REPORT ON AN ANALYTICS POSITION CASE STUDY

BY

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Overview of the Assignment:

ABC is a real-money multiplayer online gaming platform that rewards users with loyalty points based on their deposits, withdrawals, and gameplay. The goal of this analysis is to:

1. Compute and analyze loyalty points at both daily slot level and monthly level.
2. Rank users and propose a method to distribute a ₹50,000 bonus pool among the top performers.
3. Evaluate the fairness and robustness of the existing loyalty point formula and suggest improvements.

Data Description:

The dataset comprises three tables:

Table Name	Columns	Row Count
User	User Id (INT), Games Played (INT), Datetime (TEXT)	3,55,266
Deposit	User Id (INT), Datetime (TEXT), Amount (INT)	17,438
Withdrawal	User Id (INT), Datetime (TEXT), Amount (INT)	3,566

Tool Used: MySQL Workbench

Part A – Loyalty Points Computation:

Formula Used:

Loyalty Points = (0.01 × Deposit Amount) + (0.005 × Withdrawal Amount) + (0.001 × max(#Deposits − #Withdrawals, 0)) + (0.2 × Number of Games Played)

Slots Defined:

- S1 → 12:00 AM to 11:59 AM
- S2 → 12:00 PM to 11:59 PM

Tasks Completed:

1. **Player-wise Loyalty Points for Slots:**
    - 2nd October S1
    - 16th October S2
    - 18th October S1
    - 26th October S2
2. **Total Loyalty Points for October (Monthly):**
    - Calculated across all users
    - Players ranked based on loyalty points (tie-breaker: total games played)
3. **Aggregate Metrics:**
    - Average Deposit Amount
    - Average Deposit Amount Per User (Monthly)
    - Average Games Played Per User

Part B – Bonus Distribution Strategy:

Objective:

Distributed equally in this problem.

Distribute ₹50,000 among the top 50 players based on performance.

Adopted Strategy:

Bonus distributed proportionally to loyalty points, using the formula:

Bonus = (User's Loyalty Points / Total Loyalty Points of Top 50) × 50,000

Rewards users in proportion to contribution and engagement

Encourages a balanced strategy across deposits, withdrawals, and gameplay

Part C – Evaluation of Loyalty Point Formula:

Current Formula Review:

The existing formula is generally fair and covers all major activities:

- Financial input (deposits)
- Platform usage (games)
- User balance behavior (withdrawals)

Suggested Revised Formula:

Loyalty Points =

(0.01 × Deposit Amount) + (0.002 × Withdrawal Amount) + (0.001 × max (Deposit Count − Withdrawal Count, 0)) + (0.1 × Total Games Played) + (0.01 × Number of Active Days)

Benefits of Updated Formula:

- Adds weight to consistency and platform retention through active days
- Reduces impact of withdrawal-heavy users
- Balances between financial transactions and gameplay activity

Conclusion:

- The loyalty point system is effective but can be optimized for fairness and retention.
- Bonus distribution should be performance-based and proportional to loyalty score.
- Revised formula introduces behavioral incentives (e.g., active participation).