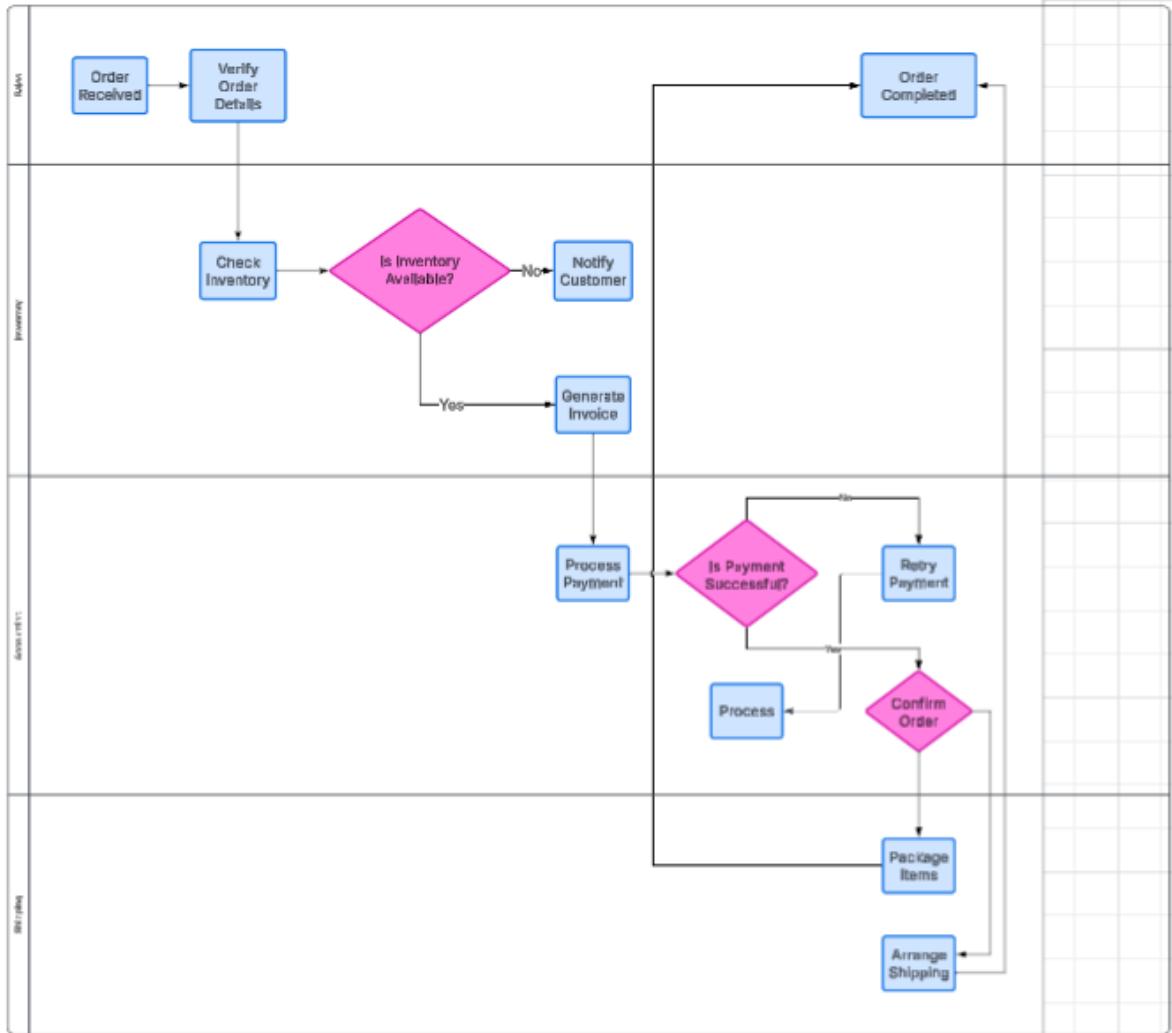


## Processing a Purchase Order



An activity diagram of a Hospital Management System (HMS) shows the flow of activities (actions) carried out in the system from start to end. It focuses on workflow and decision-making, unlike a use case diagram which focuses on who does what.

## 1. Purpose of an Activity Diagram in HMS

- Shows step-by-step operation of hospital processes
- Explains decision points (yes/no conditions)
- Helps understand how different departments interact
- Useful for system design and exam explanations

**Start:** The process begins when a patient arrives at the hospital or accesses the system online.

### Patient Registration

- **Decision:** Is the patient new?
  - Yes → Register patient and create a medical record
  - No → Retrieve existing patient details

## Appointment Scheduling

- Patient requests an appointment
- System checks doctor availability
- Appointment is scheduled

## Consultation

- Patient meets the doctor
- Doctor reviews patient history
- Doctor performs diagnosis

## Decision: Lab Test Required?

- Yes →
  - Doctor requests lab tests
  - Lab technician conducts tests
  - Test results are uploaded to the system
- No → Skip lab testing

## Prescription & Treatment

- Doctor prescribes medication
- Prescription sent to pharmacy
- Pharmacist dispenses medicine and updates inventory

## Billing

- System generates bill (consultation + lab + medication)
- Patient makes payment
- Payment status is updated

## End

- Visit is completed
- Patient records are stored for future reference

## Key Activity Diagram Elements Used

Symbol	Meaning
●	Initial node (Start)

<b>Symbol</b>	<b>Meaning</b>
◇	Decision node
□	Activity
→	Control flow
◎	Final node (End)

The activity diagram of a Hospital Management System begins with patient registration. The system checks whether the patient is new or existing. After registration, an appointment is scheduled with a doctor. The doctor diagnoses the patient and may request laboratory tests. If tests are required, they are conducted and results uploaded. The doctor then prescribes medication, after which billing and payment are completed. The process ends with record storage.

## 6. Why Activity Diagrams Are Important in HMS

- Clearly shows hospital workflow
- Helps identify process bottlenecks
- Useful in UML-based system design
- Easy to explain during exams and project presentations