TURNING LOSSES INTO LOYALTY: ANALYZING CHURN RISK IN SUBSCRIPTION-BASED SERVICES

🔧 PART 1 – SQL ANALYSIS

```
CREATE DATABASE rnw;

USE rnw;

CREATE TABLE customersub (CustomerID VARCHAR(15) PRIMARY KEY NOT
NULL, Name VARCHAR(50), Age INT, Gender VARCHAR(10), SubscriptionType
VARCHAR(15), SubscriptionDate DATE, LastLoginDate DATE, TotalSessions
INT, FeedbackScore INT, IsChurned INT );
```

```
LOAD DATA LOCAL INFILE
'C:/Users/desai/Downloads/CustomerSubscriptions.csv' INTO TABLE
customersub FIELDS TERMINATED BY ',' ENCLOSED BY '"' IGNORE 1 ROWS;

SELECT * FROM customersub;
```

📊 Total number of active vs churned customers (by SubscriptionType).

```
SELECT SubscriptionType,
       COUNT(CASE WHEN IsChurned = 1 THEN 1 END) AS Churned,
       COUNT(CASE WHEN IsChurned = 0 THEN 1 END) AS Active,
       COUNT(*) AS Total_Customers
FROM customersub GROUP BY SubscriptionType;
```

🧮 Average FeedbackScore by SubscriptionType and Gender.

```
SELECT SubscriptionType,
       Gender,
       AVG(FeedbackScore) AS Avg_Feedback_Score,
       COUNT(*) AS Number_of_Responses
FROM customersub
GROUP BY SubscriptionType, Gender
```

```
ORDER BY SubscriptionType, Avg_Feedback_Score DESC;
```

📉 List customers who attended < 5 sessions AND gave feedback < 5.

```
SELECT CustomerID,
       Name,
       Age,
       Gender,
       SubscriptionType,
       IsChurned
FROM customersub
WHERE TotalSessions < 5 AND FeedbackScore < 5;
```

📆 Identify customers who haven't logged in for the past 60 days.

```
SELECT MAX(LastLoginDate) FROM customersub; -- 2024-12-22

SELECT CustomerID,
       Name,
       LastLoginDate
FROM customersub
WHERE LastLoginDate < (SELECT MAX(LastLoginDate) FROM customersub) -
INTERVAL 60 DAY
ORDER BY LastLoginDate DESC;
```

🏷️ Churn rate by SubscriptionType.

```
SELECT SubscriptionType,
       COUNT(*) AS Total_Customers,
       SUM(IsChurned) AS Churned_Customers,
       AVG(IsChurned * 100) AS Churn_Rate
FROM customersub
GROUP BY SubscriptionType
ORDER BY Churn_Rate DESC ;
```

📋 List Top 10 customers with longest subscriptions (based on SubscriptionDate).

```
SELECT CustomerID,
       Name,
```

```
       SubscriptionDate,
       (SELECT MIN(SubscriptionDate)FROM customersub) AS
Longest_Subscriped
FROM customersub
ORDER BY SubscriptionDate ASC
LIMIT 10;
```

📍 Age group-wise churn analysis (e.g., 18–25, 26–35, etc.).

```
SELECT
    CASE
        WHEN Age BETWEEN 18 AND 25 THEN '18-25'
        WHEN Age BETWEEN 26 AND 35 THEN '26-35'
        WHEN Age BETWEEN 36 AND 45 THEN '36-45'
        WHEN Age BETWEEN 46 AND 55 THEN '46-55'
        ELSE '56+'
        END AS Age_Group,
        SUM(IsChurned) AS Churned_Customers
FROM customersub
GROUP BY Age_Group
ORDER BY Age_Group ASC;
```

PART 2 – DESCRIPTIVE ANALYSIS

🧠 BUSINESS UNDERSTANDING

1. What specific industry or service does this dataset likely represent? (Hint: Look at the columns).

   > Subscriptions based services that could be anything from gym, yoga classes, dance classes, netflix, wifi etc.

2. How would you define "Churn" in the context of a subscription-based service?

   > Churn means customers canceling their subscriptions.

3. Which column acts as the strongest indicator of customer engagement?

   > Feedback

4. Which stakeholders (e.g., Marketing, Product, Operations) would benefit most from this data?
   - Marketing
   - Sales
   - Admin

📊 DESCRIPTIVE ANALYSIS

1. What is the total number of active vs. churned customers?

   > Total Active Customers are 3506 & Total Churned Customers are 1494.

2. Calculate the overall churn rate (Percentage of customers who have churned).

   > The overall churn rate is %29.88

3. What is the average `FeedbackScore` for the entire customer base?

   > The average FeedbackScore is about 5.4

4. Which `SubscriptionType` (Monthly, Quarterly, Yearly) has the highest number of users?
   - Monthly - 1707
   - Yearly - 1688
   - Quarterly - 1605

🔍 DIAGNOSTIC ANALYSIS (WHY CHURN?)

1. Is there a correlation between a low `FeedbackScore` and `IsChurned` status?

> Yeh, there is a correlation between those attributes, if the feedback score is low there is a high likelihood of customers leaving the services.

2. Do customers on "Monthly" subscriptions churn more often than "Yearly" ones?

   > Yes

3. Analyze the relationship between `TotalSessions` and Churn. Do inactive users leave faster?

   > Inactive users are unlikely to leave quickly. This is because they are often unaware of the ongoing subscription and, having forgotten about the service, are less likely to be actively planning to cancel.

4. Is there a specific age group that is more likely to churn?

   > Yes, I think the younger age group is more likely to churn.

🧩 STRATEGIC DECISION-MAKING

1. Should the company eliminate the "Monthly" subscription option to reduce churn?

   > Company should definitely stick with the monthly subscription plan. A ton of customers sign up for the service specifically because they see this option as super flexible and freeing. Being able to cancel without a long-term commitment is a big plus and really encourages people to try us out.

2. Based on the data, what type of loyalty program would you design for high-session users?

   > Every year, they get one free buddy pass. Plus, while the people they refer get a little money off, they actually get a really good discount themselves.

3. If you could offer a discount to one group to save them, who would it be?

   > Giving a discount for the monthly subscription is probably a good way to keep customers around.

4. Propose a strategy to increase `TotalSessions` for new customers in their first month.

   > How about setting an attendance target? If participants hit the required number of sessions, they'll snag a discount. Plus, let's try a referral bonus: if a current participant gets a friend to sign up, both will get a discount once the friend enrolls—win-win!