Take-Home Task: Grocery Chatbot

Build a simple chatbot that helps users find grocery items and compare prices between shops.
Think of it like a small version of Amazon Rufus or Google Shopping Chat — the user types of natural sentences,
and the bot replies with real data from your mock dataset.

What the Bot Should Do

1. Understand what the user wants.
    a. Examples:
        i. “show me shops with cheap Coke or Pepsi”
        ii. “which shop has vegan bagels?”
        iii. “find Subway sandwiches under £3”
        iv. “show me gluten-free items from ASDA”
    b. The bot should figure out:
        i. Product type (Coke, Pepsi, bagels, sandwich, etc.)
        ii. Price filters (cheap, under £2, below £5)
        iii. Shops or brands (ASDA, Tesco, Subway)
        iv. Special tags (vegan, gluten-free, low-fat, etc.)
2. Show products that match.
    a. The bot replies with:
        i. Product name
        ii. Price
        iii. Shop name
        iv. Optional image
        v. Short reason (e.g. “Cheapest Pepsi at ASDA, £1.25”)

If multiple shops sell it, show 2-3 cheapest options.

3. Keep track of the conversation.
    a. Example:
        i. User: “only Subway”
        Then says: “show me drinks under £3” → The bot should remember that the user meant Subway.
4. Work with mock data.
    a. Use simple JSON files like
        i. asda_bagels.json
        ii. subway_menu.json
    b. Each item should include:
        i. Name
        ii. Brand
        iii. Price
        iv. vendor (shop name)
        v. category

vi. Optional tags (vegan, gluten-free, low-fat)
- Optional calories (if food)

How the Bot Works

- You can build it with React, Node.js, or any framework you like.
- It can be just text-based (no fancy design needed).
- It should read from your JSON data and respond based on what the user asks.
- You can use simple rules or real AI to understand text.

Optional: Use AI (extra credit)

If you want, you can plug in a small AI model (like OpenAI, Ollama, or local model) to understand user text better.

Example:
User → “what’s the best cheap drink from Subway”
AI → category: "drink", vendor: "Subway", budget: "cheap"

Then your bot filters and shows results.

If AI is not used, you can do this with simple string or regex logic.

What You Need to Deliver

1. A working chatbot (even text-only) that can:
   - Read user text
   - Understand what they want
   - Show results from mock data
   - Remember basic context

2. A README file explaining how to run it.
3. Example JSON data (ASDA + Subway).
4. Optional: add real AI to make it smarter.

Test Cases

1. “show me shops with cheap Coke or Pepsi” → Shows 2-3 shops with Coke or Pepsi prices (sorted by cheapest).
2. “find vegan bagels” → Shows ASDA bagels marked vegan.
3. “only Subway” → “drinks under £3” → Shows Subway drinks below £3.
4. “reset” → Clears memory (starts new search).

What to Submit

- Your project folder or GitHub repo.
- Example JSON data (ASDA + Subway).
- README with steps to run it.
- If AI is used, mention which model or API key is needed.