FDE Take-Home Screening Assignment

Duration: 60–90 minutes total

Question 1 — Prompt Engineering / Reasoning

Context:

You're collaborating with a Customer Success Manager who aims to use AI to summarize customer account notes before their renewal meetings. The input consists of free-form notes written by multiple team members in the following format:

["Customer complained about onboarding delays in Q1. Loves the new analytics dashboard. Usage up 20%.",
"Renewal at risk if uptime issues continue. Asked for training on new workflows.",
"CFO mentioned they're evaluating competitors due to cost."]

Task:

Write a prompt (as if sending it to GPT-4 or GPT-5) that:

1. Produces a concise, executive-level summary (2–3 sentences).

2. Highlights risks, positive signals, and next steps.

3. Ensures consistent structure and tone across accounts.

Deliverables:

• The exact prompt text you would use.

• A brief (2–3 sentence) explanation describing your reasoning and structure choice.

Question 2 — SQL / Data Reasoning

Context:

You have access to a simplified database containing customer usage data with the following schema:

accounts(id, name, industry)
users(id, account_id, name, role)
usage_events(id, user_id, event_type, event_time)

renewals(account_id, renewal_date, renewal_status)

Task:

Write a SQL query to identify the top 5 accounts that show declining usage over the last two months compared to the previous two months (based on the count of *usage_events*).

For each account, return:

• Account name
• Total events in the last 60 days
• Total events in the previous 60 days
• Percent change

Deliverables:

• The SQL query
• A 1–2 sentence explanation describing your approach and any assumptions (e.g., date ranges, null handling, etc.).