Here are 30 important Exploratory Data Analysis (EDA) questions that you can explore using the Seaborn library and the Titanic dataset in Python. These questions cover data visualization, analysis of patterns, and insights:

General Data Overview

1. What is the overall distribution of passengers across different classes (Pclass)?
2. How is the age of passengers distributed?
3. What is the distribution of passengers based on Sex?
4. How many passengers embarked from each port (Embarked)?
5. What is the survival rate overall, and how does it vary by Pclass?

Categorical Analysis

6. What is the survival rate for males vs. females?
7. What is the survival rate for passengers from different embarkation points (Embarked)?
8. How does the survival rate vary across different ticket classes (Pclass)?
9. Is there any relationship between the number of siblings/spouses aboard (SibSp) and survival?
10. How does the number of parents/children aboard (Parch) affect survival?

Numerical Analysis

11. How does the fare distribution vary across different passenger classes (Pclass)?
12. What is the relationship between age and survival rates?
13. What is the correlation between Fare, Pclass, and survival?
14. What are the age ranges of survivors vs. non-survivors?
15. Are younger passengers more likely to survive compared to older passengers?

Group-wise Analysis

16. What is the survival rate for families (passengers with SibSp or Parch > 0) vs. solo travelers?
17. What is the distribution of family sizes among passengers, and how does it affect survival?
18. How does survival differ for passengers who paid exceptionally high fares (Fare outliers)?
19. Are there any gender-based differences in survival within each class (Pclass)?

20. How does survival vary among passengers who embarked from different ports (Embarked) within the same class?

Visualization-focused Analysis

21. Create a heatmap to visualize the correlation between numeric features.
22. Use a violin plot to visualize the distribution of Fare for survivors vs. non-survivors.
23. Use a swarm plot to analyze the relationship between Pclass, Sex, and survival.
24. Use a box plot to analyze the fare distribution across different embarkation points.
25. Use a pair plot to identify patterns between Age, Fare, Pclass, and Survived.

Advanced Analysis

26. Is there a noticeable difference in survival rates for passengers with cabin information vs. those without it (Cabin column)?
27. How does missing data (e.g., in Age or Cabin) affect the overall survival analysis?
28. Does having a specific cabin class (e.g., A, B, C) influence survival rates?
29. Can the dataset be stratified into groups (e.g., age, class, gender) with distinctly high or low survival probabilities?
30. What trends emerge when visualizing survival rates by age, grouped by gender and passenger class?
