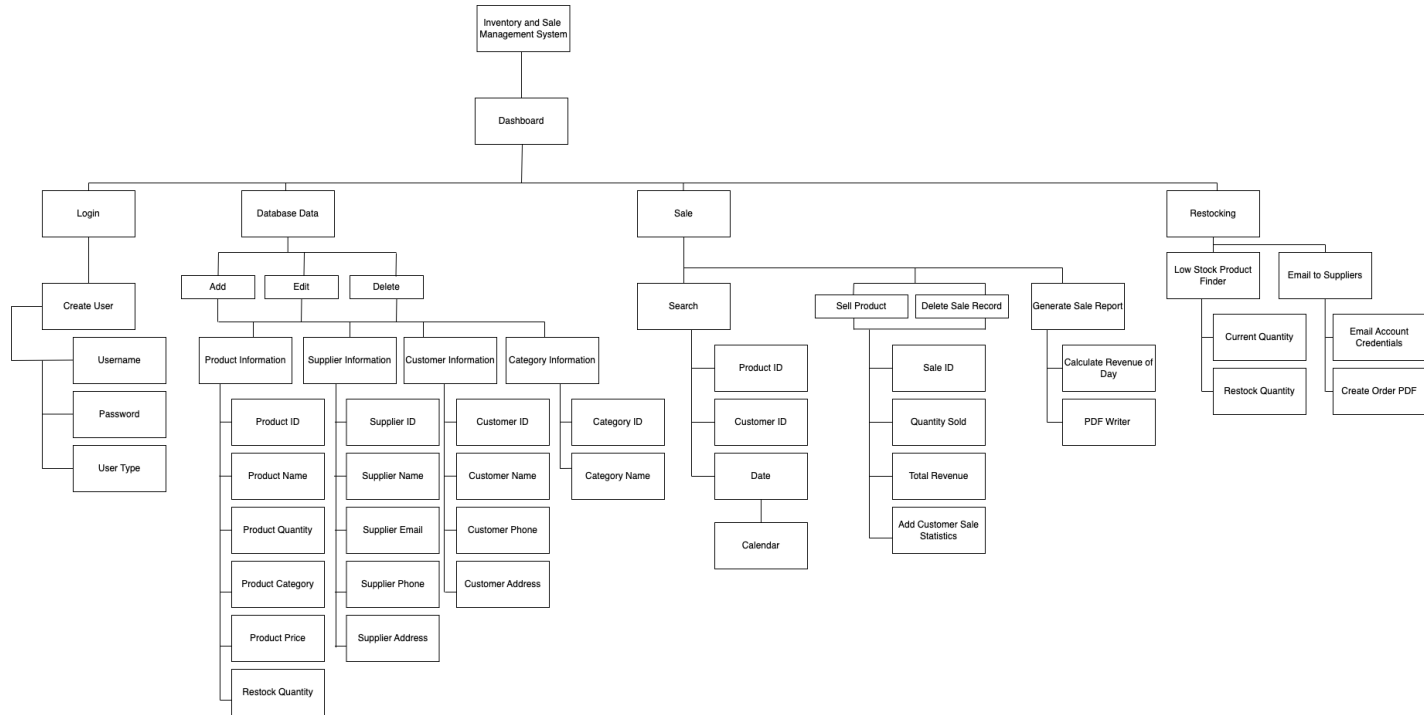


Criterion B:

Design

Top down Structure Diagram:



Database Table Design:

TblProduct

Column	Field Name	Data Type	Validation	Remark
1	idProduct	Integer	Presence Check, Length check = 4	Primary Key, Not Null
2	ProductName	String	Presence Check	Not Null
3	ProductQty	Integer	Not Null Presence Check	Not Null
4	ProductCat	String		
5	ProductRestock	Integer	Greater Than 0	

TblSuppliers

Column	Field Name	Data Type	Validation	Remark
1	idSupplier	Integer	Presence Check, Length check = 3	Primary Key, Not Null
2	SupplierName	String	Presence Check	Not Null

3	SupplierLocation	String		
4	SupplierMobile	String		
5	SupplierEmail	String		

TblUsers

Column	Field Name	Data Type	Validation	Remark
1	Username	String	Presence Check	Primary Key
2	Password	String	Presence Check	Not Null
3	AccountType	String		

TblCategories

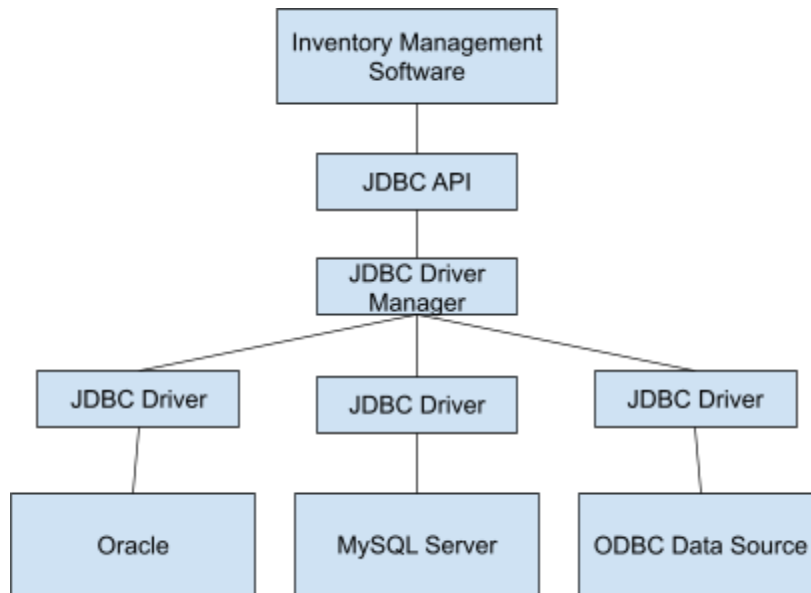
Column	Field Name	Data Type	Validation	Remark
1	IdCategory	Integer	Presence Check	Primary Key
2	CategoryName	String	Presence Check	Not Null

Salesinfo

Column	Field Name	Data Type	Validation	Remark
1	Salesid	Integer	Presence Check	Primary Key, Automatic Increment
2	Saledate	String		
3	Productcode	String	Presence Check	Not Null
4	Customercode	String		
5	Quantity	Integer		
6	Revenue	Double		

Java Database Connectivity Driver (JDBC)

The JDBC architecture shows how my software will connect to the database using the JDBC API with the JDBC drivers.



Sample Database Query Designs:

Key: Command, Table, Column, Range

Simple Query to pull Data from database

Select * from Products

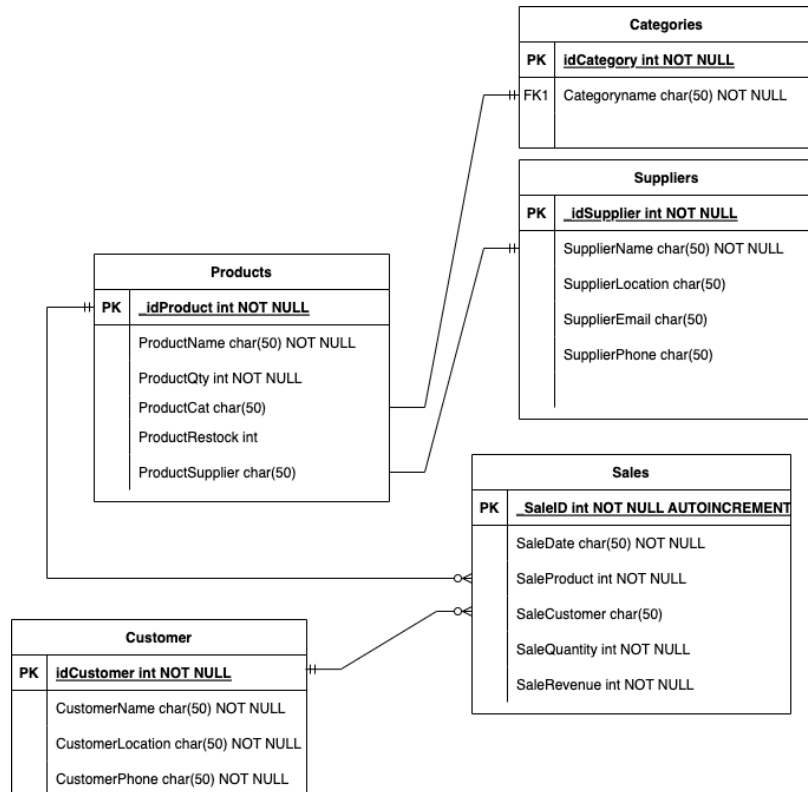
Parameterised Query to Add Products to Product Table on Database

Insert into Products Values(?,?,?,?)

Complex Query Select Goods to Restock From specific Supplier

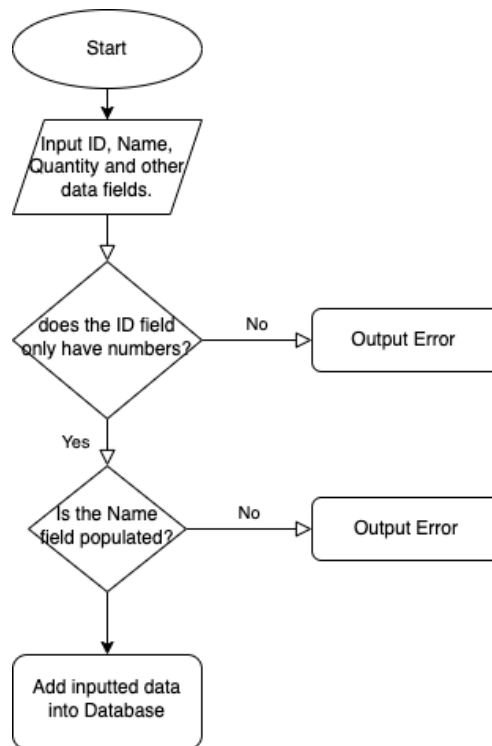
Select * from Products where productsupplier=? and productquantity < restockquantity

Entity Relation Diagram:

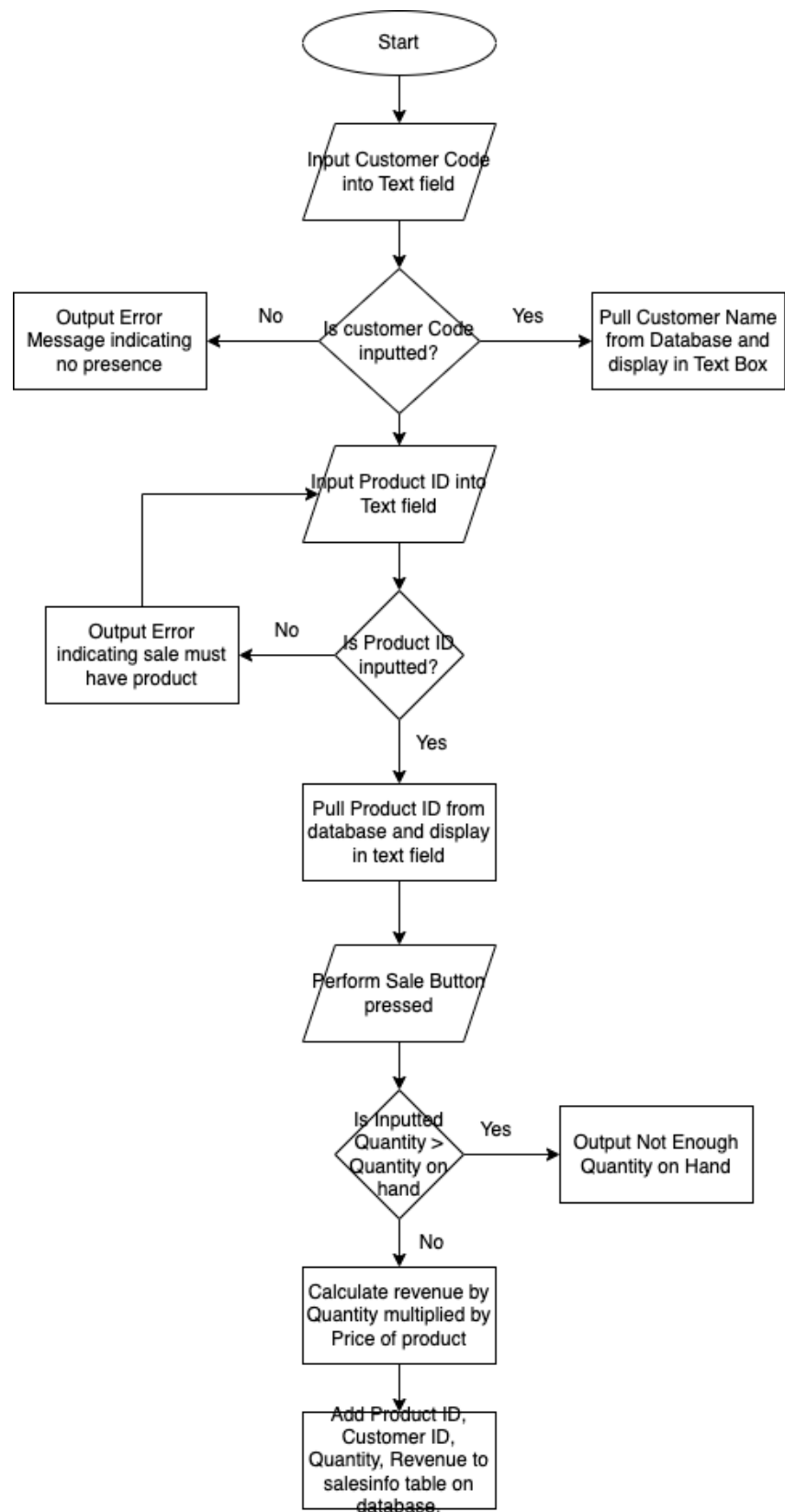


Program Flowcharts:

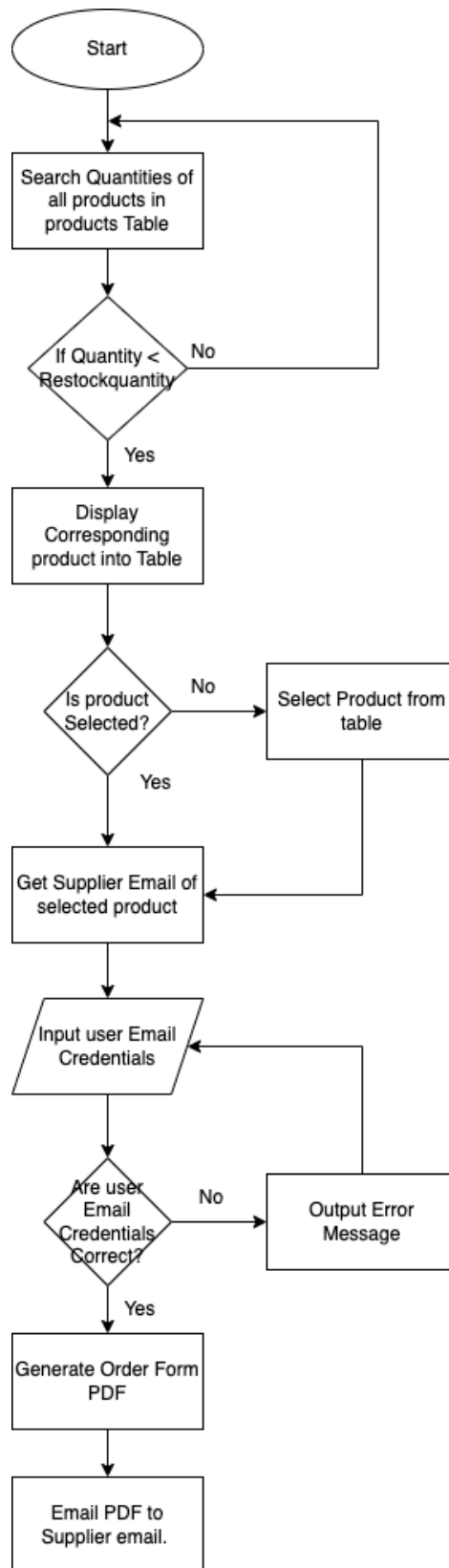
Adding Data to Database:



Sale Flowchart:



Restock Flowchart:



Graphical Visualization of GUI

Before doing any programming, I referred to the top down diagram I had created in which I separated all the modules in order to visualize how each module would look like. Using a drawing software, I drew out all the pages and panels that would act as the GUI.

Login Page:

COMPANY NAME

Username:

Password:

Account Type: ▼

Home dashboard:

Log Out?

Prador Co. User: _____ User Type: _____

Products

Suppliers

Categories

Sales

Customers

Restocking

Users

Display Panel

Products panel:

Products

Table

Suppliers Drop down

Product code

Product name

Product price

Category

Quantity

Restock Quantity

Customer Page:

Customers

Table

Customer Code

Customer Name

Location

Contact

Amount Paid:

Number of Orders:

add

edit

delete

clear

Categories

Categories

Table

Category Code

Category Name

Edit

Add

Delete

Clear

Sales Page

Sale

Table

Customer code

Product code

Sale date

Sell price

Quantity

Clear

Sell

delete

Create Sales Report

Date
Chooser

Restocking Page

Restocking

Table

Your Email:

Email Password:

Supplier Email:

Email Supplier

Users Page

Users

Table

Username:

Password:

Account Type

Add

Edit

Delete

Test Plan:

Normal Data, Abnormal Data, Extreme Data

Test Description	Inputted Data	Expected Result
Login Sequence	Username "Admin" and Password "Admin" is entered with the usertype "Admin" Password "root" of 4 characters is entered Password "123" under 4 characters is entered or Username and password field is left empty	Entered data is compared with data on the database for login procedure. Entered data is compared with data on database Panel will appear with error message regarding if the password is too short or fields are empty respectively.
Adding Product	Product Id entered "47642" and Product name "Potato Chips" is entered. Add button is pressed No product ID is entered	"47642" Is added to the database with its product name "Potato Chips" Panel will appear with error indicating that the product ID field is empty
Deleting Product	Product Id entered "44323" and delete button is pressed No product ID is entered	Product "44323" is deleted from the database Panel will appear with error indicating that the product ID field

		is empty
Editing a Product	Product Id entered "82834" and edit button is pressed No product ID is entered	Product "82834" is updated with new respective data in the database. Panel will appear with an error indicating that the product ID field is empty.
Searching Customer For Sale	Customer Id entered "832" and enter key is pressed No customer ID is entered	Name of Customer "832" will be returned from database into text field Panel will appear with error indicating that the customer ID field is empty
Searching Product For Sale	Product Id entered "44323" and enter key is pressed No product ID is entered	Name of product "44323" is returned from database into text field Panel will appear with error indicating that the product ID field is empty
Enter Email details to be sent from	Email and password entered "johnwox62@gmail.com" , "jw@73733" enter key is pressed Email box is left empty	Email johnwox62@Gmail.com and password jw@73733 will be verified and connected to Gmail SMTP server. Panel will appear with error indicating that the email or password field is empty