Answer to requirement 1:
I reviewed the data and designed a relational database schema. I used tools like jq to inspect the files and identify the key fields and relationships.

Analysis of JSON Data
The JSON data files contain information about receipts, users, and brands.
- Receipts data includes details like receipt ID, user ID, purchase date, total spent, rewards status, and a list of items purchased.
- Users data includes user ID, state, creation date, last login, role, and active status.
- Brands data includes brand ID, barcode, brand code, category, and other brand-related information.

Proposed Relational Data Model
To represent this data in a relational database, I propose the following schema:

Tables:
- Users
- Receipts
- RewardsReceiptItems
- Brands

Based on the data review, I considered the following factors:
- Normalization: I aimed to reduce data redundancy and improve data integrity.
- Data types: I chose appropriate data types for each column based on the values in the JSON files.
- Relationships: I established relationships between tables using foreign keys to ensure data consistency.

I am using PostgreSQL for this exercise

USERS TABLE

Column	Data Type	Constraints
user_id	VARCHAR(255)	PRIMARY KEY
state	VARCHAR(255)	
createdDate	DATETIME	
lastLogin	DATETIME	
role	VARCHAR(255)	
active	BOOLEAN	

RECEIPTS TABLE

Column	Data Type	Constraints
receipt_id	VARCHAR(255)	PRIMARY KEY
user_id	VARCHAR(255)	FOREIGN KEY REFERENCING USERS(USER_ID)
bonusPointsEarned	INTEGER	
bonusPointsEarnedReason	VARCHAR(255)	
createDate	DATETIME	
dateScanned	DATETIME	
finishedDate	DATETIME	
modifyDate	DATETIME	
pointsAwardedDate	DATETIME	
pointsEarned	DECIMAL	
purchaseDate	DATETIME	
purchasedItemCount	INTEGER	
rewardsReceiptStatus	VARCHAR(255)	
totalSpent	DECIMAL	

RewardsReceiptItems Table

Column	Data Type	Constraints
item_id	VARCHAR(255)	PRIMARY KEY
receipt_id	VARCHAR(255)	FOREIGN KEY referencing Receipts(receipt_id)
barcode	VARCHAR(255)	
description	TEXT	
finalPrice	DECIMAL	
itemPrice	DECIMAL	
quantityPurchased	INTEGER	
needsFetchReview	BOOLEAN	

BRANDS TABLE

Column	Data Type	Constraints
brand_id	VARCHAR(255)	PRIMARY KEY
barcode	VARCHAR(255)	
brandCode	VARCHAR(255)	
category	VARCHAR(255)	
categoryCode	VARCHAR(255)	
name	VARCHAR(255)	
topBrand	BOOLEAN	