IPL Auction Problem statment

 **What are the relationships between different performance metrics?**

* How do different performance metrics (e.g., batting average, strike rate) correlate with each other?
* Are there significant differences in performance metrics across different playing roles (batsman, bowler, all-rounder)?

 **How does player performance impact auction prices?**

* What is the relationship between various performance metrics and the base price (BASE PRICE) or sold price (SOLD PRICE) in the auctions?
* Which performance metrics are the most significant predictors of auction prices?

 **How do categorical factors influence auction outcomes?**

* How do factors like country, team, and playing role affect a player’s auction price?
* Are there any trends over the years in terms of auction prices for different categories of players?

**Inferences**:

**1. What are the relationships between different performance metrics?**

**How do different performance metrics (e.g., batting average, strike rate) correlate with each other?**

* **Correlation Analysis**: By performing correlation analysis, one would typically find how different performance metrics like batting average, strike rate, total runs, and total wickets relate to each other. Metrics such as batting average and strike rate are expected to show a positive correlation since a higher strike rate often complements a higher batting average.

**Are there significant differences in performance metrics across different playing roles (batsman, bowler, all-rounder)?**

* **Group Analysis**: Analyzing performance metrics across different playing roles would involve grouping the data by PLAYING ROLE and comparing means or medians of performance metrics. For instance:
  + **Batsmen** might show higher average runs and strike rates.
  + **Bowlers** would excel in metrics like total wickets, bowling average, and economy rate.
  + **Allrounders** would have balanced statistics across both batting and bowling metrics.

**2. How does player performance impact auction prices?**

**What is the relationship between various performance metrics and the base price (BASE PRICE) or sold price (SOLD PRICE) in the auctions?**

* Metrics like total runs, strike rate, and wickets could be strong predictors of higher auction prices.
  + Positive correlations are typically found between higher performance metrics (like runs scored or wickets taken) and higher auction prices.

**3. How do categorical factors influence auction outcomes?**

**How do factors like country, team, and playing role affect a player’s auction price?**

* **Categorical Analysis**: One would analyze how different categorical factors impact auction prices:
  + **Country**: Players from countries with a strong cricketing history or current performance trends may fetch higher prices.
  + **Team**: Certain teams may have more financial resources and hence, bid higher for top players.
  + **Playing Role**: Specific roles, especially versatile allrounders, might command higher auction prices due to their utility in multiple aspects of the game.