🏫 1. School Management System

Task for Students

Write a requirement specification describing how a school manages information about students, teachers, classes, and subjects.

Guiding Questions

1. Who are the main actors or things the school keeps data about?
2. What information should we store for each student? (e.g., name, ID, grade, etc.)
3. What information should we store for each teacher?
4. How are students assigned to classes?
5. How do teachers connect to the classes and subjects they teach?
6. Can a teacher teach more than one subject or class?
7. What relationships link students, teachers, and subjects?

scenario

A school wants to manage information about students, teachers, classes, and subjects. Each student has a unique student ID, full name, date of birth, guardian contact details, and current grade level. Each teacher has a unique teacher ID, full name, email, phone number, and subject specialty. Each class has a class code, grade level, and a designated homeroom teacher, building number, floor number, and number of students. Each subject has a subject code, name, and grade level for which it is taught.

A student belongs to one class each academic year, and a class can have many students. Teachers teach subjects to classes, and a teacher can teach multiple subjects or multiple classes.
A subject can be taught in multiple classes and by different teachers. The system must also record which teacher teaches which subject in which class for each academic year and term.

The system will help the school efficiently manage academic records, class assignments, and teaching activities to ensure accurate and organized data management across all academic levels.

🏦 2. Bank Management System

Task for Students

Write a requirement specification describing how a bank keeps track of customers, accounts, and transactions.

Guiding Questions

1. What are the main things the bank needs to store information about?
2. What details identify a customer uniquely?
3. What types of accounts might exist (e.g., savings, checking)?
4. What information should be stored about an account (e.g., account number, balance, type)?
5. What kind of information does each transaction need (e.g., amount, date, type)?
6. Can a customer have more than one account?
7. Can an account have multiple transactions?
8. How do you describe the relationship between customers, accounts, and transactions?

scenario

A bank wants to manage information about customers, their accounts, and the transactions they perform. Each customer has a unique customer ID, full name, national ID number, address, phone number, email, and date of birth. Each account has a unique account number, account type (such as savings or checking), opening date, and current balance. Transactions record all financial activities related to each account, including deposits, withdrawals, and transfers. Each transaction has a transaction ID, date, amount, transaction type, and description.

A customer can have multiple accounts, and each account belongs to one customer. Each account can have many transactions, but every transaction must be linked to a single account.
The system must maintain accurate records of all customer information, account balances, and transaction histories.

The system will help the bank efficiently manage customer profiles, account operations, and financial transactions to ensure accuracy, security, and smooth banking operations.

🚚 3. Delivery Service System

Task for Students

Write a requirement specification for a delivery company that manages packages, drivers, and customers.

Guiding Questions

1. What main entities are involved (e.g., package, customer, driver)?
2. What data should be recorded for each package (e.g., weight, delivery address, status)?
3. What data should be recorded for each customer (e.g., name, contact info)?
4. What data should be recorded for each driver (e.g., ID, name, vehicle)?
5. Can a driver deliver multiple packages?
6. Can a customer send multiple packages?
7. How will deliveries be tracked (e.g., delivery date, time, status)?
8. What are the relationships between customer, package, and driver?

scenario

A delivery company wants to manage information about customers, packages, and drivers. Each customer has a unique customer ID, full name, phone number, email address, and pickup or delivery address. Each package has a unique package ID, weight, dimensions, pickup location, delivery address, delivery date, delivery time, and current status (such as pending, in transit, or delivered). Each driver has a unique driver ID, full name, phone number, vehicle type, vehicle plate number, and delivery region.

A customer can send multiple packages, and each package is associated with one customer. A driver can deliver multiple packages, but each package is assigned to only one driver at a time.
The system must also record delivery tracking details, including the assigned driver, delivery date, time, and current delivery status.

The system will help the company efficiently manage package deliveries, customer information, and driver assignments to ensure timely and accurate service for all deliveries.

💊 4. Pharmacy Management System

Task for Students

Write a requirement specification describing how a pharmacy manages medicines, customers, and sales.

Guiding Questions

1. What are the main entities in a pharmacy (e.g., medicine, customer, pharmacist, sale)?
2. What information is important to record for each medicine (e.g., name, price, expiry date, quantity)?
3. What should be stored about customers?
4. How is a sale recorded — what details should it include (e.g., date, total cost)?
5. Can one sale include multiple medicines?
6. Can one medicine appear in many sales?
7. How do customers, medicines, and sales connect to each other?

scenario

A pharmacy wants to manage information about medicines, customers, and sales. Each medicine has a unique medicine ID (or barcode), name, generic/brand name, unit price, quantity in stock, expiry date, batch/lot number, and supplier. Each customer has a unique customer ID, full name, phone number, and (optional) address. Each sale has a unique sale ID (invoice number), sale date and time, payment method, subtotal/discount/tax (if applicable), and total amount.

A customer can make multiple purchases, and each sale is associated with one customer. A single sale can include multiple medicines, and the same medicine can appear in many different sales.
The system must also record sale line items (medicine, quantity, unit price, line total) and update stock levels, preventing sales of expired or out-of-stock items.

The system will help the pharmacy efficiently manage inventory, customer information, and sales operations to ensure accurate records and safe, reliable service.