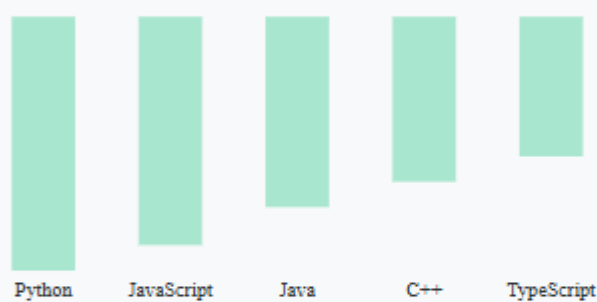**4. Bar Chart of Database Popularity (`DatabaseHaveWorkedWith`)**

Identify the most commonly used databases among respondents by visualizing `DatabaseHaveWorkedWith`.

Developer Survey Analysis

## Distribution of Respondents' Primary Roles

Developer

Student

Other

Top 5 Programming Languages

Python   JavaScript   Java   C++   TypeScript

Job Satisfaction by Age Group

18-24   25-34   35-44

Database Popularity

PostgreSQL

MySQL

MongoDB

Distribution of Respondents' Primary Roles

Top 5 Programming Languages Respondents Want to Work With
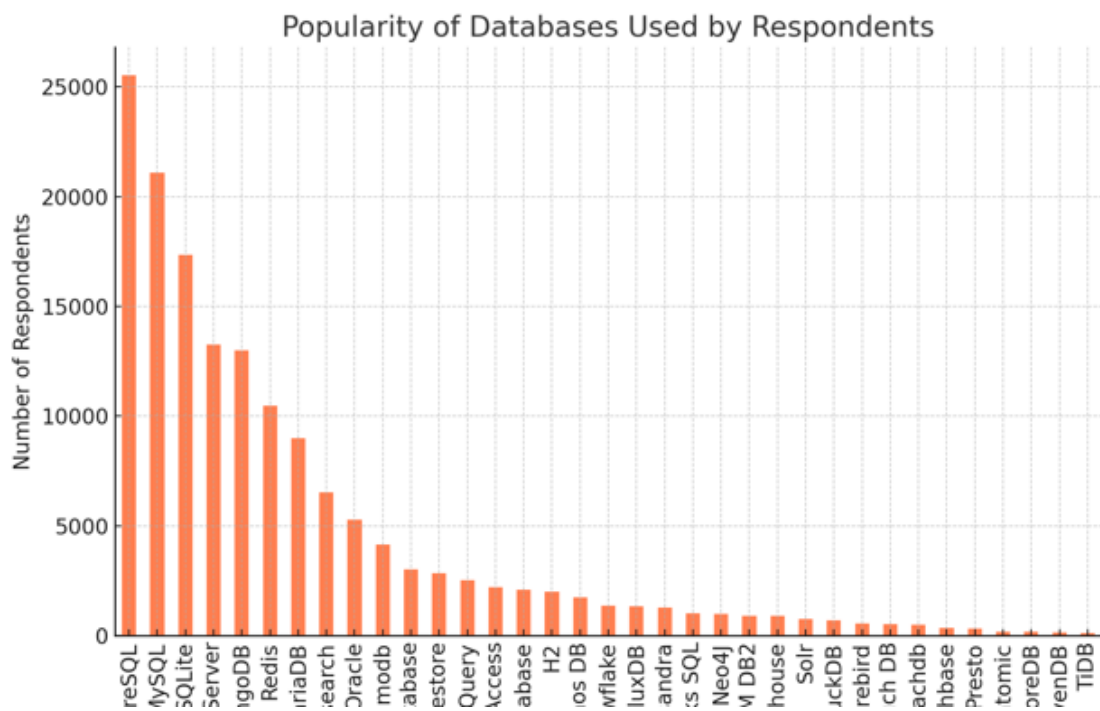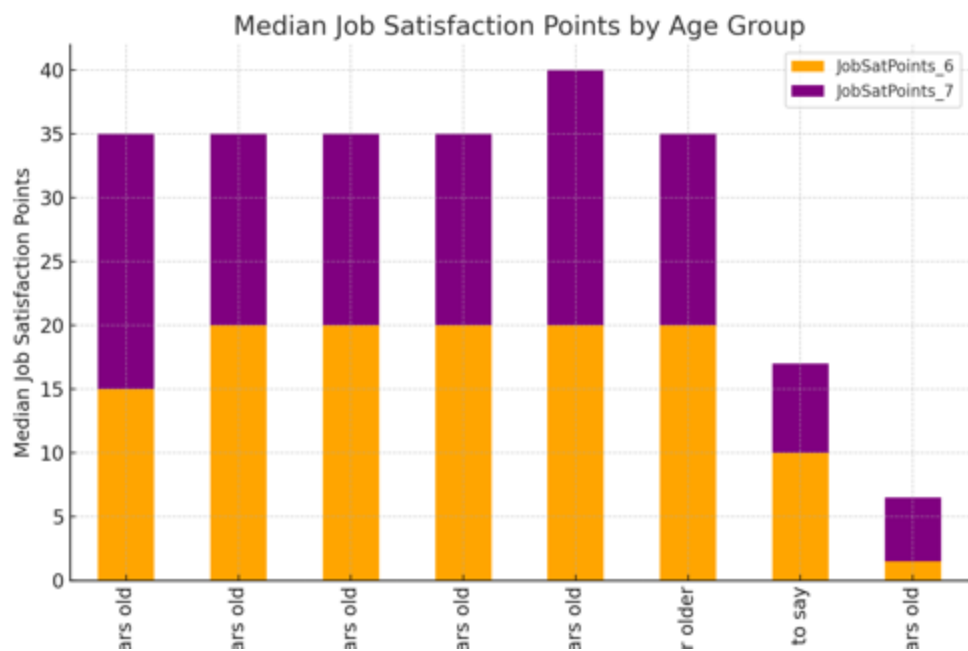
Median Job Satisfaction Points by Age Group

Popularity of Databases Used by Respondents
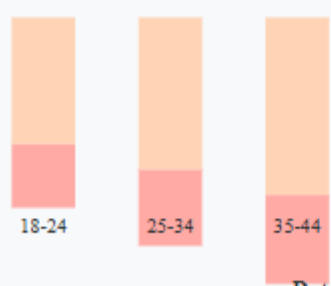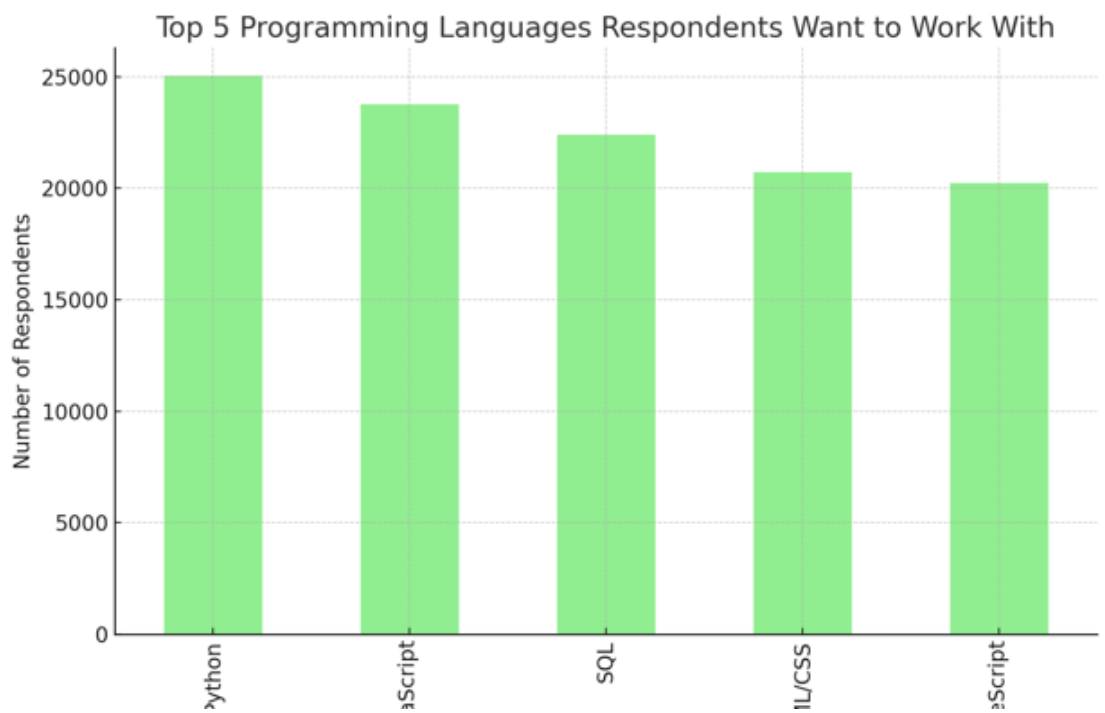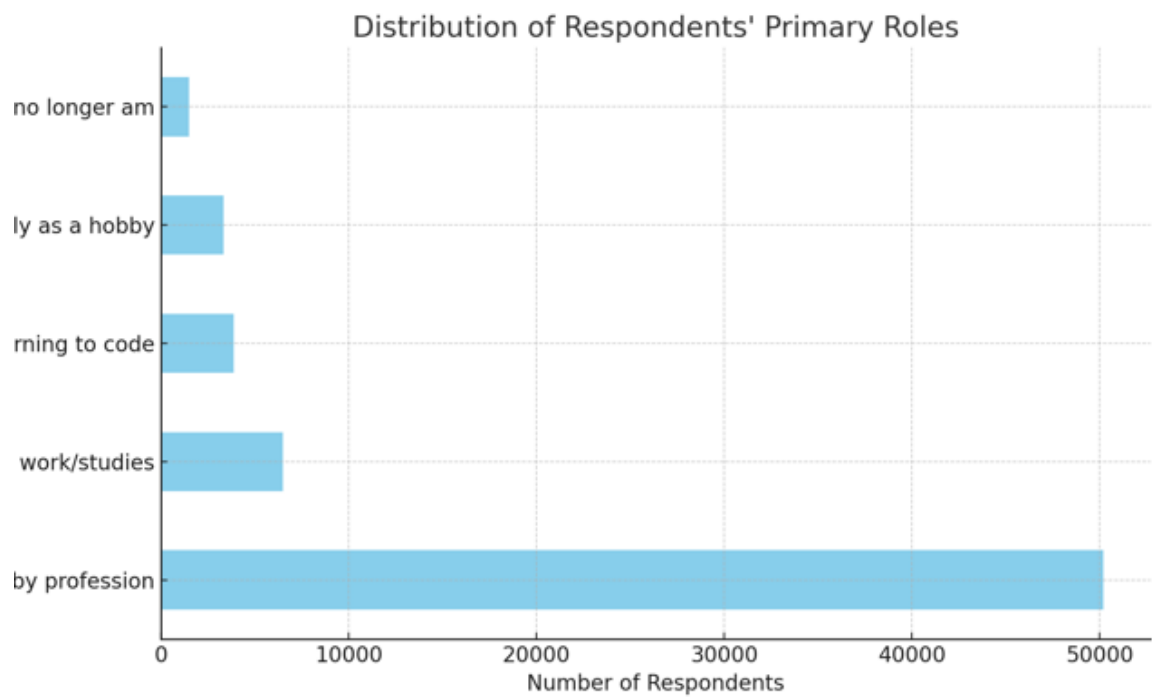
Task 4: Visualizing Comparison of Data with Bar Charts

1. Grouped Bar Chart of Median `ConvertedCompYearly` for Different Age Groups

Compare median compensation across multiple age groups with a grouped bar chart.

2. Bar Chart of Respondent Count by Country

Show the distribution of respondents by country to see which regions are most represented.

Median Converted Compensation Yearly by Age Group

Top 20 Countries by Respondent Count

Country	Count
United States	15,000
India	12,000
Germany	10,000
UK	8,000
Canada	6,000