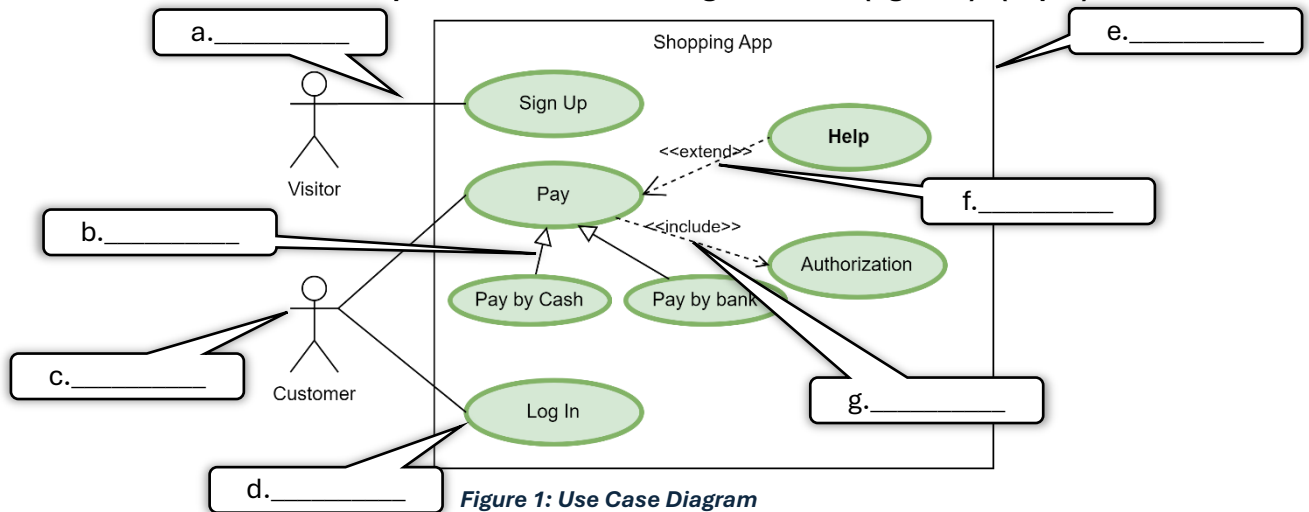Name: _____

Group: _____

Quiz 01

Software Engineering (2025-2026)

Max score is 100 points.

Time limit is 60 minutes. Read the requirements listed Requirements section and then, answer the questions below:

1. **What is Software Engineering? Describe at least 3 reasons for existence of Software Engineering subject. (8pts)**
2. **Describe the 4+1 architectural view model? (8pts)**
3. **Name each component of Use Case Diagram below (figure 1)? (14pts)**

a._____

e._____

Shopping App

Sign Up

Help

<<extend>>

Visitor

Pay

f._____

b._____

<<include>>

Authorization

Pay by Cash   Pay by bank

Customer

c._____

g._____

Log In

d._____

Figure 1: Use Case Diagram

4. **Draw an Activity Diagram of the Shopping App business logic (process of buying)? (20pts)**

5. **Draw a Use Case Diagram of the Shopping App? (20pts)**

6. **Draw a Class Diagram of the Shopping App? (20pts)**

7. **List down the components of UML Activity Diagram? (5pts)**

8. **List down the components of UML Class Diagram? (5pts)**

9. **List down the components of UML ER Diagram? (5pts)**

10. **List down the components of UML Sequence Diagram? (5pts)**

Requirements

Suppose that you are given a Shopping Web Application (in short **Shopping App**) project with the following scenario:

"A customer visits an online shopping website to purchase clothing and accessories. The user journey outlines key interactions, such as browsing products, adding them to a cart, checking out, and receiving an order confirmation."

Some requirements listed below as user journey:

R01-Landing Page: The user lands on the homepage that lists featured products, offers, and navigation to categories.

Actions: The user browses categories and clicks on "Women's Clothing."

R02-Browsing Products: The user is taken to the "Women's Clothing" category page, where various product listings are displayed with thumbnails, names, and prices. Each product has filters on the left (e.g., size, color, brand, price range) and sorting options (e.g., price low to high, newest first).

Actions: The user applies a filter to show only "Dresses" and sorts by "Price: Low to High.". Then, user click on a product that catches their eyes.

R03-Product Detail Page: The user is directed to the product detail page, where they can see a larger image, detailed product description, available sizes, and color options, an "Add to Cart" button and an option to select the size and color.

Actions: The user selects their preferred size (Medium) and color (Red), then clicks "Add to Cart."

R04-Checkout Process: The user is prompted to log in or create an account if they haven't already. The user enters their shipping information (name, address, phone number) and selects a shipping method. The user is presented with payment options (Bank payment or Cash payment) and enters payment details.

Actions: The user enters the required information and proceeds to payment.

R05-Order Confirmation: After successful payment, the user is shown an order confirmation page with the order number, estimated delivery date, and a summary of the items purchased.

The user receives an email confirmation with their order details and tracking information.

Admin (Shop Owner) Actions:

R06-Product Management: The admin logs into the backend of the store to manage the inventory, add new products, update prices.

R07-Order Management: The admin reviews incoming customer orders, processes shipping, and updates the order status (e.g., "Shipped," "Delivered").

R08-Customer Support: The admin monitors customer inquiries and feedback and resolves any issues (e.g., product returns, refunds).

Good luck!!!