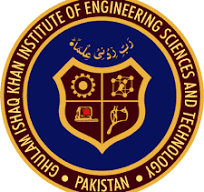
Python project lab report: 

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PROJECT NAME: KNOBE ASSIST CALCULATOR

FACULTY: FEE

COURSE TITLE(AI102)

**Introduction:**

In basketball, the primary focus is often on scoring, assists, and other major statistics. However, there is one underappreciated aspect of the game: the impact of missed shots. When a player misses a shot but their team scores from the rebound, it generates value, often referred to as a "Kobe Assist." The term was coined because of Kobe Bryant's ability to miss shots but still create scoring opportunities through offensive rebounds.

This project focuses on calculating how many points a team generates from a player’s missed shots per game, using Python and NBA data. The goal is to quantify the impact of missed shots and estimate the number of points generated through Kobe Assists.

**2. Objectives**

The objectives of the project are as follows:

1. **Analyze NBA Player Statistics**: To identify missed shots and offensive rebounds.
2. **Estimate Kobe Assists**: To calculate how often a player's missed shots lead to team points.
3. **Visualization**: To create a visual representation (bar chart) of Kobe Assists for top NBA scorers
4. **Methodology**
5. **Data Collection**
6. The project begins by collecting NBA player statistics from a .CSV file, which is sourced from basketball-reference.com. The dataset includes various columns, but for this project, we focus on relevant statistics such as field goals attempted, offensive rebounds, and points scored. We use the **Pandas** library to load and manage the dataset.

**Data Cleaning**

Once the data is collected, we clean it to ensure that we only use relevant information:

* **Remove irrelevant columns** (e.g., player awards, rank).
* **Remove duplicate entries**.

**4. Results and Discussion:**

After the data was processed and the computations completed, the results show how many points were generated from missed shots for top NBA players. For example, players like LeBron James and James Harden, who take a large number of shots, also tend to generate significant points from their missed shots due to their teams’ strong offensive rebound rates

**6. Conclusion**

The Kobe Assist Calculator project demonstrates the value of missed shots in basketball, quantifying how these missed attempts can still contribute to a team’s success through offensive rebounds and subsequent scoring opportunities. Using Python and NBA data, the project allows us to analyze this often-overlooked aspect of the game. The modular design of the program also makes it adaptable to future datasets and seasons.

This project not only enhances our understanding of basketball analytics but also improves our Python skills, particularly in data processing, object-oriented programming, and data visualization.

**7. References**

1. Basketball Reference (<https://www.basketball-reference.com>)
2. Grantland (https://grantland.com/features/how-kobe-bryant-missed-shots-translate-new-nba-statistic-kobe-assist/)
3. Python Documentation ([https://docs.python.or](https://docs.python.org)