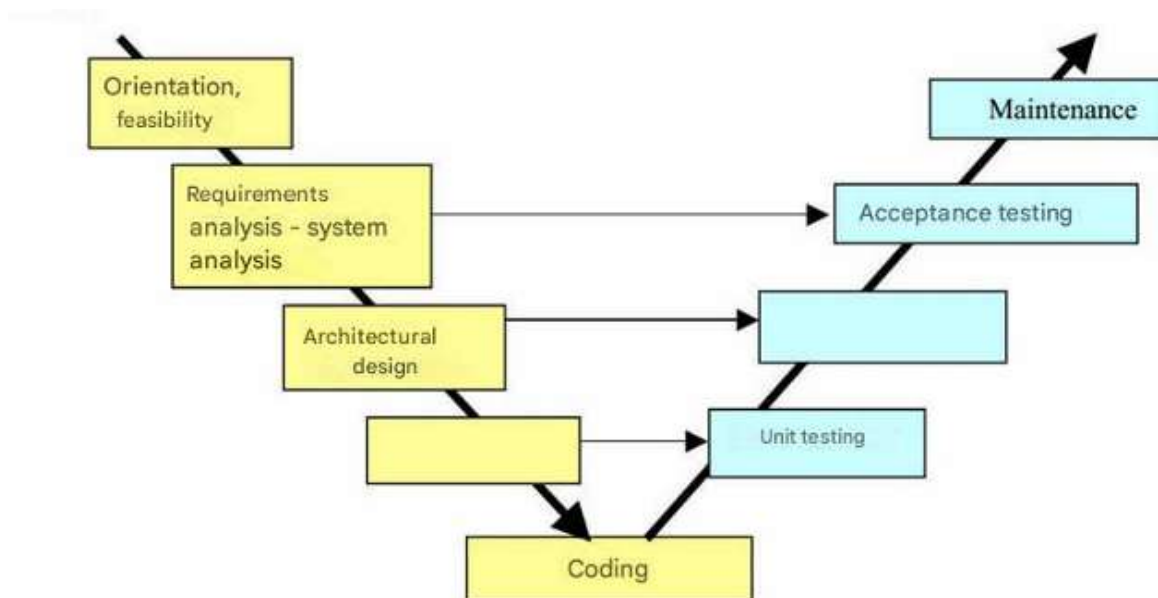


Exercise 1: In the V-shaped software development life cycle, fill in the two empty boxes. What is the meaning of the horizontal arrows?



Exercise 2: For the software development life cycle, indicate in which phase(s) each of the following documents is typically produced:

End-user manual, Architectural design, Quality insurance plan, Module specification, Source code, Specifications, Test plan, Preliminary user manual, Detailed design, Cost estimation, Project schedule, Test report, Documentation

Exercise 3: When a new vehicle is purchased, the fleet manager registers it by adding the vehicle to the company's fleet. The fleet manager can delete a vehicle from the fleet list if it is sold, and can also modify or view vehicle details. The asset service manager and the structure manager (director) are also authorized to view vehicle information.

1. **Draw the use case diagram.**
2. **Textual description of the following use cases:**
Use Case: Authenticate
Use Case: Add Vehicle

Exercise 4: The standard process for using a cash register is as follows:

1. A customer arrives at the checkout with items to purchase.
2. The cashier scans the ID number for each item. If the quantity of an item is greater than 1, the cashier also enters the quantity.
3. For each item, the register displays its description and price.
4. After all items are recorded, the cashier indicates the end of the sale.
5. The register calculates and displays the total amount due.
6. The customer selects a payment method:
 - **Cash:** The cashier collects the cash payment. The register calculates and indicates the change to be given to the customer.
 - **Check:** The cashier records the customer's ID. The register records the check amount.
 - **Credit Card:** The integrated banking terminal transmits the authorization request to a multi-bank authorization center.
7. Upon successful payment, the register records the complete sale and prints a receipt.
8. The cashier gives the printed receipt to the customer.
9. A customer may present discount coupons before the payment step is finalized.

Once payment is completed, the register sends the sold item information to the inventory management system. Every morning, the store manager initializes the registers for the day's operations.

Question 1: Provide a use case diagram for the cash register.

Question 2: Provide a textual description of the "Process Payment" use case.