Project Report

Project Title: Loyalty Points Analysis for Online Gaming Company (ABC)

Objective:

To compute and analyze player loyalty points based on deposits, withdrawals, and gameplay activities using transaction data. Insights include player-wise slot points, overall monthly loyalty standings, and optimal bonus allocation.

Dataset Overview : (Link) (Jupyternotebook Link)

`User Gameplay data`: Timestamps of games played by players.

`Deposit Data`: Records of player deposits.

`Withdrawal Data`: Records of player withdrawals.

`Question Sheet`: Contains assignment instructions.

Loyalty Points Formula :

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

Slots:

- S1: 12AM–12PM
- S2: 12PM–12AM

Part A – Calculating Loyalty Points :

1. Slot-Wise Loyalty Points (Dates & Slots)

Computed for:

- 10th October, Slot S2 (Link)
- 16th October, Slot S1 (Link)
- 18th October, Slot S1 (Link)
- 26th October, Slot S2 (Link)

Results saved as CSVs:

• 10th_october_slot2.csv

• 16th_october_slot1.csv

• 18th_october_slot1.csv

• 26th_october_slot2.csv

2. Monthly Loyalty Points & Ranking

All players' loyalty points for October were calculated.

Sorted by loyalty points and number of games (in case of tie).

Top 50 players identified.

📌 **3–5. Other Metrics :**

Avg Deposit Amount (overall): ₹5492.19
Avg Deposit per User in October: ₹69553.17
Avg Games per User (October): 355.27 games

Part B – Bonus Allocation Strategy:

Bonus Pool: ₹50,000

Strategy: Allocate proportionally based on loyalty points of top 50 players.

📤 Exported as:

- rank50_players.csv (Link)

Part C – Is the Formula Fair?

Strengths:

- Encourages gameplay and deposits.
- Penalizes players who only deposit/withdraw.

Weaknesses:

- Favors high depositors even if inactive in games.
- Minor weight for withdrawals.

Suggestions:

- Cap deposit rewards daily.
- Add win/loss outcomes or net winnings.
- Consider streaks (e.g., 7-day active bonus).
- Reward consistency more than volume.

Tools Used:

- **Python (Pandas, Numpy)**
- **Jupyter Notebook**
- **Excel**