

Monty's Store Database System

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A Final Requirement in Database Management

Submitted to: Rodolfo, Jr. C. Eregia

Date Submitted: November 2025

Table of Contents

Company History and Description of Operations	3
Company Description	3
Description of Operations.....	3
ERD (Entity -Relationship Diagram)	4
MontysStore_DB.....	4
Data Dictionary	5
Employees Table	5
Products Table	5
Suppliers Table.....	6
Purchases Table	6
Purchase_Items Table.....	6
Sales Table	7
Sales_Item Table.....	7
Tables and Sample Data.....	8
Employees.....	8
Products.....	9
Suppliers	10
Purchases.....	11
Sales.....	12
Purchase _Items	13
Sale _Items	14
VIEWS	15
Views.....	15
Output for View	16
Stored Procedures	17
Procedure for Operation #1.....	17
Procedure for Operation #2.....	17
Procedure for Report	18
Curriculum Vitae	19

Company History and Description of Operations

Company Description

Monty's Store is a family-owned sari-sari store established in 2013. It offers everyday essentials such as snacks, canned goods, and household items to the local community. It began as a small retail stall offering basic household goods and expanded over time as customer demand grew. The store has served the local community for over a decade and continues to provide affordable everyday essentials.

Description of Operations

Monty's Store sells a variety of household goods, snacks, beverages, canned goods, and toiletries. The store operations include product stocking, purchasing from suppliers, and sales to customers.

As the business grew, manual recording became inefficient. This database project aims to help track inventory levels, purchasing transactions, and daily sales in a more organized and accurate manner.

ERD (Entity -Relationship Diagram)

MontysStore_DB

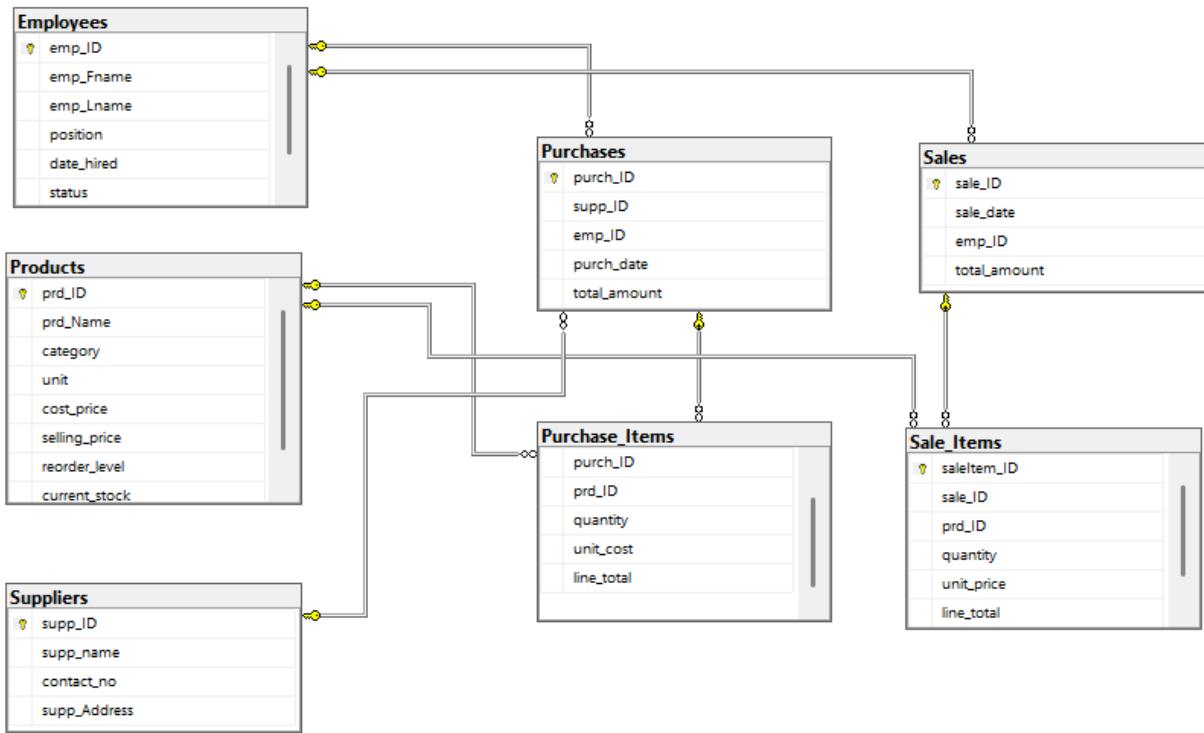


Figure: Entity–Relationship Diagram of Monty’s Store Database

The Entity–Relationship Diagram (ERD) shows the complete structure of Monty’s Store Database. It presents all seven tables used in the system and their relationships. Employees, Suppliers, and Products act as master tables, while Purchases and Sales contain the store’s daily transactions. The Purchase_Items and Sale_Items tables store the detailed line items for each transaction. The ERD uses crow’s-foot notation to clearly show one-to-many relationships, such as one purchase containing many items or one employee handling many sales. This model ensures the database is normalized, consistent, and easy to maintain.

Data Dictionary

Employees Table

Table 1 - Employees			
Field Name	Data Type	Size	Description
emp_ID	INT	4	Primary Key, unique ID for each employee
emp_Fname	VARCHAR	30	Employee's first name
emp_Lname	VARCHAR	30	Employee's last name
position	VARCHAR	30	Role in the store
date_hired	DATE		Date when employee was hired
status	VARCHAR	15	Employment status (Active, On Leave, Inactive)

This table stores the profile of all store personnel. It includes the employee's name, position, hiring date, and employment status. It is used to identify which employee records a purchase or handles a sale.

Products Table

Table 2 - Products			
Field Name	Data Type	Size	Description
prd_ID	INT	4	Primary Key, unique ID for each product
prd_Name	VARCHAR	50	Product name
category	VARCHAR	30	Product category (snacks, canned goods, etc.)
unit	VARCHAR	10	Selling units (pcs, pack, bottle, etc.)
cost_price	DECIMAL	10,2	Supplier cost per unit
selling_price	DECIMAL	10,2	Selling price per unit
reorder_level	INT	4	Minimum stock before reordering
current_stock	INT	4	Current quantity in store

This table contains all items sold or stocked by Monty's Store. It includes basic product details such as name, category, pricing, unit type, reorder level, and current stock. It is essential for tracking inventory and monitoring stock levels.

Suppliers Table

Table 3 - Suppliers			
Field Name	Data Type	Size	Description
supp_ID	INT	4	Primary key, unique supplier ID
supp_name	VARCHAR	60	Supplier business name
contact_no	VARCHAR	20	Supplier contact number
supp_Address	VARCHAR	100	Supplier's business address

This table stores information about the store's suppliers. It includes business names, contact numbers, and addresses. It is used when recording which supplier delivered goods during a purchase transaction.

Purchases Table

Table 4 - Purchases			
Field Name	Data Type	Size	Description
purch_ID	INT	4	Primary key, unique ID for purchases
supp_ID	INT	4	Foreign key, referencing Suppliers table
emp_ID	INT	4	Foreign key, for employee who recorded the purchase
purch_date	DATE		Date of purchase
total_amount	DECIMAL	10,2	Total amount for the purchase transaction

The Purchases table stores the main information for each stock-in transaction. It records the supplier, employee who processed the purchase, the date, and the total amount. It links directly to the Purchase_Items table for detailed items.

Purchase_Items Table

Table 5 - Purchase_Items			
Field Name	Data Type	Size	Description
purchItem_ID	INT	4	Primary key, ID for each item line
purch_ID	INT	4	Foreign key, links to Purchases table
prd_ID	INT	4	Foreign key, for product being purchased
quantiy	INT	4	Quantity purchased
unit_cost	DECIMAL	10,2	Cost per unit for this item
line_total	DECIMAL	10,2	Quantity x unit_cost

This table contains the detailed items included in each purchase transaction. It records quantities, unit costs, and line totals of each product purchased. It supports accurate computation of total purchase costs.

Sales Table

Table 6 - Sales			
Field Name	Data Type	Size	Description
sale_ID	INT	4	Primary key, ID for each sale
sale_date	DATE		Date of sale
emp_ID	INT	4	Cashier handling the sale
total_amount	DECIMAL	10,2	Total sale amount

The Sales table stores the main information for each sales transaction. It includes the date of sale, the cashier who handled it, and the total amount. Each sale can have one or more items listed in the Sale_Items table.

Sales_Item Table

Table 7 - Sales_Item			
Field Name	Data Type	Size	Description
saleitem_ID	INT	4	Primary key, sale item ID
sale_ID	INT	4	Foreign key, links to Sales table
prd_ID	INT	4	Product sold
quantity	INT	4	Quantity sold
unit_price	DECIMAL	10,2	Selling price per item
line_total	DECIMAL	10,2	quantity x unit_price

This table contains all individual items sold in each transaction. It records the product, quantity, unit price, and subtotal. It is used to compute the total sales for the day and track which products were sold.

Tables and Sample Data

Employees

LAPTOP-G8TLDU3B\...- MontysStore_DB			LAPTOP-G8TLDU3B\...- dbo.Employees			
	emp_ID	emp_Fname	emp_Lname	position	date_hired	status
	201	Roselie	Montelibano	Owner	2013-06-01	Active
	202	Jophet Jr.	Montelibano	Cashier	2013-06-01	Active
	203	Jenimary	Montelibano	Helper	2013-06-01	Active
	204	Mel	Ferrer	Helper	2025-05-01	On Leave
	205	Jophet	Montelibano	Co-owner	2013-06-01	Active
	206	Julhet	Montelibano	Helper	2013-06-10	Active
	207	Michael	Quiambao	Helper	2019-07-12	Active
	208	Liam	Torres	Cashier	2022-01-20	Active
	209	Karl	Reyes	Stock Clerk	2023-04-18	Active
	210	Zoe	Villanueva	Helper	2024-03-11	Active
	211	Ivy	Luna	Assistant	2023-07-15	Active
	212	Luke	Ramos	Helper	2024-02-22	Active
	213	Aira	Bautista	Cashier	2021-09-14	Active
	214	Josh	Bermudo	Helper	2022-10-05	Active
	215	Ella	Domingo	Helper	2020-08-09	Active
	216	Nathan	Villa	Helper	2021-06-17	Active
	217	Fiona	Yap	Assistant	2023-11-20	Active
	218	Rico	Garcia	Assistant	2024-01-10	Active
	219	Mia	Castro	Helper	2020-05-25	Active
	220	Andre	Dizon	Helper	2022-12-12	Active
**	NULL	NULL	NULL	NULL	NULL	NULL

Figure: Sample Data from the Employees Table

Products

	prd_ID	prd_Name	category	unit	cost_price	selling_price	reorder_lev...	current_sto...
	101	Pancit Canton	Candy	Pcs	11.50	15.00	5	10
	102	555 Sardines	Canned Go...	Pcs	23.00	27.00	10	20
	103	Safeguard	Body Wash	Pcs	19.75	24.00	3	10
	104	Coke	Beverages	Pcs	18.00	22.00	1	3
	105	Hotdog	Frozen Foods	Pack	11.00	18.00	1	3
	106	Piattos Che...	Snacks	Pcs	17.00	20.00	5	15
	107	Nova Chips	Snacks	Pcs	18.00	22.00	10	25
	108	Bear Brand ...	Beverages	Pcs	12.00	14.00	10	20
	109	Milo Sachet	Beverages	Pcs	8.00	11.00	5	15
	110	Argentina C...	Canned Go...	Pcs	32.00	40.00	5	15
	111	Lucky Me B...	Noodles	Pcs	11.00	14.00	10	20
	112	Lucky Me C...	Noodles	Pcs	11.00	14.00	10	20
	113	Silver Swan ...	Condiments	Pcs	8.00	14.00	5	15
	114	Datu Puti Vi...	Condiments	Pcs	9.00	14.00	5	15
	115	Downy Sach...	Laundry	Pcs	6.00	10.00	5	20
	116	Surf Powder	Laundry	Pcs	6.00	10.00	5	20
	117	Palmolive S...	Toiletries	Pcs	6.00	10.00	10	20
	118	Head & Sho...	Toiletries	Pcs	6.00	10.00	10	22
	119	Biogesic Ta...	Medicines	Pcs	4.50	8.00	5	20
	120	Vicks Cough...	Medicines	Pcs	1.00	2.00	20	60
►*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Figure: Sample Data from the Products Table

Suppliers

LAPTOP-G8TLDU3B\S...B - dbo.Suppliers ➔ X LAPTOP-G8TLDU3B\...- MontysStore_DB				
	supp_ID	supp_name	contact_no	supp_Address
▶	301	Mandurria Supermart	3213763	Mandurria, Iloilo
	302	4R Beverages Delivery	9123412311	Mandurria, Iloilo
	303	Puregold Iloilo	3331122	Jaro, Iloilo
	304	SM Hypermarket	3339988	Mandurria, Iloilo
	305	Robinsons Supermarket	3332255	Iloilo City
	306	Coke Bottlers PH	9123456789	Jaro, Iloilo
	307	Pepsi Dealers Iloilo	9123489123	Mandurria, Iloilo
	308	Lucky Me Distributor	3215566	Iloilo City
	309	URC Foods Delivery	9876543211	Molo, Iloilo
	310	Nestle Supplier PH	9321123456	Molo, Iloilo
	311	GrowSari	9329898989	Lapaz, Iloilo
	312	Local Meat Supplier	3221456	Mandurria, Iloilo
	313	Sari-Sari Wholesale Hub	3211112	Jaro, Iloilo
	314	Beverage Logistics	9127678765	Mandurria, Iloilo
	315	Household Essentials Distributor	9871234567	Iloilo City
	316	HealthCare Supplier	9125554321	Jaro, Iloilo
	317	Grocery Bulk Depot	3337878	Iloilo City
	318	FoodSaver Corp	3219912	Lapaz, Iloilo
	319	DailyFresh Traders	3232233	Iloilo City
	320	Everyday Essentials Inc.	9987123412	Mandurria, Iloilo
*	NULL	NULL	NULL	NULL

Figure: Sample Data from the Suppliers Table

Purchases

	purch_ID	supp_ID	emp_ID	purch_date	total_amou...
	401	301	201	2025-05-01	805.00
	402	302	201	2025-05-03	542.00
	403	301	202	2025-05-05	583.75
	404	304	205	2025-05-06	345.00
	405	306	201	2025-05-06	198.00
	406	309	202	2025-05-07	652.00
	407	308	203	2025-05-07	124.00
	408	304	207	2025-05-08	320.00
	409	317	208	2025-05-08	410.00
	410	303	209	2025-05-09	215.00
	411	310	210	2025-05-09	498.00
	412	311	211	2025-05-10	225.00
	413	318	212	2025-05-10	640.00
	414	307	213	2025-05-11	312.00
	415	315	214	2025-05-11	120.00
	416	319	215	2025-05-12	430.00
	417	320	216	2025-05-12	515.00
	418	305	217	2025-05-13	280.00
	419	312	218	2025-05-13	156.00
	420	316	219	2025-05-14	600.00
	421	304	201	2025-05-20	500.00
▶*	NULL	NULL	NULL	NULL	NULL

Figure: Sample Data from the Purchases Table

Sales

	sale_ID	sale_date	emp_ID	total_amou...
	501	2025-05-10	201	30.00
	502	2025-05-10	202	54.00
	503	2025-05-11	203	15.00
	504	2025-05-11	207	22.00
	505	2025-05-12	208	40.00
	506	2025-05-12	205	18.00
	507	2025-05-13	206	27.00
	508	2025-05-13	209	30.00
	509	2025-05-14	210	17.00
	510	2025-05-14	211	24.00
	511	2025-05-15	212	22.00
	512	2025-05-15	213	28.00
	513	2025-05-16	214	10.00
	514	2025-05-16	215	19.00
	515	2025-05-17	216	14.00
	516	2025-05-17	217	13.00
	517	2025-05-18	218	20.00
	518	2025-05-18	219	26.00
	519	2025-05-19	220	18.00
	520	2025-05-19	201	12.00
	521	2025-05-21	202	150.00
	522	2025-05-20	202	150.00
▶*	NULL	NULL	NULL	NULL

Figure: Sample Data from the Sales Table

Purchase_Items

	purchItem_...	purch_ID	prd_ID	quantity	unit_cost	line_total
1	401	101	30	11.50	345.00	
2	401	102	20	23.00	460.00	
3	402	104	24	18.00	432.00	
4	402	105	10	11.00	110.00	
5	403	103	15	19.75	296.25	
6	403	101	15	11.50	172.50	
7	403	102	5	23.00	115.00	
8	404	106	10	17.00	170.00	
9	404	107	10	17.50	175.00	
10	405	110	3	32.00	96.00	
11	405	111	6	17.00	102.00	
12	406	112	20	11.00	220.00	
13	406	113	20	8.00	160.00	
14	406	114	20	9.00	180.00	
15	406	115	12	8.00	96.00	
16	407	117	10	6.00	60.00	
17	407	118	5	13.00	65.00	
18	408	108	10	12.00	120.00	
19	408	109	10	14.00	140.00	
20	408	101	10	6.00	60.00	
21	409	102	10	23.00	230.00	
22	409	103	10	19.75	197.50	
23	409	119	20	1.50	30.00	
24	410	104	8	18.00	144.00	
25	410	120	20	1.50	30.00	
26	410	113	10	4.00	40.00	

Figure: Sample Data from the Purchase_Items Table

Sale_Items

	saleItem_ID	sale_ID	prd_ID	quantity	unit_price	line_total
1	501	101	2	15.00	30.00	
2	502	102	2	27.00	54.00	
3	503	101	1	15.00	15.00	
4	504	104	1	22.00	22.00	
5	505	108	2	15.00	30.00	
6	505	117	1	10.00	10.00	
7	506	115	1	10.00	10.00	
8	506	116	1	12.00	12.00	
9	507	111	1	14.00	14.00	
10	507	112	1	14.00	13.00	
11	508	101	2	15.00	30.00	
12	509	113	1	12.00	12.00	
13	509	114	1	13.00	13.00	
14	510	103	1	24.00	24.00	
15	511	104	1	22.00	22.00	
16	512	117	1	10.00	10.00	
17	512	118	1	13.00	13.00	
18	513	119	4	2.50	10.00	
19	514	120	5	2.00	10.00	
20	514	101	1	15.00	9.00	
21	515	108	1	15.00	15.00	
22	515	111	1	14.00	14.00	
23	516	117	1	10.00	10.00	
24	516	101	1	15.00	3.00	
25	517	104	1	22.00	20.00	
26	518	110	1	38.00	26.00	

Figure: Sample Data from the Sale_Items Table

VIEWS

Views

```
CREATE VIEW vw_PurchaseDetails
AS
SELECT
    p.purch_ID,
    p.purch_date,
    s.supp_name,
    pr.prd_Name,
    pi.quantity,
    pi.unit_cost,
    pi.line_total,
    p.total_amount
FROM Purchases AS p
INNER JOIN Suppliers AS s
    ON p.supp_ID = s.supp_ID
INNER JOIN Purchase_Items AS pi
    ON p.purch_ID = pi.purch_ID
INNER JOIN Products AS pr
    ON pi.prd_ID = pr.prd_ID;
SELECT TOP 20 * FROM vw_PurchaseDetails;
```

Output for View

	purch_ID	purch_date	supp_name	prd_Name	quantity	unit_cost	line_total	total_amour
1	401	2025-05-01	Mandurria Supermart	Pancit Canton	30	11.50	345.00	805.00
2	401	2025-05-01	Mandurria Supermart	555 Sardines	20	23.00	460.00	805.00
3	402	2025-05-03	4R Beverages Delivery	Coke	24	18.00	432.00	542.00
4	402	2025-05-03	4R Beverages Delivery	Hotdog	10	11.00	110.00	542.00
5	403	2025-05-05	Mandurria Supermart	Safeguard	15	19.75	296.25	583.75
6	403	2025-05-05	Mandurria Supermart	Pancit Canton	15	11.50	172.50	583.75
7	403	2025-05-05	Mandurria Supermart	555 Sardines	5	23.00	115.00	583.75
8	404	2025-05-06	SM Hypermarket	Piattos Cheese	10	17.00	170.00	345.00
9	404	2025-05-06	SM Hypermarket	Nova Chips	10	17.50	175.00	345.00
10	405	2025-05-06	Coke Bottlers PH	Argentina Cor...	3	32.00	96.00	198.00
11	405	2025-05-06	Coke Bottlers PH	Lucky Me Beef	6	17.00	102.00	198.00
12	406	2025-05-07	URC Foods Delivery	Lucky Me Chi...	20	11.00	220.00	652.00
13	406	2025-05-07	URC Foods Delivery	Silver Swan ...	20	8.00	160.00	652.00
14	406	2025-05-07	URC Foods Delivery	Datu Puti Vin...	20	9.00	180.00	652.00
15	406	2025-05-07	URC Foods Delivery	Downy Sachet	12	8.00	96.00	652.00
16	407	2025-05-07	Lucky Me Distributor	Palmolive Sh...	10	6.00	60.00	124.00
17	407	2025-05-07	Lucky Me Distributor	Head & Shou...	5	13.00	65.00	124.00
18	408	2025-05-08	SM Hypermarket	Bear Brand S...	10	12.00	120.00	320.00
19	408	2025-05-08	SM Hypermarket	Milo Sachet	10	14.00	140.00	320.00
20	408	2025-05-08	SM Hypermarket	Pancit Canton	10	6.00	60.00	320.00

✓ Query executed successfully.

Figure: Output of the vw_PurchaseDetails View

This view provides a detailed report of all purchase transactions. It combines data from the Purchases, Suppliers, Purchase_Items, and Products tables to show the purchase date, supplier name, product purchased, quantities, costs, and line totals. It is useful for reviewing stock-in activity and verifying supplier deliveries.

Stored Procedures

Procedure for Operation #1

```
-- Procedure for Operation #1
CREATE PROCEDURE sp_AddProduct
    @prd_Name VARCHAR(50),
    @category VARCHAR(30),
    @unit VARCHAR(10),
    @cost_price DECIMAL(10,2),
    @selling_price DECIMAL(10,2),
    @reorder_level INT,
    @current_stock INT
AS
BEGIN
    INSERT INTO Products (prd_Name, category, unit, cost_price, selling_price, reorder_level, current_stock)
    VALUES (@prd_Name, @category, @unit, @cost_price, @selling_price, @reorder_level, @current_stock);
END
EXEC sp_AddProduct
    'Piattos BBQ', 'Snacks', 'Pcs', 17.00, 20.00, 10, 30;
```

This procedure inserts a new product into the Products table. It simplifies adding new inventory items and ensures consistency when stocking new products.

Procedure for Operation #2

```
-- Procedure for Operation #2
CREATE PROCEDURE sp_AddSalee
    @sale_date DATE,
    @emp_ID INT,
    @total_amount DECIMAL(10,2)
AS
BEGIN
    INSERT INTO Sales (sale_date, emp_ID, total_amount)
    VALUES (@sale_date, @emp_ID, @total_amount);
END
EXEC sp_AddSalee
    '2025-05-20', 202, 150.00;
```

This procedure records a new sale in the Sales table. It allows inserting sales quickly by providing only the date, employee, and total amount. It is useful for automating sales entry.

Procedure for Report

```
-- Procedure for Operation #3
CREATE PROCEDURE sp_ShowAllProducts
AS
BEGIN
    SELECT
        prd_ID,
        prd_Name,
        category,
        unit,
        selling_price,
        current_stock
    FROM Products;
END

EXEC sp_ShowAllProducts;
```

Output

	prd_ID	prd_Name	category	unit	selling_price	current_stock
1	101	Pancit Canton	Candy	Pcs	15.00	10
2	102	555 Sardines	Canned Goods	Pcs	27.00	20
3	103	Safeguard	Body Wash	Pcs	24.00	10
4	104	Coke	Beverages	Pcs	22.00	3
5	105	Hotdog	Frozen Foods	Pack	18.00	3
6	106	Piattos Cheese	Snacks	Pcs	20.00	15
7	107	Nova Chips	Snacks	Pcs	22.00	25
8	108	Bear Brand Sachet	Beverages	Pcs	14.00	20
9	109	Milo Sachet	Beverages	Pcs	11.00	15
10	110	Argentina Corned Beef	Canned Goods	Pcs	40.00	15
11	111	Lucky Me Beef	Noodles	Pcs	14.00	20
12	112	Lucky Me Chicken	Noodles	Pcs	14.00	20
13	113	Silver Swan Soy Sau...	Condiments	Pcs	14.00	15
14	114	Datu Puti Vinegar	Condiments	Pcs	14.00	15
15	115	Downy Sachet	Laundry	Pcs	10.00	20
16	116	Surf Powder	Laundry	Pcs	10.00	20
17	117	Palmolive Shampoo	Toiletries	Pcs	10.00	20
18	118	Head & Shoulders S...	Toiletries	Pcs	10.00	22
19	119	Biogesic Tablet	Medicines	Pcs	8.00	20
20	120	Vicks Cough Drops	Medicines	Pcs	2.00	60

This procedure displays the full list of products in the store's inventory. It serves as a simple report procedure that retrieves product names, categories, prices, and stock levels for review.

Curriculum Vitae

JOPHET MONTELIBANO, JR.

CONTACT

- ✉ jophetmontelibanojr@gmail.com
- 📍 Mandurria, Iloilo City

PROFILE SUMMARY

Motivated BS Information Technology student with skills in database design, SQL, programming, and mobile development. Currently building academic projects focused on system automation and application development. Eager to gain hands-on experience in real-world IT environments while continuously improving technical and problem-solving skills.

EDUCATION

2022 - PRESENT
CENTRAL PHILIPPINE UNIVERSITY
Bachelor of Science in Information
Technology (BSIT)
Graduated: 2022
ILOILO NATIONAL HIGH SCHOOL
STEM Strand

PROJECT EXPERIENCE

Monty's Store Database System 2025
Database Designer & Developer

- Designed a 7-table relational database for a sari-sari store.
- Created ERD, data dictionary, views and stored procedures
- Implemented purchase and sales transactions using SQL Server
- Generated reports for inventory and low-stock monitoring

SKILLS

- SQL / PL/SQL
- SQL Server Management Studio
- Dart & Flutter
- UI/UX Basics
- HTML / CSS / JavaScript
- Java / Python
- Git / GitHub
- Problem-Solving
- Teamwork

LANGUAGES

- English: Fluent
- Filipino: Fluent