

# **SUPERMARKET AUTOMATION**



**DEPARTMENT OF COMPUTER SCIENCE &  
ENGINEERING**

**YEAR: 2020-21**

**5TH SEMESTER**

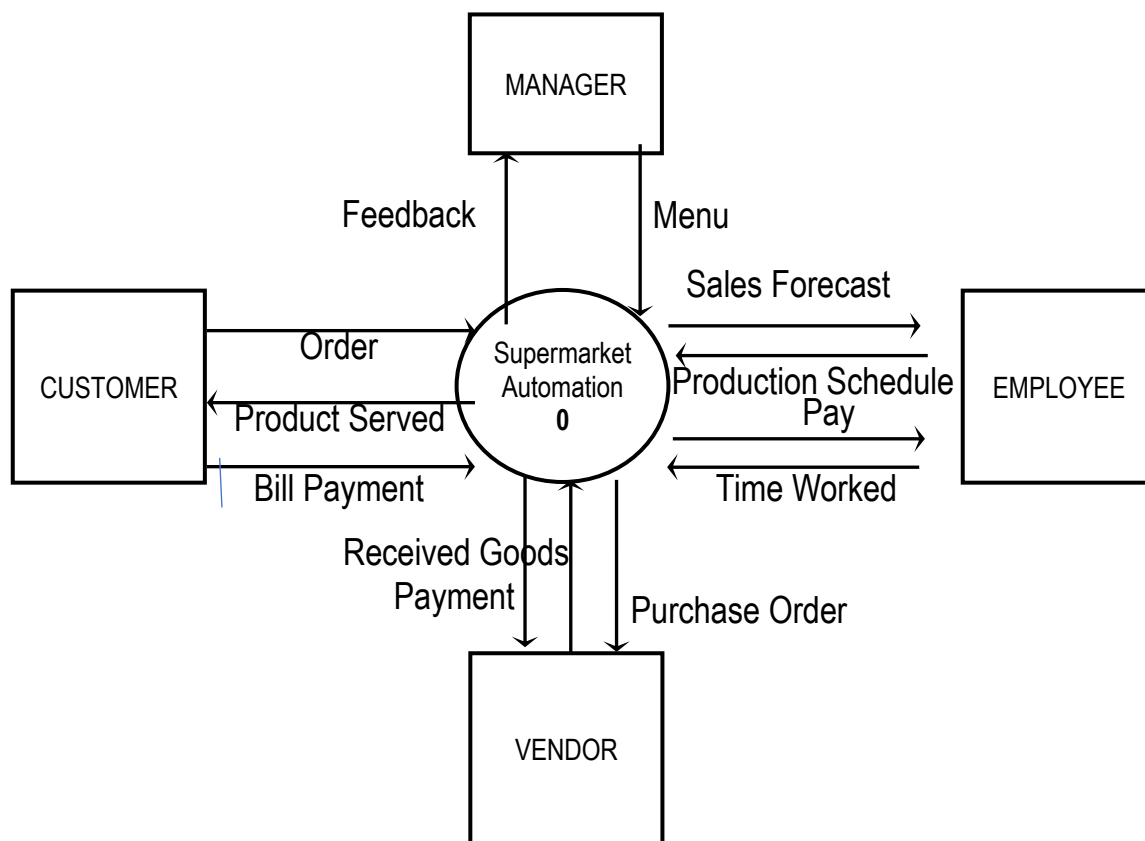
**( DATA FLOW DIAGRAM )**

**SUBMITTED BY:**

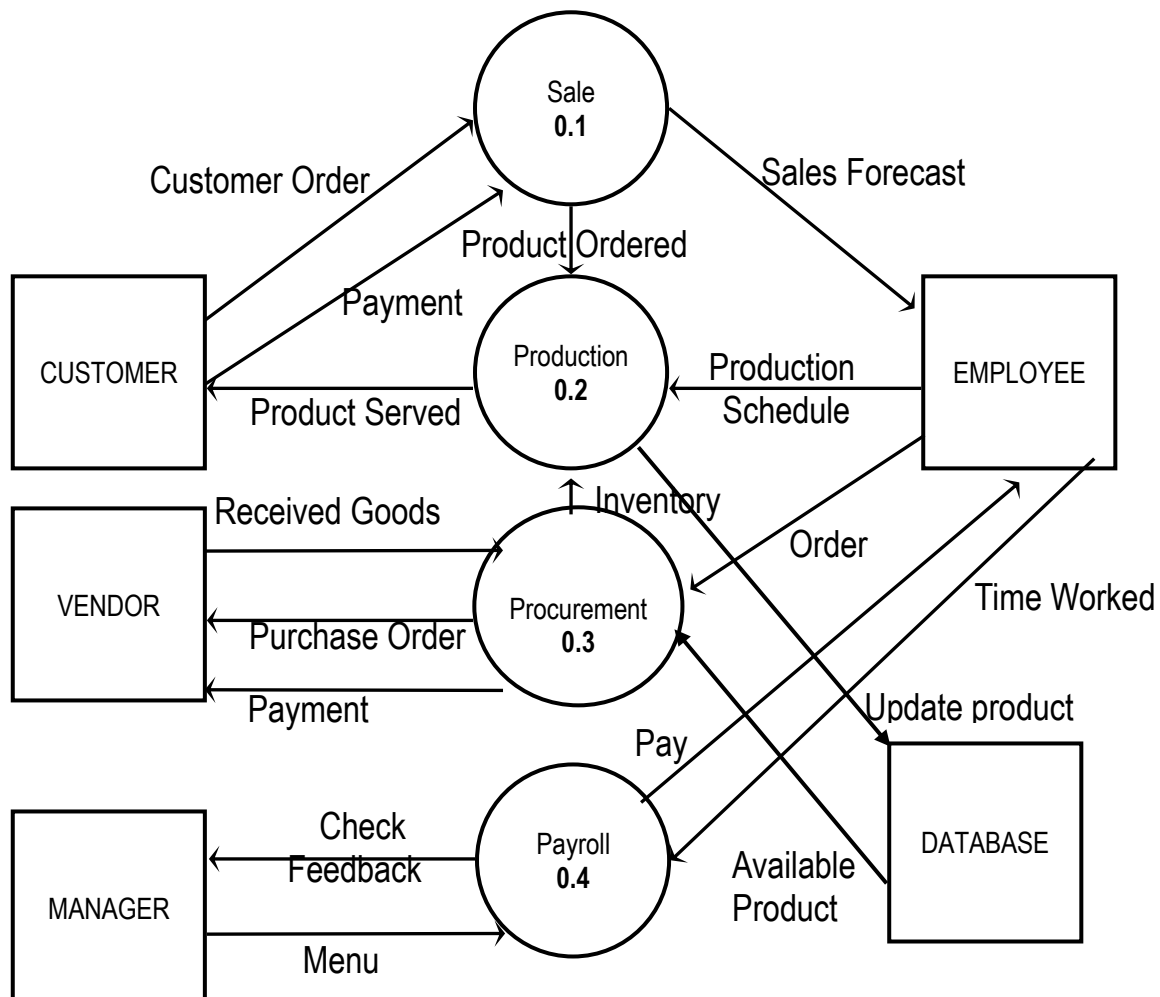
**Siba Sankar Panda - 1802081062**

**Prasenjit Ghose - 1802110011**

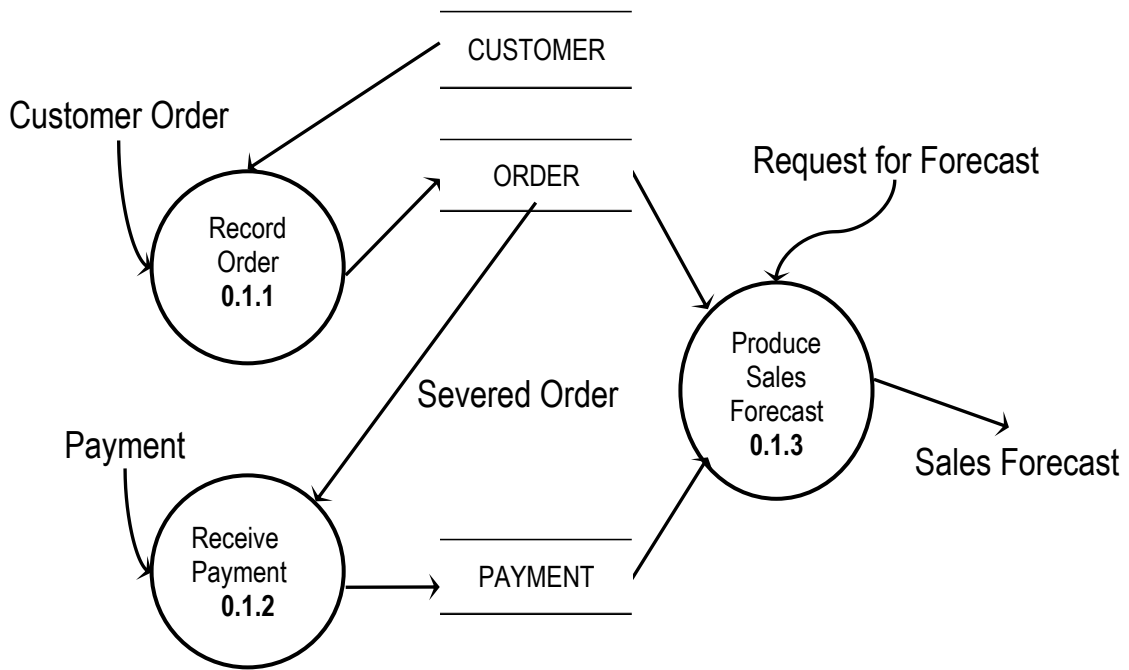
**Pratyush Ranjan Bohidar - 1802060021**



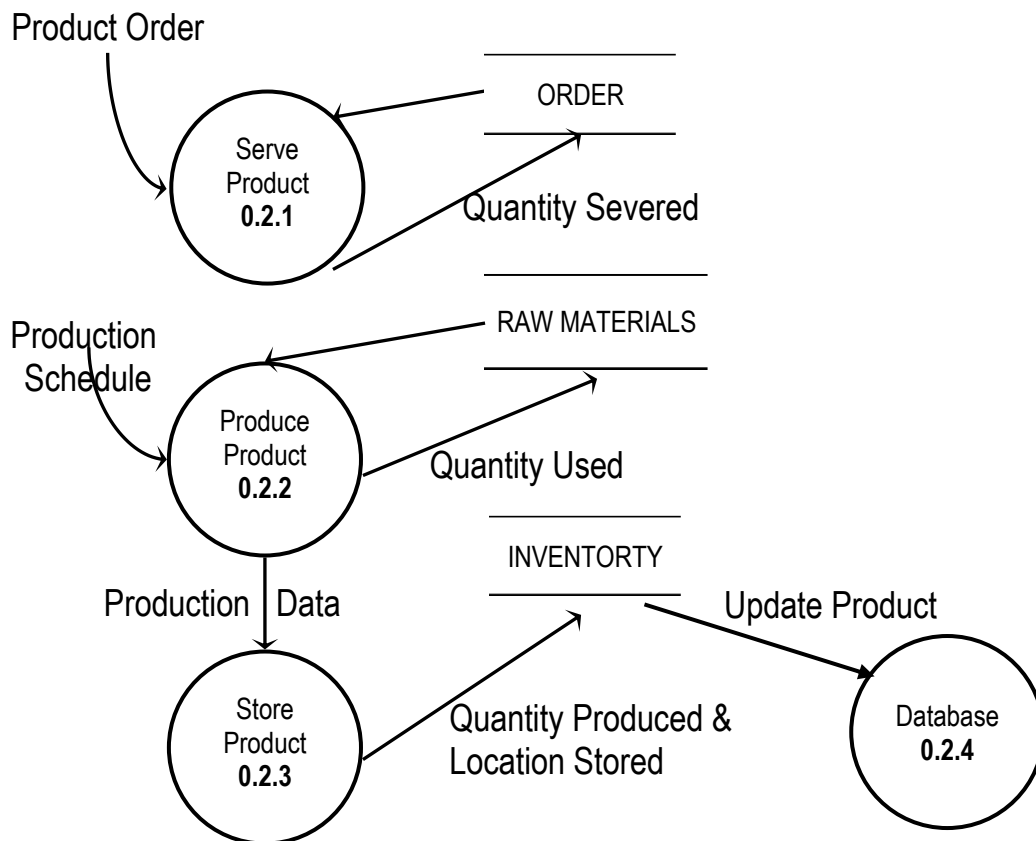
**Fig: LEVEL 0 DFD**



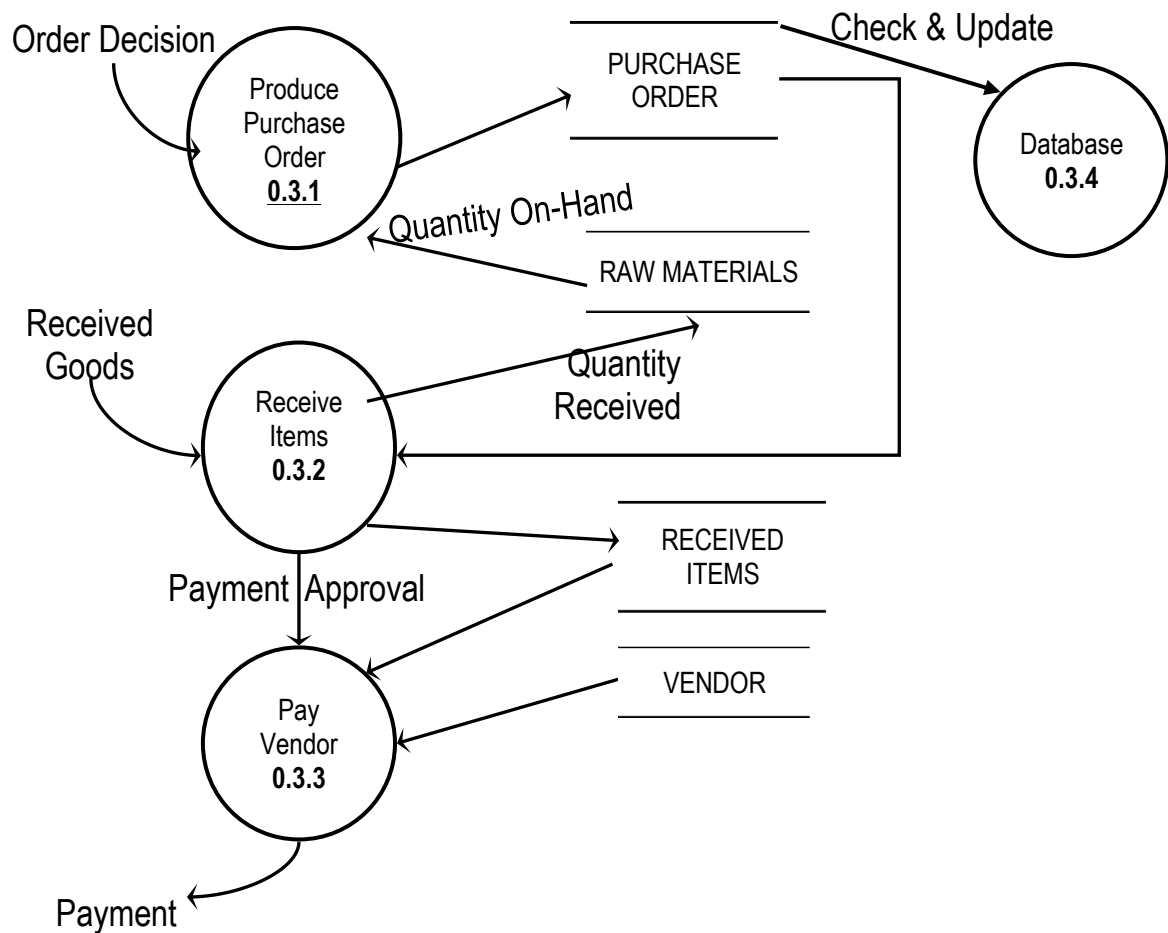
**Fig: LEVEL 1 DFD**



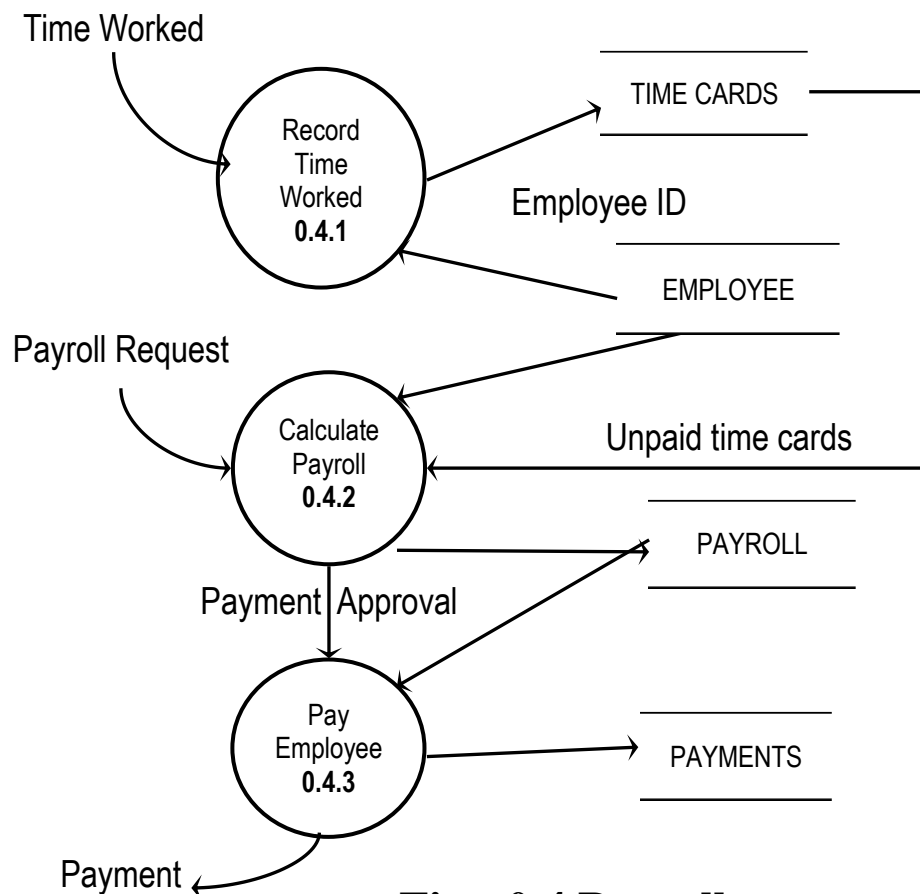
**Fig: 0.1 Sale**



**Fig: 0.2 Production**



**Fig: 0.3 Procurement**



**Fig: 0.4 Payroll**

## **DATA DICTONARY**

Login Info: User-Id + Password

User Info: User-Id + User-Name + Address

User-Id: Integer

Password: String

User-Name: FirstName + {Middle-Name} + Last-Name

First-Name : String

Middle-Name: String

Last-Name: String

Address: City + State + Pincode

City: String

State: String

Pincode: Integer

Customer-id: integer

Date: year + month + day

Year: integer

Month: integer

Day: integer

Order-info: customer-id +items +quantity +date +time +Payment method+ orderid

Order-id: integer

Time: hour + minute

Hour: integer

Minute: integer

Payment-method: [Card, UPI, Offline]

Card: card-no + CVV

Card-no: integer

CVV: integer

UPI: string

Offline: string

Accepted-order: order

Reject-message: order + message

Pending-orders: customer-id + {items + quantity }

Bill: {item + quantity + price } + total-amount + customer-address + order-id

Material-issue-slip: message + item + quantity + customer-address

Message: string

Inventory: {item + quantity }

Item: string

Quantity: integer

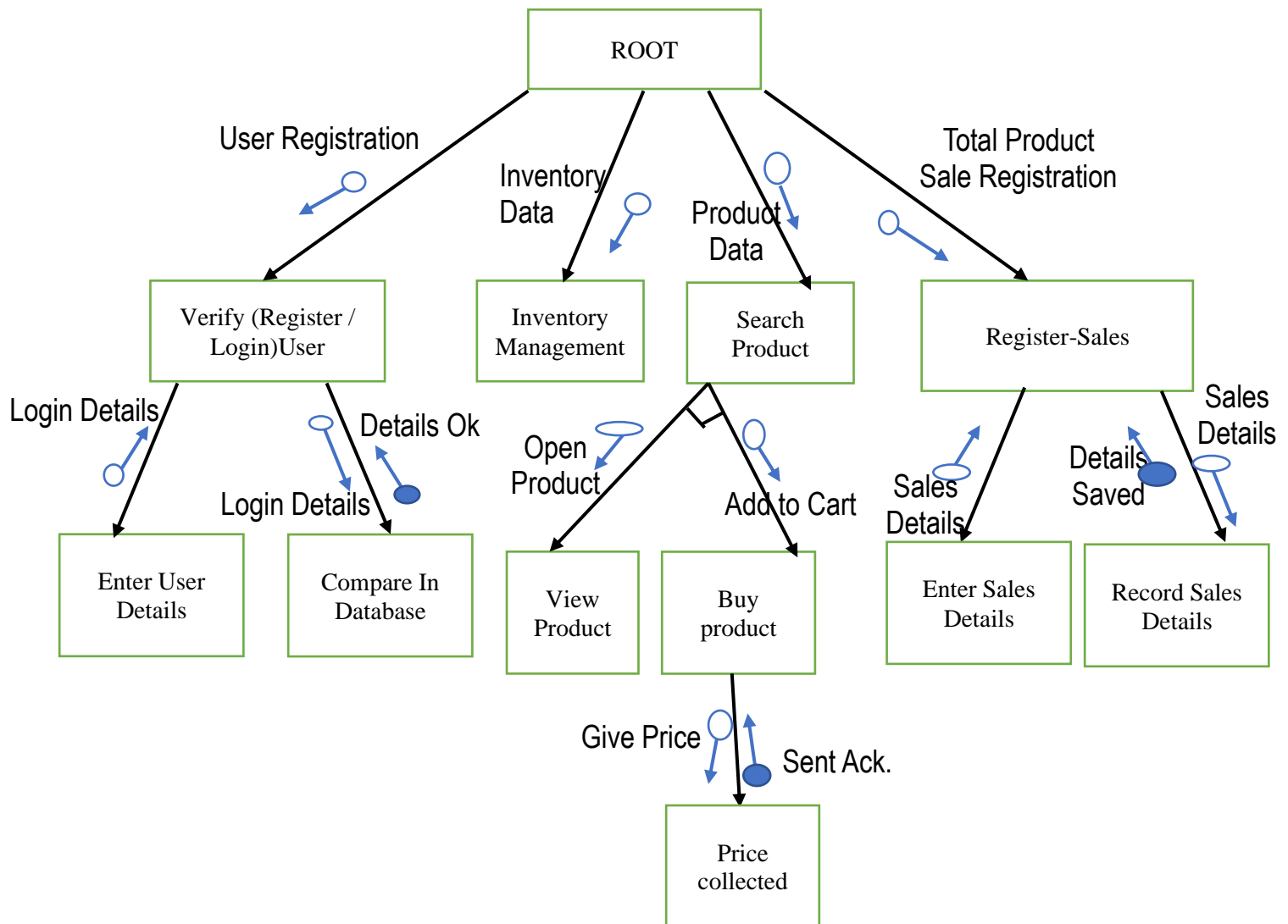
Price: integer

Total-amount: integer

Order delivery status: order-id + status

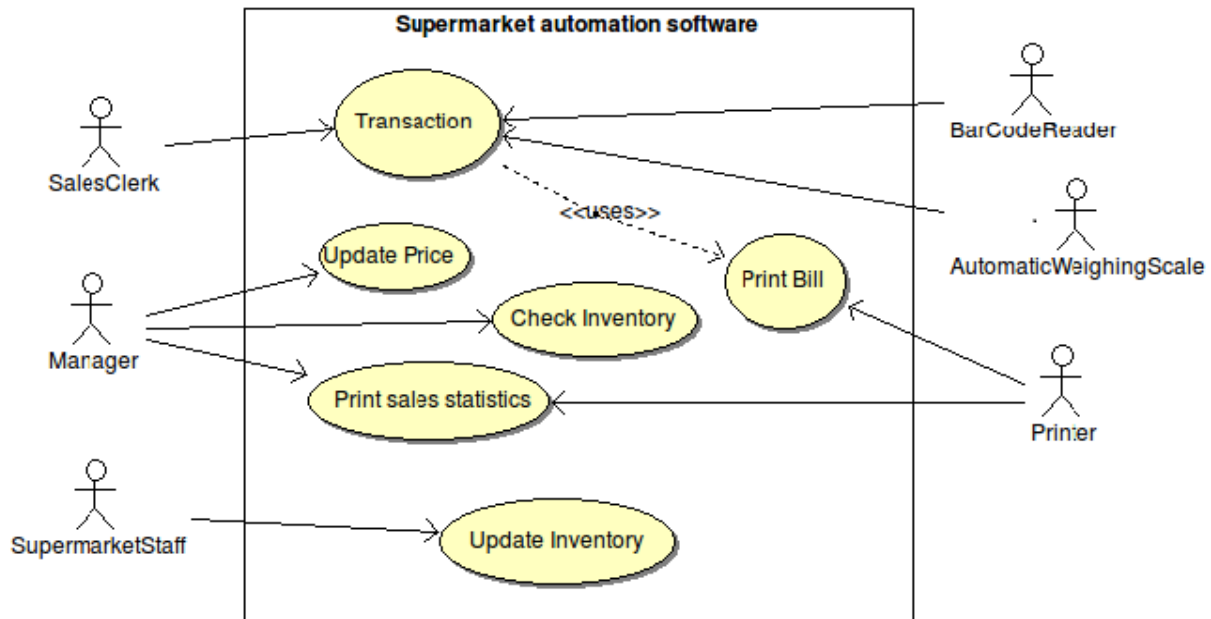
Status: string

# STRUCTURE CHART



# UML DIAGRAMS

## A.USE CASE DIAGRAM:



## **USE CASE DESCRIPTION:**

### **Manager:**

A manager oversees the supermarket's revenue and sales functions. He views the inventory, and review and print the sales statistics.

### **Sales clerk:**

The supermarket employs many sales clerks who are responsible for carrying out the transaction with the customers and creating and printing bills for the transactions.

### **Supermarket staff:**

They are the supermarket employs, who are responsible for maintenance of the products in the supermarket and addition of newly arrived products to the inventory.

### **Perform Sales Transaction:**

Whenever any item is sold from the stock of the supermarket, this function prompts the clerk to pass the item over a bar code reader and an automatic weighing scale, the data regarding the item type and the quantity get automatically registered then. During the sales transaction, the name of the item, code number, quantity, unit price, and item price are entered into the bill. The bill indicates the total amount payable. The inventory is then suitably updated.

### **Read Bar code:**

Input: Sold items are passed over the reader.

Processing: Bar code of the item is read and the sold item is registered automatically.

### **Weigh:**

Input: Sold items are weighed over the automatic weighing scale.

Processing: Weight of the sold item is automatically registered.

### **Generation of the bill:**

A transaction bill containing the serial number of the sales transaction, the name of the items, quantity, unit price, item price and the total amount payable after adding the taxes is printed.

### **Update inventory:**

In order to support inventory management, this function updates the inventory whenever an item is sold. Again, when there is a new supply arrival, an employee updates the inventory level by this function.

### **Check inventory:**

The manager upon invoking this function issues query to view the inventory details.

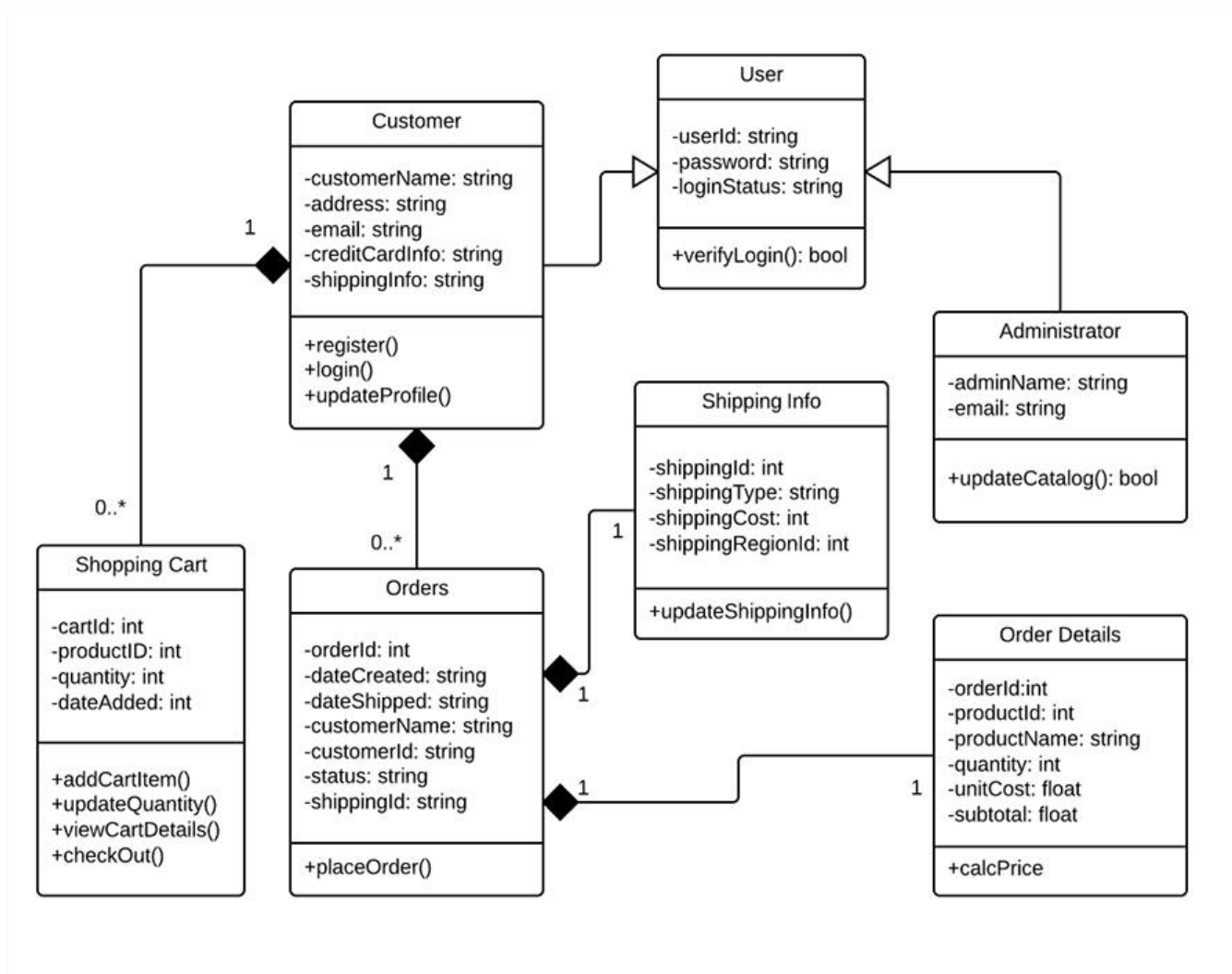
### **Update prices:**

The manager changes the price of an item by exercising this option.

### **Print sales statistics:**

This option generates a printout sales statistics for every item the supermarket deals with.

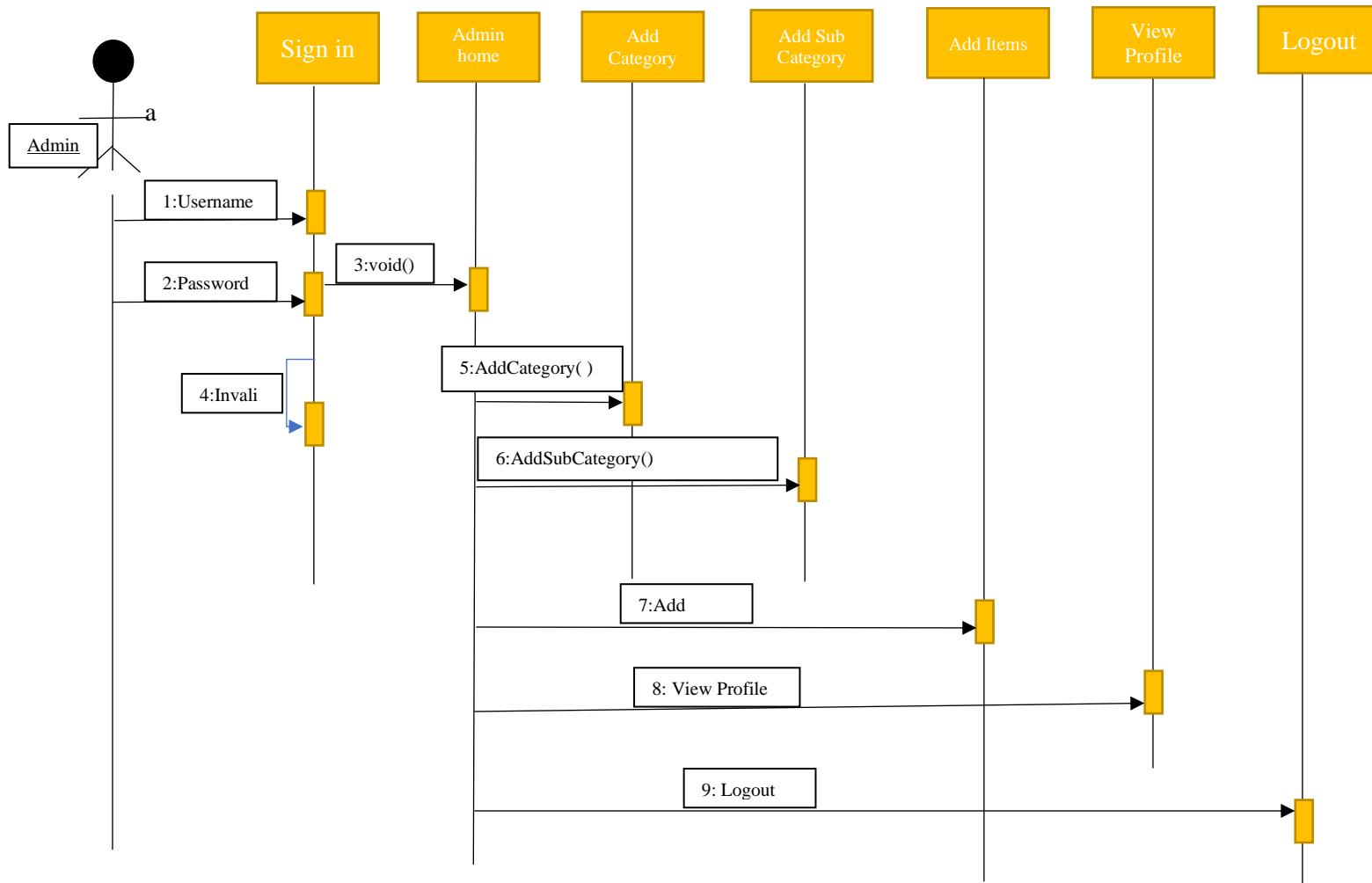
## B. CLASS DIAGRAM:



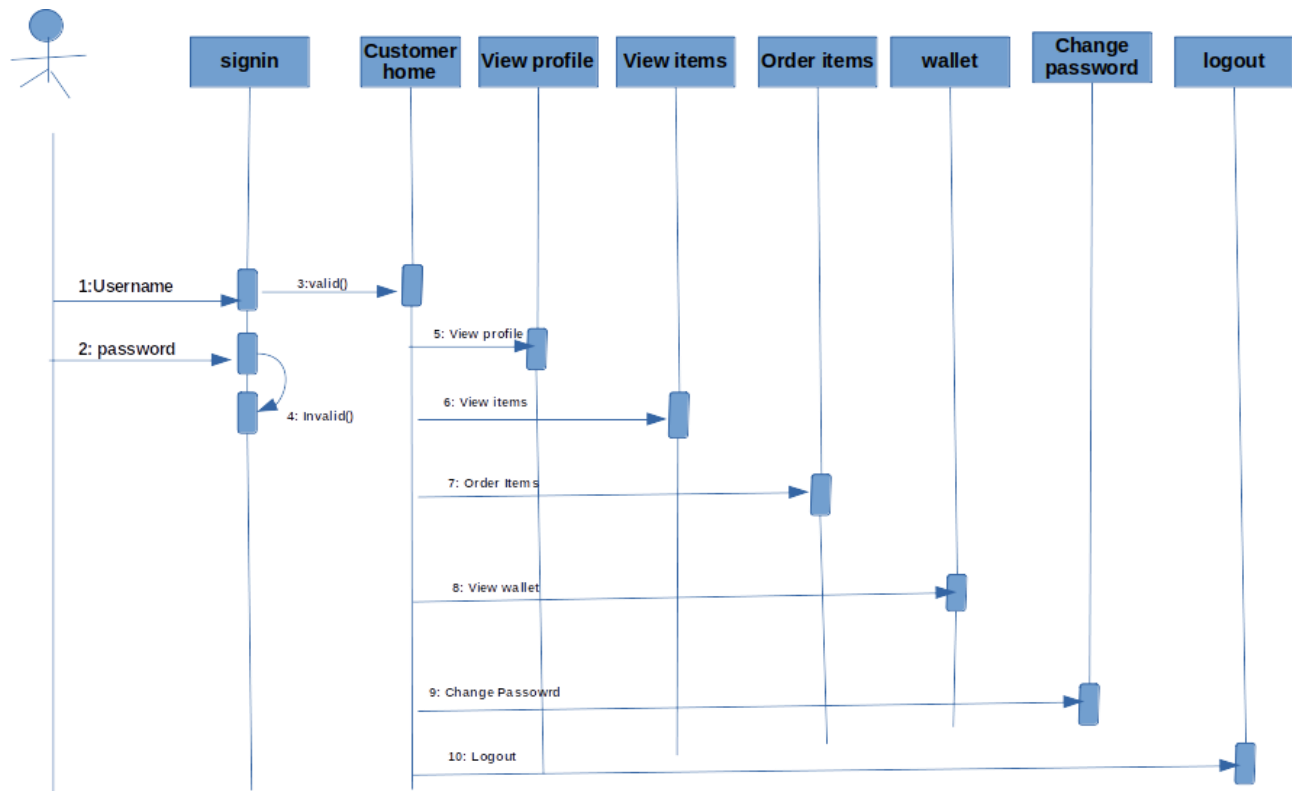


C.SEQUENCE DIAGRAM:

Sequence Diagram – I ADMIN



## Sequence Diagram – I Customer



## D. State Chart Diagram

