

# ABC Real-Money Gaming Loyalty Points Analysis

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## 1. Project Overview

ABC is a real-money online gaming platform that offers multiplayer games like Ludo. Players register, deposit money, play, and withdraw winnings. To retain players, ABC awards loyalty points based on deposits, withdrawals, and games played.

In this analysis, I:

- Processed user, deposit, and withdrawal data.
- Calculated slot-wise loyalty points for specific dates.
- Ranked players for the month.
- Computed key averages.
- Suggested a fair Rs. 50,000 bonus split for the top 50 players.
- Reviewed the fairness of the loyalty point formula.

All tasks were completed using Python, pandas, and Jupyter Notebook.

## 2. Part A - Calculating Loyalty Points

Time Slots Covered:

- 2nd October, Slot S1 (12 AM - 12 PM)
- 16th October, Slot S2 (12 PM - 12 AM)
- 18th October, Slot S1 (12 AM - 12 PM)
- 26th October, Slot S2 (12 PM - 12 AM)

Loyalty Point Formula:

- $0.01 \times \text{Deposit amount}$

- $0.005 \times \text{Withdrawal amount}$
  - $0.001 \times \max(\text{Deposits minus Withdrawals}, 0)$
  - $0.2 \times \text{Number of games played}$
- Total Loyalty Points = sum of all above.

#### Monthly Ranking:

- Players ranked by total loyalty points earned in October.
- Tie-breaker: Number of games played.

#### Key Metrics:

- Average Deposit
- Average Deposit per User
- Average Games Played per User

### 3. Part B - Bonus Distribution

ABC has allocated Rs. 50,000 for bonus rewards to the top 50 loyal players.

#### Proposed Method:

- Split bonus proportionally based on each player's total loyalty points.
- Optionally, include small weightage for games played to reward active players fairly.
- This ensures both spending and engagement are rewarded, encouraging loyalty.

### 4. Part C - Formula Fairness and Suggestions

#### Is the formula fair?

- Overall, the formula balances deposits, withdrawals, and gameplay.
- However, it slightly favors gameplay over financial activity.

#### Recommendations to improve:

- Adjust weightage to balance spend vs. play.
- Add milestone rewards for consistent daily play.
- Cap maximum points per single deposit/withdrawal to avoid misuse.
- Add basic fraud checks for unusual deposit-withdrawal behaviour.

Deliverables:

- Notebook: ABC\_Loyalty\_Analysis.ipynb
- Report: This document
- Sample Data: user.csv, deposit.csv, withdrawal.csv
- Screenshots: Slot output and leaderboard ranking

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