Project Brief: StreamFlow Churn Intervention Analysis

Context

You are a Lead Analyst for **StreamFlow**, a video streaming service. The primary business challenge is **subscriber churn** (cancellations). The executive team believes they are losing too many customers who never truly engage with the service.
Your analysis must focus on the **first week** of a customer's subscription, as this is hypothesized to be the make-or-break period for long-term retention.

The Business Objective

Identify the minimum required level of user engagement in the **first 7 days** that predicts long-term retention, and then recommend a targeted, cost-effective intervention based on that finding.

Dataset

You are provided with a synthetic dataset (streamflow_sample_data.csv) containing 50 users. The key variables are:
- UserID: Unique user identifier.
- Initial_Watch_Hours_7_Days: Total hours watched by the user in their first 7 days.
- Content_Genre: The primary genre the user started watching (e.g., Action, Comedy, Drama).
- Subscription_Length_Days: How long the user remained subscribed.
- Churned_YN: Whether the user cancelled (Y) or was retained (N).
- Region: The user's geographic location.

Your Analytical Task (The Core Finding)

Your analysis must answer this single question:
What is the "Engagement Threshold"? Find the minimum whole number of Initial_Watch_Hours_7_Days (e.g., 2 hours, 3 hours, 4 hours) where the **retention rate** jumps significantly above the baseline rate.
Example: If users who watch 2 hours churn at 80%, but users who watch 3 hours churn at only 20%, then **3 hours** is the Engagement Threshold.

Final Report Structure (Your Deliverable)

You must write a brief (max 300 words) report structured as follows. This is what you will submit for review:
1. **Conclusion First (The Inverted Pyramid):** State your main finding (The Engagement

Threshold) and the single, most critical recommendation immediately.
2. **Key Finding (The Proof):** State the retention rates for the group *below* the threshold versus the group *at/above* the threshold. This proves your case.
3. **Targeted Intervention:** Based on your finding, recommend a specific, cost-effective product intervention (a feature, an automated email, a UI change, etc.) aimed only at users who fall **below** the Engagement Threshold in their first 7 days.
4. **Success Metric:** Define the single Key Performance Indicator (KPI) you would use to measure if your recommended intervention is actually working.