**AIM:** A system where multiple agents work to help student plan meals, nutrition and variety in limited options for hostel mess.

Agents used :

1. Menu **Analyzer**
   1. Input: Hostel mess menu photo (banner/poster).
   2. Uses OCR (e.g., pytesseract or Google Vision API free tier) to extract text from the image.
   3. Cleans and structures the menu (e.g., Breakfast, Lunch, Dinner).
2. **Nutrition** Agent
   1. Maps menu items to nutritional values (calories, protein, carbs).
   2. Detects deficiencies or imbalances (e.g., "low protein today", "too oily").
3. **Variety and Suggestion Agent**
   1. Tracks frequency of items (e.g., "Maggi repeated thrice this week").
   2. Suggests better combinations (fruit + oats + eggs) or alternatives (if available).
4. **Mood**/**Preference** **Agent** (**optional**)
   1. Takes student input like mood or preference ("I feel like something light", "Need high protein", "Want variety").
   2. Adjusts recommendations accordingly.
   3. Example: If user says "light dinner", it suggests fruit salad + curd rice instead of fried items

FlowChart On how it works:

Menu Analyzer:

User uploads image of mess menu or upload any data file

Nutrional Agent:

This agent gives all the nutrional values of the uploaded data

Variety or Suggestion Agent:

Checks monotany and gives combo of food.

Mood or preference Agent:

Gives menu according to the user’s Mood.

Tools and Stack Used:

1. OCR: pytesseract (free, works offline) or Hugging Face OCR models.
2. LangChain -> Orchestrating Agents.
3. StreamIt -> Simple UI for entering menu & showing results.
4. LLM -> Hugging face or any other free AI API’s
5. Optional -> can integrate a small nutrition dataset for calories/protein values on Indian Food