1. **(Use Case Diagram)**

What it shows:

- A **high-level UML use case diagram** with:
  - **Actors**: logistics provider, retail staff, customer.
  - **Processes**:
    - <<include>>: Mandatory steps (e.g., "manufacture clothes").
    - <<extend>>: Optional steps (e.g., "search for clothes").

Why it's important:

- Defines **system boundaries** (what's included/excluded).
- Clarifies **user roles** (e.g., only staff can "display clothes").

Use in a clothing store:

- Designing **role-based access control** (e.g., cashiers vs. managers).
- Planning **feature prioritization** (e.g., urgent vs. nice-to-have).

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2. **(Activity Diagram)**

What it shows:

- A **step-by-step linear workflow** from purchasing raw materials to customer purchase.
- Key stages:
    - Production (cutting, dyeing, manufacturing, adding logos). ○ Finishing (ironing, packaging). ○ Distribution (shipping to warehouse → point of sale).
    - Sales (customer search, payment).

Why it's important:

- Provides a **clear, visual guide** for employees to follow.
- Helps identify **bottlenecks** (e.g., delays in shipping).
- Ensures **consistency** in production and sales processes.

Use in a clothing store:

- Training manual for staff.
- Process optimization (e.g., reducing steps for faster delivery).

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3. **(Class Diagram)**

What it shows:

- **Object-oriented structure** of the system:
  - Classes (e.g., purchasing, factory, clothes).
  - Attributes (e.g., material ID: int, size: string).
  - Relationships (e.g., a store "HAS" clothes).

Why it's important:

- Blueprint for **software development** (e.g., POS system).
- Ensures data consistency (e.g., all clothes have a size field).

Use in a clothing store:

- Guides programmers in building **ERP or inventory apps**.
- Helps avoid errors (e.g., missing customer payment methods).

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4. **(Object Diagram)**

What it shows:

- A **simplified list of entities** (e.g., purchasing, factory, store, consumer) with basic attributes.
- Example:
    - Factory ID: 1907, Name: ASC
    - Store location: Madrid

Why it's important:

- Acts as a **foundation** for database design.
- Clarifies **key components** of the system without technical details.

Use in a clothing store:

- Early-stage planning for an **inventory management system**.
- Brainstorming relationships (e.g., which factory supplies which store).

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5. **(Sequence Diagram)**

What it shows:

- **Interactions between actors** (e.g., Raw Material Supplier →
- Manufacturer → Point Of Sale).
- Key processes: ○ Requesting materials → Manufacturing → Shipping → Selling.

Why it's important:

- Visualizes **dependencies** (e.g., clothes can't ship before logos are added).
- Identifies **efficiency gaps** (e.g., slow supplier response).

Use in a clothing store:

- Optimizing **supply chain communication**.
- Training staff on **order fulfillment workflows**.

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6. **(Collaboration diagram)**

What it shows:

- A **detailed sub-process** of manufacturing:
    - Cutting/dyeing → Adding logos → Assembling buttons → Packaging.
- Highlights **customer-facing steps** (search, payment).

Why it's important:

- Focuses on **production quality control**.
- Links manufacturing to **customer experience**.

Use in a clothing store:

- **Quality assurance** checklist (e.g., "Are buttons securely attached?").
- Aligning **production speed** with sales demand.

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7. **(Data Flow Diagram)**

What it shows:

- A **condensed version** of the production-to-sales flow:
    - Raw materials → Manufacturing → Display → Payment.
- Repeats key steps for emphasis (e.g., "Displaying the clothes" twice).

Why it's important:

- **Quick reference** for stakeholders.
- Emphasizes **critical milestones** (e.g., finishing clothes before sale).

Use in a clothing store:

- **Executive summaries** (e.g., for store managers).
- **Cross-team alignment** (e.g., production vs. sales teams).

Interview with Mr. Mohamed about the Production Process

Interviewer: Good evening, Mr. Mohamed. Could you please clarify what the first step you start with in the production process is?
Mr. Mohamed: Good evening. The first thing we start with is purchasing the raw materials we'll need for manufacturing.
Interviewer: Alright. After you purchase the raw materials, what procedure takes place immediately afterward?
Mr. Mohamed: After that, we send the materials to the factory so they can be cut and dyed in the required colors.
Interviewer: Understood. After the cutting and dyeing stage, what's the next step that takes place?
Mr. Mohamed: Once the materials are ready, we begin tailoring the clothes, whether it's t-shirts, trousers, or jackets.
Interviewer: Excellent. And after tailoring, is there another step that follows?
Mr. Mohamed: Of course — after the clothes are tailored, we attach the brand's logos to each piece.
Interviewer: Great. At what stage do you handle the buttons and zippers?
Mr. Mohamed: After adding the logos, we gather the buttons and zippers and attach them to the clothes.
Interviewer: And what happens after attaching them?

Mr. Mohamed: After that, we proceed with finishing the pieces so they're ready for use.
Interviewer: Alright. What happens after the finishing stage, before the pieces reach the consumer?
Mr. Mohamed: After finishing, we iron the pieces, package them appropriately, and prepare them for shipping.
Interviewer: And once they're ready for shipping, where are they sent?
Mr. Mohamed: We ship the clothes to the project's sales outlet.
Interviewer: What happens after the shipment arrives?
Mr. Mohamed: We receive the shipment from the factory, and then we store the goods in our warehouses.
Interviewer: Finally, what exactly is the last step in the process?
Mr. Mohamed: In the end, we display the pieces at the sales outlet and sell them directly to the consumer.