EXPERIMENT NO: 1B

Analyze and visualize the distribution of various data science roles

Aim:

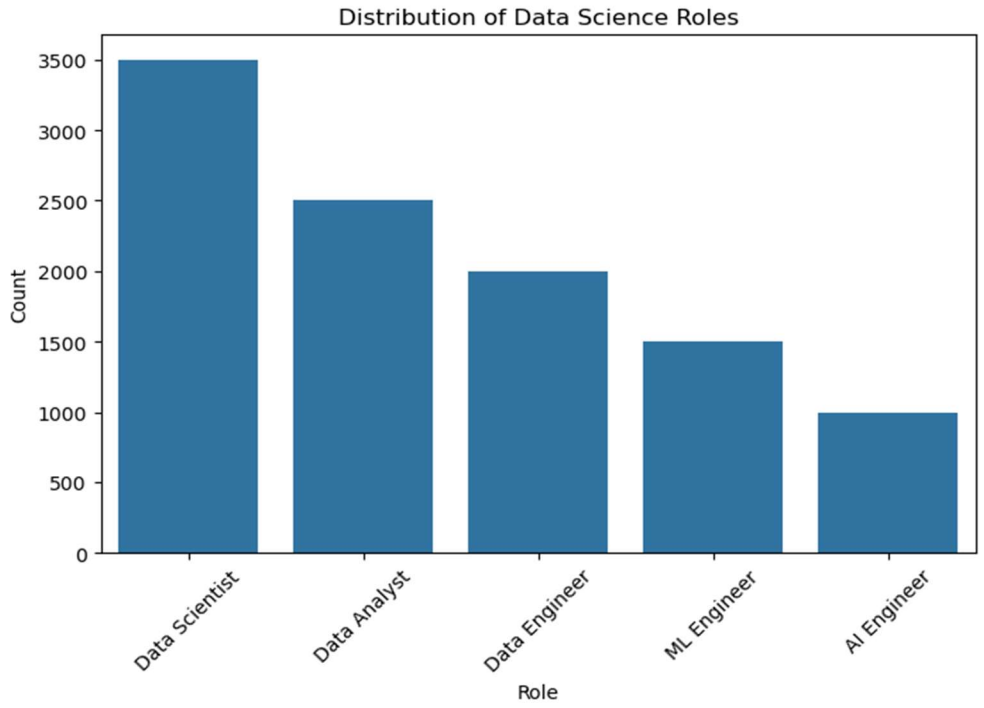
To visualize the distribution of different **Data Science roles** and their **counts** using bar and pie charts with Python libraries — **Pandas**, **Matplotlib**, and **Seaborn**.

Algorithm:

1. Import the necessary libraries: **pandas**, **matplotlib.pyplot**, and **seaborn**.
2. Create a dataset containing roles and their respective counts.
3. Convert the dataset into a **DataFrame** using pd.DataFrame().
4. Plot a **bar chart** using sns.barplot() to show role distribution.
5. Plot a **pie chart** using plt.pie() to show percentage distribution.
6. Add titles and rotate axis labels for better readability.
7. Display both charts using plt.show().

Program:

```
[19]: import pandas as pd
      import matplotlib.pyplot as plt
      import seaborn as sns
      data={
          'Role':['Data Scientist','Data Analyst','Data Engineer','ML Engineer','AI Engineer'],
          'Count':[3500,2500,2000,1500,1000]
      }
      df=pd.DataFrame(data)
      plt.figure(figsize=(8,5))
      sns.barplot(x='Role',y='Count',data=df)
      plt.title("Distribution of Data Science Roles")
      plt.xticks(rotation=45)
      plt.show()
```



Result:

The program successfully displays a bar chart and a pie chart showing that **Data Scientist** has the highest count and **AI Engineer** has the lowest count among the data science roles.