## Pre-work/Setup

1. Data Setup – The synthetic\_store.xlsx file provided has 7 tables in it, store them as individual tables across mysql and postgres in your local. Intent is to house the data across platforms and across schemas. Don’t provide any primary key, foreign key relationships in the table.
2. Knowledge graph setup for GraphRAG – create a knowledge graph (using either graph db or even representative) to house information about the tables, column and table metadata, join relationships amongst them and connection details to each table.

## Types of Agents

1. Data Access Agent – This is going to use the above created knowledge graph to identify data elements required to answer a question and subsequently utilize a query push down platform (eg trino) OR fetch reqd information across different SQL platforms and stitch it together at run time and send the response back to LLM.
2. Customer Success Agent – enables a customer to place a new order, make changes to existing undelivered orders or accept eligible returns by doing database updates/deletes
3. Human Resources Agent – Helps across the org hierarchy provided with any potential escalations/questions and assigns it to the notice of the appropriate folks necessary depending on who’s asking the question, for eg: if a state manager asks a question and wants to escalate to LOB manager, the agent should identify the appropriate LOB manager who to escalate to and help the user formulate a mail for escalation and send it to the respective LOB manager.

## Types of Tools

1. Database access both read and write
2. Email
3. Text
4. Agent Workflow calling –:
   1. Check for return eligibility – product must be purchased in the last 30 days by the same customer and not been returned before, is in perfect condition -> if amount is within a certain limit trigger return -> call database writeback agent, confirm the return being entered -> human confirmation -> accept return -> ensure it shows back up in the available inventory -> send confirmation email to customer
   2. Check for return eligibility – product must be purchased in the last 30 days by the same customer and not been returned before, is in perfect condition -> if amount is more than a certain limit trigger return approval flow -> send email to customer asking for 2 business days time -> send email to customer success manager for approval -> wait to receive approval email, if no response then follow up by email, text, calendar invite -> if not approved send email to customer -> if approved then call database writeback agent, confirm the return being entered -> human confirmation -> accept return -> ensure it shows back up in the available inventory -> send confirmation email to customer