Capstone Project 1 – Part -2

Question. 1 – Audits

4 Quarterly Audits are planned Q1, Q2, Q3, and Q4 for this project what is your Knowledge on how these Audits will happen for a BA?

Answer: - Q1.

Stage	**Quarter 1 Audit Report (Requirement Gathering Phase) Week 01 to Week 15**
Completed	10 Weeks (Week 1 to Week 10)
Check list	
	BRD Template
	Elicitation result report
	Duplicate requirement report
	Grouping of functionalities/features client sign off
	Email Communication To, CC, BCC

Q2.

Stage	**Quarter 2 Audit Report (Requirement Analysis Phase) Week 16 to Week 29**
Completed	08 Weeks (Week 16 to Week 23)
Check list	
	UML Diagram
	Business to functional requirements mapping
	Client sign off documents
	RTM Document version control
	Email Communication To, CC, BCC

Q3.

Stage	**Quarter 3 Audit Report Design and Development (Week 30 to Week 59)**
Completed	25 Weeks (Week 31 to Week 55)
Check list	
	Requirement Clarification
	Tool Utilization
	Stakeholder communication in the form of MOM
	JAD Session report & BA co-ordination with developer and tester.
	Email Communication To, CC, BCC

Q4.

Stage	Quarter 4 Audit Report Testing & UAT (Week to Week 60 to Week 78)
Completed	15 Weeks (Week 60 to Week 74)
Check list	
	Test case summary
	Training report to end users
	UAT Feedback sheet and Bug Report
	UAT Sign off from client
	Email Communication To, CC, BCC

Question. 2 – BA Approach Strategy

Before the Project is going to Kick Start, The Committee asked Mr Karthik to submit BA Approach Strategy.

Write BA Approach strategy (As a business analyst, what are the steps that you would need to follow to complete a project – What Elicitation Techniques to apply, how to do Stakeholder Analysis RACI/ILS, What Documents to Write, What process to follow to Sign off on the Documents, How to take Approvals from the Client, What Communication Channels to establish n implement, How to Handle Change Requests, How to update the progress of the project to the Stakeholders, How to take signoff on the UAT- Client Project Acceptance Form)

Answer:-

I. **What Elicitation Techniques to apply.**

- a) Interviews
  b) Brainstorming Session
  c) Document Analysis
  d) Surveys/Questionnaires
  e) Observation

II. How to do Stakeholder Analysis RACI/ILS.

- RACI Stands for Responsible, Accountable, Consulted and Informed
  RACI helps defines the roles and responsibilities of each stakeholder across project activities.

RACI	Name of the Person	Designation
Responsible	Mr. Chetan	Business Analyst
	Ms. Juhi, Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo	Java Developer
	Mr. Jason and Ms. Alekya	Tester
Accountable	Mr. Vandanam	Project Managers
	Mr. Henry	Project Sponsor
Consulted	Mr. Kevin, Ben and Peter	Farmers
	Manufacturers	Product Supplier
	Mr. Jason and Ms. Alekya	Tester
Informed	Ms. Juhi, Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo	Java Developer
	Manufacturers	Product Supplier
	Mr. Kevin, Ben and Peter	Farmers

ILS: Influence, Legitimacy and Support

Stakeholder	Influence	Legitimacy	Support
Project Sponsor	High	High	High
User	Medium	Medium	Low
External vendor	Low	Medium	High

III. What Documents to Write.

- a) Business Case Document (BCD)
  b) Stakeholder list with RACI Matrix
  c) BA Approach Strategy
  d) Elicitation plan
  e) Business Requirement Document (BRD)
  d) Software Requirement Specification (SRS)
  e) Use case diagram and specifications
  f) Requirement Traceability Matrix (RTM)
  g) UAT plan and feedback sheet
  h) Change Request document
  i) Minutes of meetings (MOM)

IV. What Process to follow to Sign off on the documents.

- Share the documents with stakeholder, conducts review meeting, collect feedback, make necessary changes, and then send the final version for client sign-off via email.

V. How to take approval from the client.

- Share the documents with client.
  Explain key point in a short meeting and after feedback.
  Take approval through email confirmation.

VI. What Communication channels to establish and implement.

- Email: For formal communication, document sharing and approvals
  Zoom/Google meet: Virtual meeting and client review
  Phone calls: Urgent discussion and clarifications
  Minutes of meetings: Record decision, action point and follow ups.
  Whatsapp: Quick coordination and communication with internal team.

VII. How to handle change request.

- If any stakeholder request a change after the requirements are finalized, I will follow this change request process.

  Document the change in the change request register with details.
  Analyze the impact on scope, cost, timeline and documents.
  Discuss it with the project manager and development team.
  Update BRD/SRS and RTM if the change is approved.
  Get formal approval for the client to revised document.
  Inform all stakeholders and track the change implementation.

VIII. How to update the progress of the project to the stakeholders.

- **Weekly status report –** Shared through email with clear details on completed, on-going and pending task.
  Project dashboard – Showing percentage progress, timelines and upcoming miles.
  Regular review meetings – Conduct via Zoom/Google Meet or person to explain progress and resolve doubts.
  Minutes of meetings (MOM) – Confirm what was agreed or delay.
  Quick updates via Whatsapp – For coordination and daily updates with the internal team.

IX. How to take sign-off on the UAT (User Acceptance Test).

- I follow this step to take signoff on UAT
  - Conduct UAT session with client and explain all test cases.
  - After UAT session record the all feedback and ensure all issues are resolved.
  - Once the Client gives confirmation, I will share the UAT Sign off form.
  - Take approval through email as official confirmation of acceptance.
  - This sign off documents will be saved in the project file for future audits.

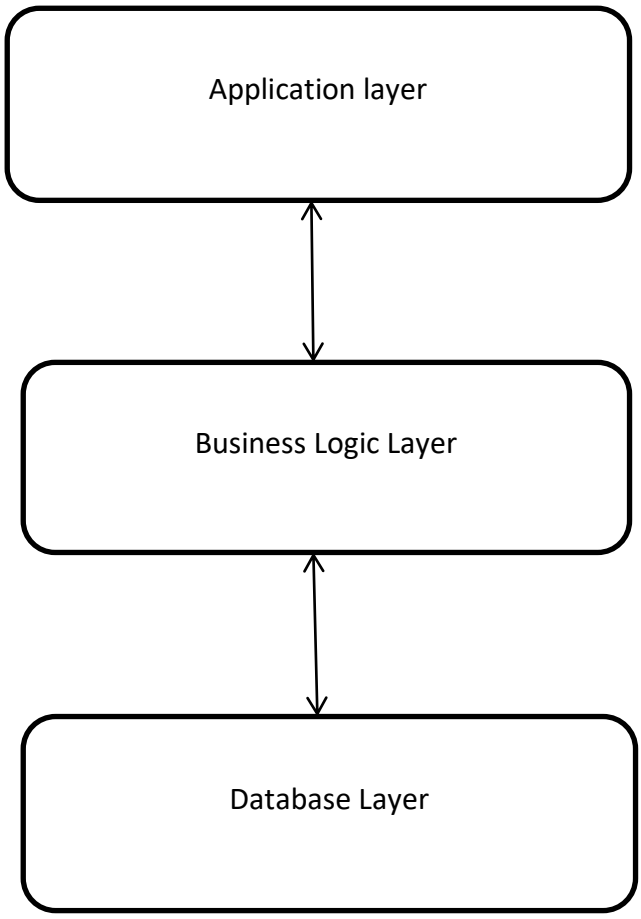
Question. 3 – 3 Tier Architecture.

Explain and illustrate 3 tier architecture?

Answer: This divides the application into 3 logical layers.

1. Application Layer (User Interface Layer)
   - This topmost layer of architecture is also known as Presentation Layer. Responsible for user interaction. It includes all elements the user interacts with screens, forms and buttons. The main task of this layer is to accept input from the user and display the output.
     Example: Web or Mobile App where farmers can view products, place order.

2. Business Logic Layer (Middle Layer)
   - This is the main part of the system that handles all the behind the scenes work.
     It works like a bridge between the User interface and Database. The user does not see this layer directly, but it is responsible for running of the logic of the system.
     Example: When a farmers places an order, this layer verifies stock, calculate price, applied discounts and process the order. Also product filtering and order status.
3. Database Layer (Data Tier)
   - This bottom layer is responsible for storing, retrieving, and managing the applications data. It contains the database serves where all permanent data is stored securely. (like User details, orders etc.)
     Example: Database tables for users, products, orders, payments and feedback



Question. 4 – BA Approach strategy for framing question.

Business Analyst should keep what points in his/her mind before he frames a question to ask to the stakeholder.
(5W 1H – SMART – RACI – 3 Tier Architecture – Use Case, use cases specs, Activity diagrams, Models, Page design)

Answer:

- **5W 1H (Who, What, When, Where, Why, How)**

Who – Who is the user/stakeholder involved?
What – What exactly is the requirement or features?
When – When should it happen or start working?
Where – Where will this app or feature be used by the user?
Why – Why is it needed?

How – How will the user interact with the system?

- **Align questions with SMART Principles.**

Specific – What exactly do you want the system to do?
Measurable – How will we know this feature is working correctly?
Achievable – In this feature possible to build within current resources and time?
Relevant – How is this feature useful for the user or business goal?
Time Bond – When do you expect this feature to be completed and go live?

- **RACI Matrix**

Responsible: The Person who actually does the work.

Accountable: The person who takes final ownership and signs off.

Consulted: The person who gives input or advice.

Informed: The person who needs updates but doesn't actively participate.

- **Three Tier Architecture**

Presentation Tier (UI Layer/HTML,CSS): This the what user sees and Interacts with.

Application Tier (Business Logic Layer): This is the middle layer that handles the all the processing, decision and rules.

Data Tier (Database): This layers stores all the data like user info, product and orders, etc.

- **Use Cases and Use Case Specifications**

Use Cases: A Use Case describes how user interacts with the system to complete a task. It shows the user goals and the step involved.

Use Case Specification: A Use case specification gives detailed steps of the use case. It includes the Actor, Preconditions, mains step, Alternate flow and postconditions.

- **Activity Diagram**
  An Activity Diagram shows the flow of actions or step in process from start to end. It helps how a user or system will move through a task.
  Ex.: In Agriculture product an Activity Diagram for Place Order steps like.
  Log In → Search Product → Add to Card → Make Payment → Get Order Confirmation
  The diagram is useful for visualizing the logic and explaining the process to non-technical stakeholder.

  Models
  A Model is a Visual or structured way to represent how a system works.
- **Page Design**
  Basic Wireframes and Mock Screens. This helps stakeholders visualize the system even before development starts.

Question. 5 – Elicitation Technique
As a Business Analyst, What Elicitation Techniques you are aware of? (BDRFOWJIPQU)

Answer:

- **Brainstorming:** A group of people share ideas freely to find new solutions or features. It's useful in the beginning to collect different thoughts and understand what users really want.
- **Document Analysis:** We study old reports, forms, or documents to understand how the system currently works. It helps find what needs to change or improve.
- **Reverse Engineering:** Used when no documents exist. We check the current system and try to understand how it works so we can write down the requirements.
- **Focus Group:** A few users sit together and talk about their needs or problems. This helps to know what they expect from the new system.
- **Observation:** We watch users doing their real work to understand what they do daily. It shows what problems they face and what can be improved.
- **Workshops:** A group meeting where everyone shares ideas and discusses what is needed. It helps to quickly agree on the requirements.
- **JAD (Joint Application Development):** JAD is a structured workshop where business users, developers, and analysts come together to discuss and finalize requirements.
- **Interviews:** We ask questions directly to users or experts to understand what they want. It helps get detailed information about their needs.
- **Prototyping:** We make simple screen designs or models of the system so users can see and suggest changes. This clears confusion about how the final product should look.
- **Questionnaire:** A set of written questions sent to many people to get their input. It saves time but may need follow-up for more details.

- **Use Case Analysis:** We write step-by-step how a user will use the system to do a task. This helps understand the system's features and flow.

Question. 6 – This Project Elicitation Technique.
Which Elicitation Techniques can be used in this Project and Justify your selection of Elicitation Techniques?
Prototyping
Use case Specs
Document Analysis
Brainstorming

Answer: To Gather the requirement effectively for Online Agriculture Product Store Project, the following elicitation techniques can be applied.

- **Prototyping:** Prototyping is used to create basic screen layouts for the application such as Login page, Home Page, Product Listing and Cart. These Visually samples help users like farmers to understand how system will look and function before development begins.
  In Online Agriculture Product Store, prototyping is useful because it allows farmers to visualize features like Search filter, buy now buttons, product images and payment options. It becomes easier for them to share feedback based on what they see. This ensures that the final system is easy to use and matches user expectations.

  Use Case Specification: Use Case Specification is detailed document that explain how a user interacts with the system (like. Online Agriculture Product Store) to complete specific task. It includes information Actor, Preconditions, and postconditions.
  In project help define task like 'Place order' Use Case the steps include selecting a product and adding it in cart, select payment method and confirms the order.
  These documents are useful for clearly understand what the system should do.

  Document Analysis: Document Analysis means going through any existing documents to understand the current process or system. It helps get a clear idea before talking to stakeholders. In this project things like old product list, farmer registration forms, or past order records can be checked. This gives an idea of what is already working and what problems farmers might be facing. It also helps in finding missing parts so better questions asked during meetings. This method useful because it saves time, gives background knowledge and helps in preparing clear requirements.

  Brainstorming: Brainstorming is a group discussion technique used to collect ideas, suggestions and solutions from different people at once. It helps in exploring multiple options quickly. Brainstorming is very useful in this project because both the farmers and client will share their thoughts. This helps generate ideas about what features are needed and how they should work in the real system.

Question. 10 – 10 Business Requirements

Make suitable Assumptions and identify at least 10 Business Requirements.

Answer:

Assumptions for the project:

1. Farmers and manufacturers will have access to smartphones to use the mobile application.
2. Internet connectivity will be available in most areas where the app is expected to be used.
3. Users (especially farmers) will be familiar with basic app usage like browsing, clicking and scrolling.
4. The client will be available to review documents and give feedback on time during the project.
5. Product details such as price, quantity and images will be provided accurately by the manufacturers.
6. Delivery address and contact details entered by farmers will be correct and verifiable.
7. Payments gateway like UPI or Debit/Credit will be functional and smoothly.
8. The language used in the app will be simple and understandable for rural users.
9. The platform will also include a support/help feature for users who face technical issues.
10. Admin users will have full access to manage users, products and order through a secure dashboard.

Business Requirements:

BR001: The system should have allow farmers and manufacturers to register with basic details like name, mobile number, email ID and location.
BR002: Manufacturer should be able to upload and manage product details including name, price, category and image.
BR003: Farmers should be able to search products using keywords and filter by category, price and availability.
BR004: The system must allow farmers to place orders and receive order confirmation.
BR005: The platform should support secure online payment methods (UPI, Card or Cash on delivery)
BR006: Farmers should be able to view the status of their order (Pending, Shipped, Deliver)
BR007: Farmer should have the option to rate products and provide feedback to help improve service.
BR008: The app should support multi-languages for easy understanding.
BR009: Admin should have a dashboard to manage users, view orders, and generate reports.
BR010: The system should send notifications for order confirmation, dispatch and delivery updates via SMS or email.

Question. 8 Assumptions

List your assumptions

Answer:

1. **Multi-platform Access:** The platform will be available on both mobile and web, users (farmer/manufacturers) will have access to either smartphones or computer/laptop.
2. **Internet Access:** It is expected that internet access will be available in most of the location where farmers and manufacturers are using the platform.
3. **Basic Knowledge:** Users are assumed to know basic actions like clicking, filling form,, using buttons or browsing whether on phone or computer.
4. **Manufacturers will upload correct product details:** The system depends on correct data like product name, price, image and stock. This information will be added properly by the manufacturers.
5. **Valid Contact and address details:** While placing an order. Farmers will enter correct delivery address and phone numbers.
6. **Payment Methods:** The online payment system works smoothly with UPI, Cards and wallet options integrated.
7. **Logistics:** Delivery services manage through third party logistics providers.
8. **Customer Support:** A helpdesk feature will available to assist farmers with any technical issues. Inquiries they may have regarding the application or their orders.
9. **Notifications:** The system sends timely notifications to users (via SMS or email) for order confirmation. Dispatch updates and delivery status.
10. **Security:** The platform follows proper security measures to protect user data, payment details, and login credentials on both mobile and web versions.

Question. 9 – This Project Requirements Priority.

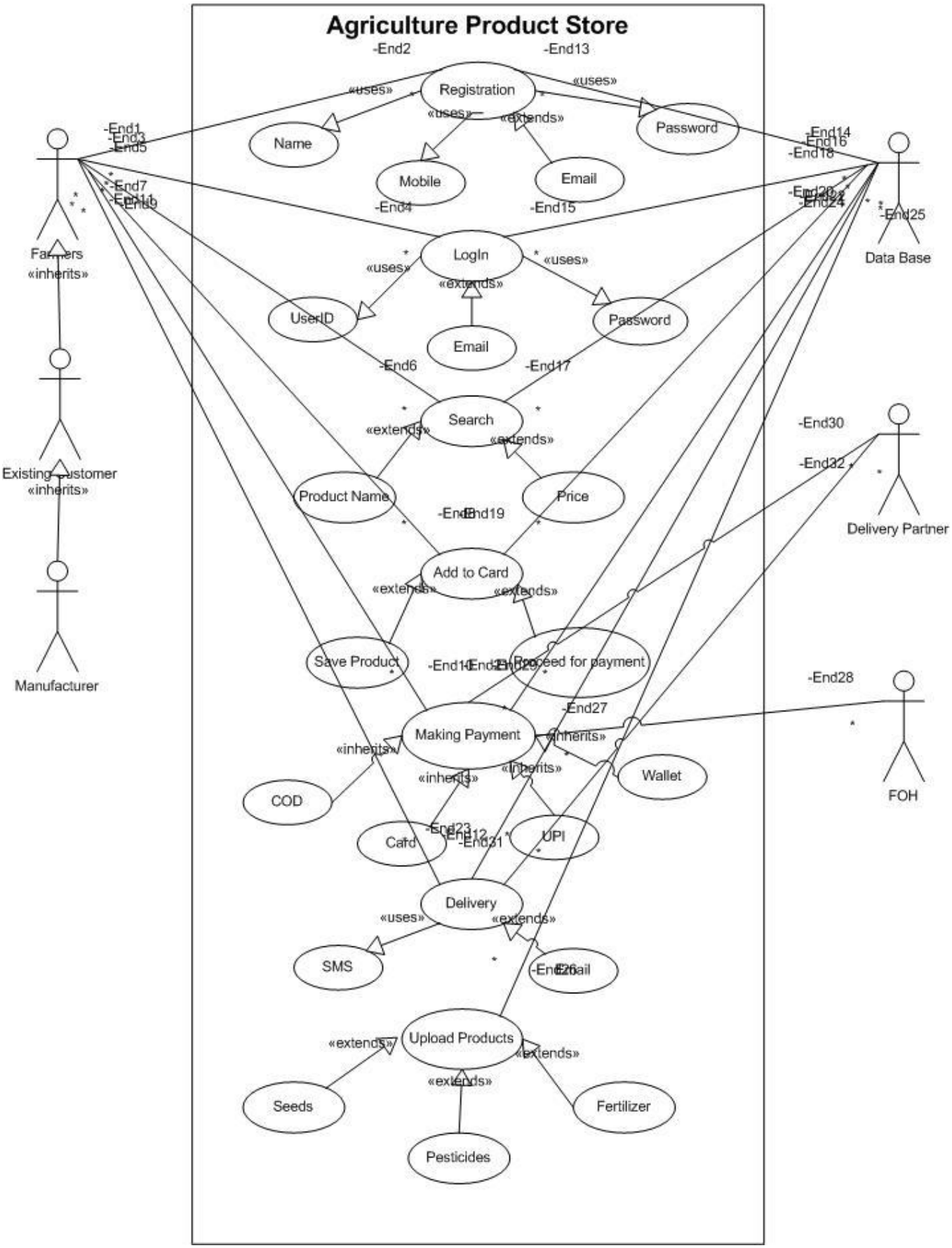
Give Priority 1 to 10 numbers (1 being low priority – 10 being high priority) to these Requirements after discussions with the stakeholders

Answer:

Req. ID	Req. Name	Req. Description	Priority
BR001	Farmer Search For Product	Farmers should be able to search for available products in fertilizers, seeds and pesticides	8
BR002	Manufacturers Upload Their Products	Manufacturer should be able to upload and display their products in the application	8
BR003	User Registration	Farmers and manufactures must be able to register and create an account using mobile/email	10
BR004	Order Placement	Farmers should be able to place an order for selected products and receive order confirmation.	9
BR005	Online Payment	The system should support secure online payments methods like UPI, Debit/Credit card or Wallet	9
BR006	Multilanguage Support	The system should support English language by default and also provide regional language options so that farmers can easily use app and their queries can be handle without confusion.	6
BR007	Order Tracking	Farmers should be able to check the status of their orders (pending, shipped, delivered)	8
BR008	Notification	Unser should receive notifications for order updates, delivery and payment confirmation.	7
BR009	Feedback and Rating System	Farmers should able to give feedback and rate products after receiving their order.	5
BR010	Admin Dashboard	Admin should be able to manage users, approving products and view reports	8

Question. 10 – Use Case Diagram

Answer:



Question. 11 – Use Case Specifications

Answer:

Use Case ID	UC001
Use Case Name	Registration
Actors(s)	Farmers/Manufacturers
Descriptions	New farmer/manufacturer registers on the agriculture product platform. The registration allows the farmer to create an account and access platform.
Pre-condition	1) The user must have a valid mobile number and internet connection. 2) The app or web portal must be accessible.
Post-condition	1) A unique account is created for the farmer. 2) Login credentials (like username or mobile number and password/OTP) are stored securely.
Normal Flow (Basic)	1) The user opens the application or website. 2) Clicks on the “Register” or “Sign Up” button. 3) Enters required details like name, mobile number, address, and preferred language. 4) Verifies the mobile number through OTP. 5) Submits the registration form. 6) The system confirms successful registration and redirects to the login page.
Alternate Flow	1) If the OTP is incorrect, the system shows an error and asks to re-enter the correct OTP. 2) If required fields are missing, the system highlights them for correction.
Expectation	1) Internet not available or server error — the registration process is paused, and an error message is shown. 2) If mobile number already exists, user is prompted to log in instead of register.
Assumptions	1) Users understand basic smartphone or website usage. 2) System supports local/regional languages for better understanding.

Use Case ID	UC002
Use Case Name	Login
Actors(s)	Farmers/Manufacturers
Descriptions	Registered farmer/manufacturer logs into the agriculture product platform to access their account and use available features.
Pre-condition	1) The farmer must already be registered on the platform. 2) The user must have a valid mobile number and internet access.
Post-condition	The user is successfully logged in and redirected to the dashboard or homepage.
Normal Flow (Basic)	1) The user opens the app or website. 2) Clicks on the “Login” button. 3) Enters the registered mobile number and password. 4) The user is taken to the home/dashboard screen.
Alternate Flow	If the mobile number is not registered, the system suggests registration.
Expectation	Server not responding — user gets a "Try again later" message.
Assumptions	The system allows login using only verified mobile numbers.

Use Case ID	UC003
Use Case Name	Search
Actors(s)	Farmers
Descriptions	Farmer searches for agricultural products using keywords, categories, or filters within the app or website. This helps users quickly find what they are looking for, such as seeds, fertilizers and pesticides.
Pre-condition	1) User must have access to the app or web platform. 2) The product catalog must be updated in the system.
Post-condition	1) The user is shown a list of products matching the search query or filter. 2) User may proceed to view details or add products to cart.
Normal Flow (Basic)	1) The user logs into the system. 2) Navigates to the “Search” bar on the homepage. 3) Enters a product name, category, or keyword 4) System fetches relevant products from the database. 5) Displays the product list with images, names, and prices. 6) User may click on a product to see more details or filter results further.
Alternate Flow	1) If the user enters a misspelled or invalid search term, the system shows “No results found” with suggestions. 2) User may filter by price, brand, or rating to narrow results.
Expectation	If the product is out of stock, it appears as unavailable.
Assumptions	1) The user is familiar with basic search functionality. 2) Product names and keywords are correctly tagged in the system.

Use Case ID	UC004
Use Case Name	Add to cart
Actors(s)	Farmers
Descriptions	Farmer adds a selected product to the shopping cart before placing an order. The cart temporarily holds products the user wants to purchase.
Pre-condition	1) User is logged in to the app or website. 2) Product catalog is available and products are in stock.
Post-condition	1) The selected product is added to the user's cart. 2) The cart is updated with the latest product details and quantity.
Normal Flow (Basic)	1) The user searches and selects a product from the product list. 2) Views the product details such as price, quantity, and availability. 3) Clicks on the "Add to Cart" button. 4) The product is added to the shopping cart. 5) The user can continue shopping or go to the cart to proceed with the order.
Alternate Flow	If the user wants to remove or change quantity, they can update it from the cart.
Expectation	If the product is out of stock, the "Add to Cart" option is disabled.
Assumptions	1) User can access the cart anytime before placing an order. 2) Product pricing and availability are current.

Use Case ID	UC005
Use Case Name	Making Payment
Actors(s)	Farmers
Descriptions	Farmer completes the payment process after placing an order. The system offers different payment options like UPI, debit/credit card, net banking, or cash on delivery (COD).
Pre-condition	1) The user must have items added to the cart and must proceed to checkout. 2) Internet connection should be active for online payment options.
Post-condition	1) The payment is completed successfully, and an order confirmation is generated. 2) A receipt or payment confirmation is shared with the user.
Normal Flow (Basic)	1) The user reviews their order and clicks on "Proceed to Payment." 2) Selects a preferred payment method (e.g., UPI, card, or COD). 3) Completes the transaction securely. 4) A confirmation email or SMS is sent to the user.
Alternate Flow	1) If the user selects COD, no online payment is required — order is placed directly. 2) If payment fails, the user is shown an error and asked to retry with the same or different method.
Expectation	1) Payment gateway timeout or internet failure may interrupt the process 2) Bank/server issues may delay confirmation.
Assumptions	1) Users know how to use online payment systems. 2) All transaction data is encrypted and safely handled.

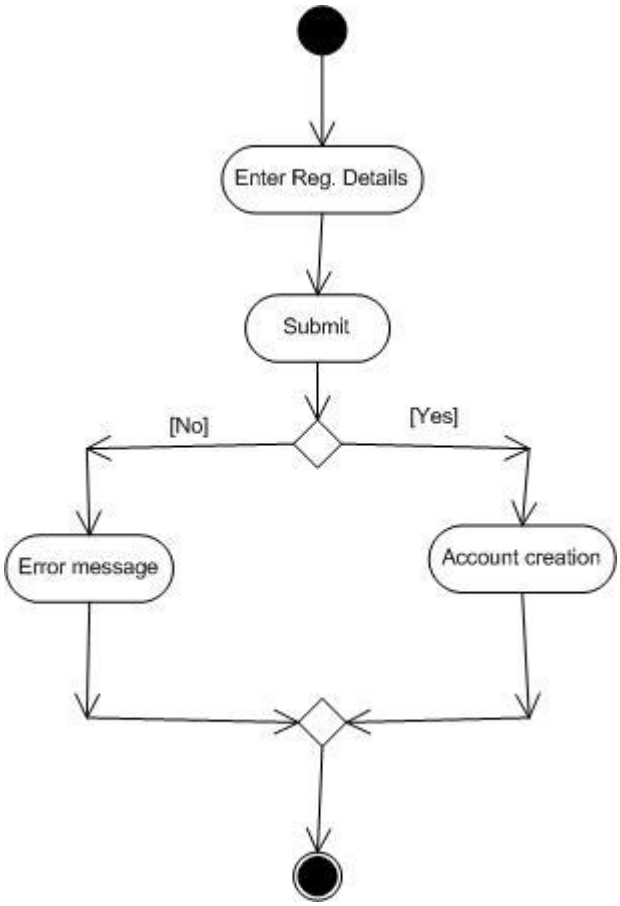
Use Case ID	UC006
Use Case Name	Delivery
Actors(s)	Farmers
Descriptions	Ordered product is delivered to the farmer or customer after successful payment and order confirmation. It includes tracking, dispatch, and final delivery steps.
Pre-condition	1) The user has successfully placed and paid for the order (or selected COD). 2) The delivery address is valid and serviceable.
Post-condition	1) The product is delivered to the user. 2) Order status is updated as “Delivered” in the system.
Normal Flow (Basic)	1) The user places an order and receives a confirmation. 2) The seller or system processes the order and marks it ready for dispatch. 3) The delivery partner picks up the package. 4) The user receives tracking updates through SMS or app notification. 5) The product is delivered to the user’s address. 6) The delivery is marked complete in the system, and the user is notified.
Alternate Flow	1) If the user is not available at the delivery time, re-delivery is scheduled. 2) If the address is incomplete, the delivery team contacts the user.
Expectation	1) Delivery may be delayed due to bad weather, system issues, or courier problems. 2) The product may be returned if the address is unreachable.
Assumptions	1) Users receive live updates of the delivery. 2) Products are packed securely and arrive in good condition.

Use Case ID	UC007
Use Case Name	Upload Product
Actors(s)	Manufacturers
Descriptions	Authorized seller uploads new agricultural products (e.g., seeds, fertilizers, pesticides) to the system so that farmers can view and purchase them through the app or website.
Pre-condition	1) The seller must be logged into the system with proper access rights. 2) Product details such as name, category, price, stock, and image should be ready.
Post-condition	1) The new product is successfully added to the product catalog. 2) It becomes visible to customers for search and purchase.
Normal Flow (Basic)	1) The manufacturer/seller logs into the dashboard. 2) Clicks on “Add Product” or “Upload Product.” 3) Enters product details: name, category, price, quantity, description, and uploads an image. 4) Submits the form. 5) System validates the input and saves the product. 6) Confirmation message is shown, and product is listed in the catalog.
Alternate Flow	1) If any required field is missing, the system shows a validation message.
Expectation	1) If the system is down, product upload fails and an error is shown 2) If duplicate product is detected, the admin is alerted.
Assumptions	1) Admin knows what product details are needed. 2) Uploaded products are reviewed (if needed) before going live.

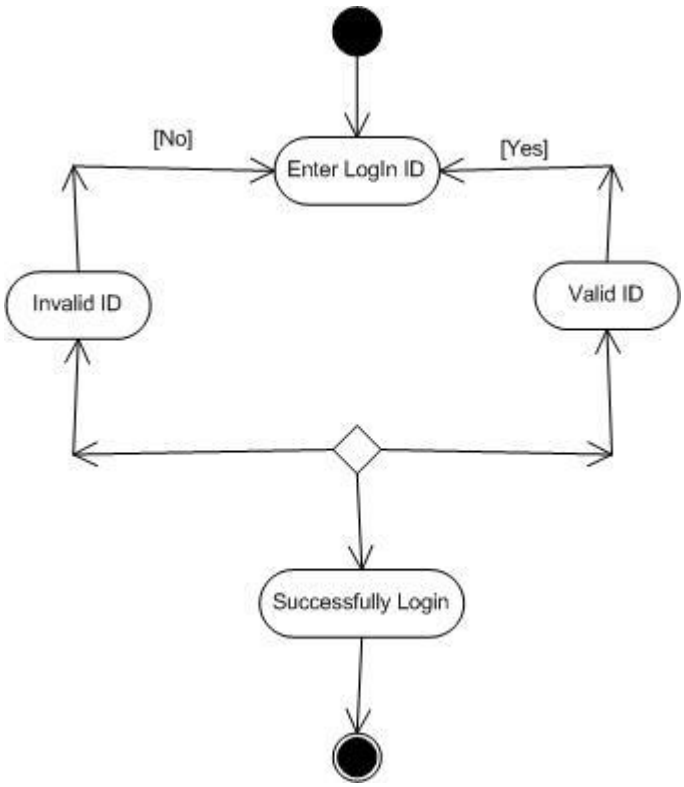
Question. 12 – Activity diagram.

Answer:

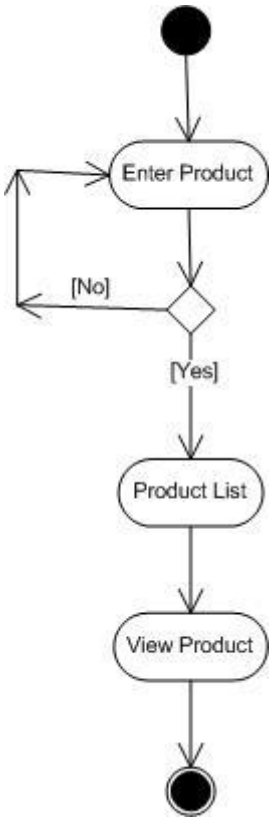
Registration:



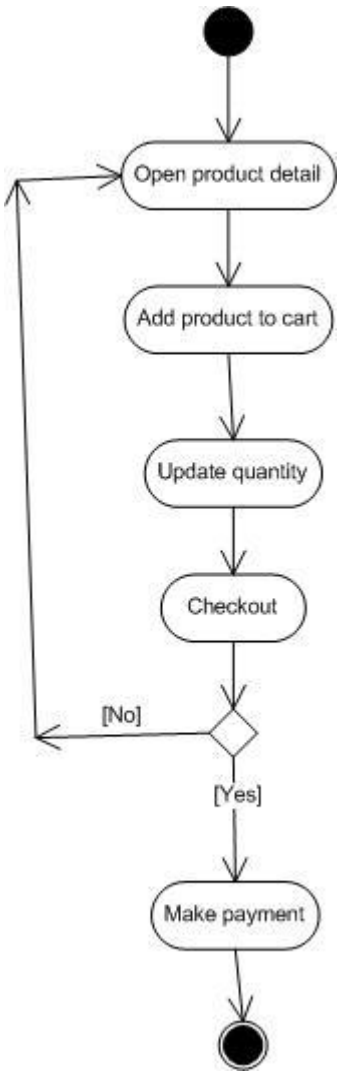
LogIn:



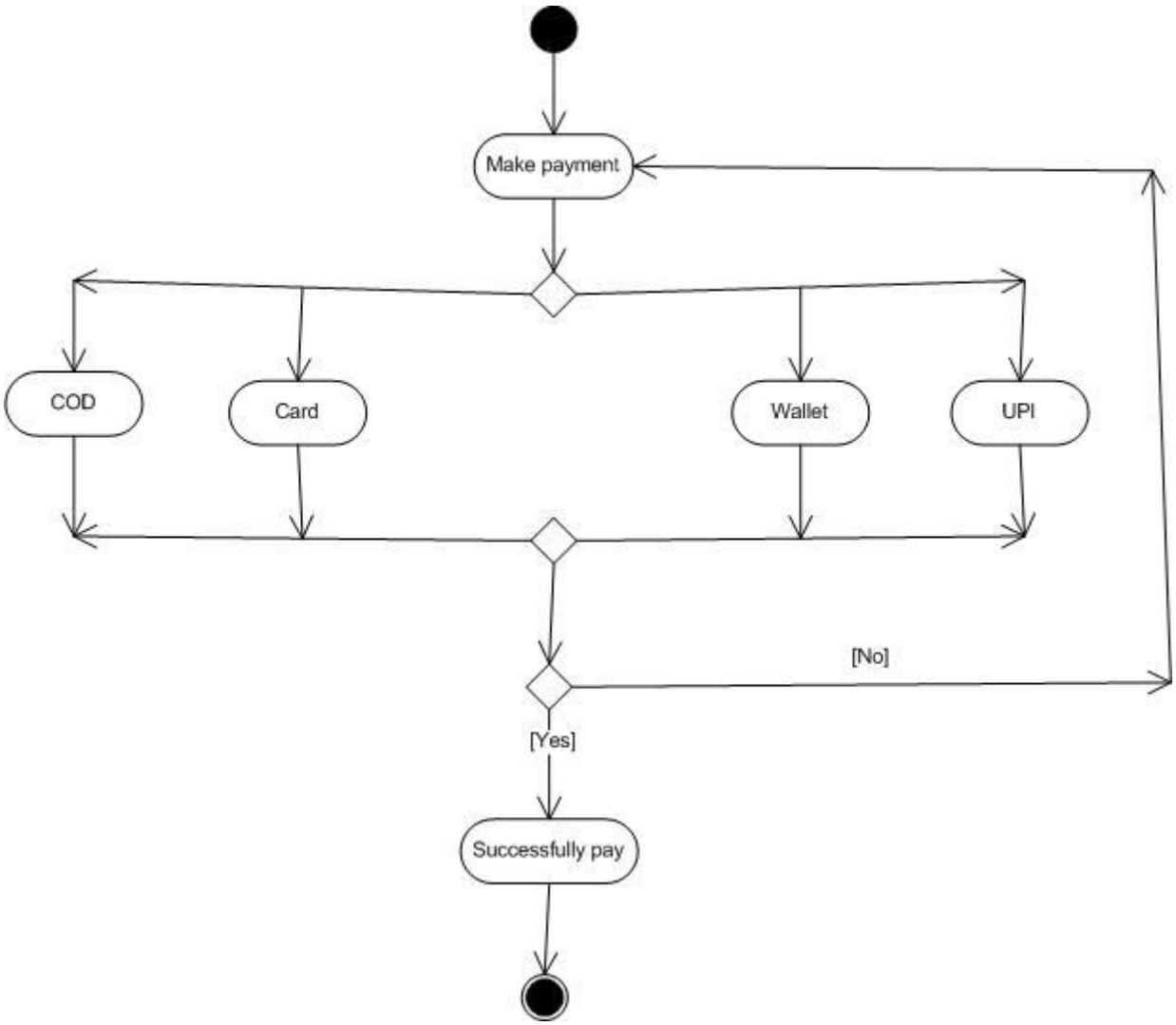
Search Product:



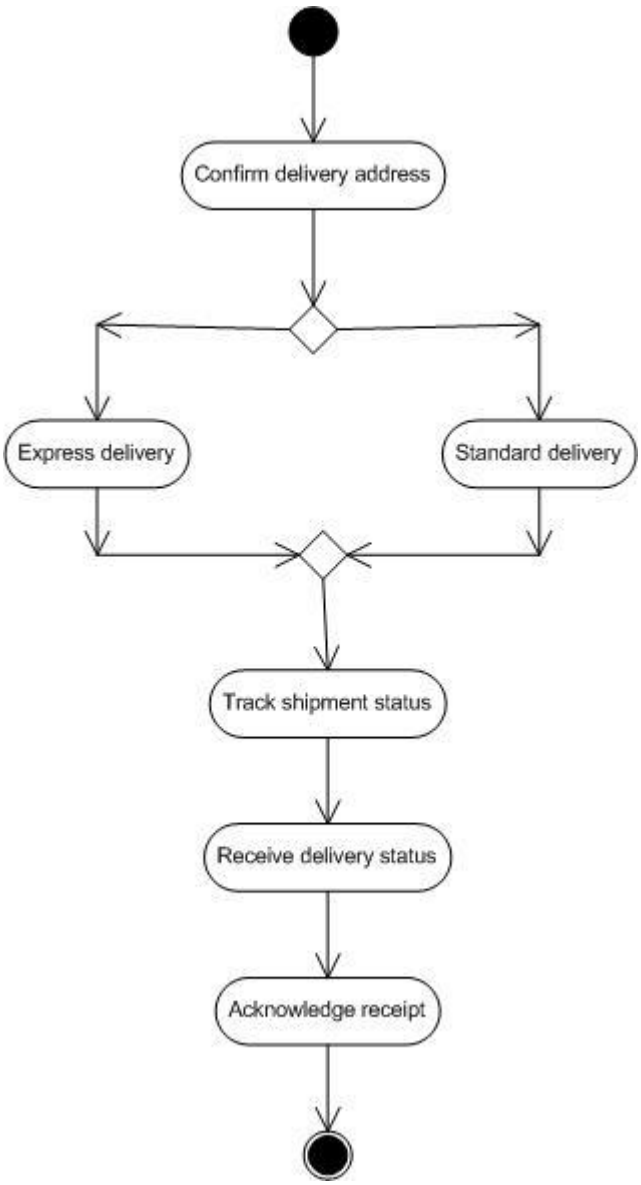
Add to cart:


Open product detail
Add product to cart
Update quantity
Checkout
[No]
[Yes]
Make payment

Payment:



Delivery:


Confirm delivery address
Express delivery
Standard delivery
Track shipment status
Receive delivery status
Acknowledge receipt