

NAME	Suryanarayanan G
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ORDER MANAGEMENT SYSTEM

Project Description:

Order Management System is a Java + MYSQL program that manages users, products, and orders.

Relationship Table:

Parent Table	Child Table	Relationship Type	Description
users	orders	One-to-Many	One user can place many orders
products	orders	One-to-Many	One product can appear in many orders
orders	users	Many-to-One (Foreign Key)	Each order is linked to one user
orders	products	Many-to-One (Foreign Key)	Each order is linked to one product

Database Schema:

```
CREATE DATABASE order_management_system;
```

```
USE order_management_system;
```

```
CREATE TABLE users (
    user_id INT PRIMARY KEY,
    username VARCHAR(50) NOT NULL,
    password VARCHAR(50) NOT NULL,
    role VARCHAR(20) NOT NULL
);

CREATE TABLE products (
    product_id INT PRIMARY KEY,
    product_name VARCHAR(100) NOT NULL,
```

```

description TEXT,
price DOUBLE NOT NULL,
quantity_in_stock INT NOT NULL,
type VARCHAR(20) NOT NULL
);
CREATE TABLE orders (
    order_id INT PRIMARY KEY AUTO_INCREMENT,
    user_id INT,
    product_id INT,
    order_date DATE,
    FOREIGN KEY (user_id) REFERENCES users(user_id),
    FOREIGN KEY (product_id) REFERENCES products(product_id)
);

```

Data Insertion:

// User Table:

```

INSERT INTO users (user_id, username, password, role) VALUES
(1, 'Rajesh Kumar', 'rajesh123', 'Admin'),
(2, 'Priya Menon', 'priya456', 'User'),
(3, 'Arun Iyer', 'arun789', 'User');

```

//Products Table:

```

INSERT INTO products (product_id, product_name, description, price, quantity_in_stock, type)
VALUES
(1, 'Madurai Silk Saree', 'Traditional silk saree from Madurai', 2500.00, 10, 'Clothing'),
(2, 'Kancheepuram Silk', 'Premium silk from Kancheepuram', 5000.00, 5, 'Clothing'),
(3, 'Coimbatore Cotton Shirt', 'Pure cotton shirt from Coimbatore', 1200.00, 15, 'Clothing'),
(4, 'Bangalore Smart TV', 'Smart TV manufactured in Bangalore', 35000.00, 8, 'Electronics'),
(5, 'Chennai Laptop', 'Laptop assembled in Chennai', 45000.00, 6, 'Electronics'),
(6, 'Hyderabad Smartphone', 'Smartphone from Hyderabad', 15000.00, 12, 'Electronics');

```

//Orders Table:

```

INSERT INTO orders (order_id, user_id, product_id) VALUES

```

(1, 2, 1),
(2, 2, 4),
(3, 3, 2),
(4, 3, 5),
(5, 2, 3),
(6, 3, 6);

Data Selection:

```
mysql> select* from users;
+-----+-----+-----+-----+
| user_id | username | password | role |
+-----+-----+-----+-----+
| 1 | Rajesh Kumar | rajesh123 | Admin |
| 2 | Priya Menon | priya456 | User |
| 3 | Arun Iyer | arun789 | User |
+-----+-----+-----+-----+
3 rows in set (0.06 sec)
```

```
mysql> select* from products;
+-----+-----+-----+-----+-----+-----+
| product_id | product_name | description | price | quantity_in_stock | type |
+-----+-----+-----+-----+-----+-----+
| 1 | Madurai Silk Saree | Traditional silk saree from Madurai | 2500 | 10 | Clothing |
| 2 | Kancheepuram Silk | Premium silk from Kancheepuram | 5000 | 5 | Clothing |
| 3 | Coimbatore Cotton Shirt | Pure cotton shirt from Coimbatore | 1200 | 15 | Clothing |
| 4 | Bangalore Smart TV | Smart TV manufactured in Bangalore | 35000 | 8 | Electronics |
| 5 | Chennai Laptop | Laptop assembled in Chennai | 45000 | 6 | Electronics |
| 6 | Hyderabad Smartphone | Smartphone from Hyderabad | 15000 | 12 | Electronics |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.01 sec)
```

```
mysql> select*from orders;
+-----+-----+-----+-----+
| order_id | user_id | product_id | order_date |
+-----+-----+-----+-----+
| 1 | 2 | 1 | 2024-03-01 |
| 2 | 2 | 4 | 2024-03-05 |
| 3 | 3 | 2 | 2024-03-10 |
| 4 | 3 | 5 | 2024-03-15 |
| 5 | 2 | 3 | 2024-03-20 |
| 6 | 3 | 6 | 2024-03-25 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

CODING - JAVA files I have Created:

1. **Product.java:** Product class with simple attributes and methods
2. **Electronics.java and Clothing.java:** Subclasses of Product with their specific attributes
3. **User.java:** Basic user class with simple attributes
4. **IOrderManagementRepository.java:** Interface defining the basic operations
5. **DBPropertyUtil.java and DBConnUtil.java:** Simple utility classes for database connection
6. **MainModule.java:** Simple menu-driven interface for user interaction

OUTPUT SCREENSHOTS:

1.User Creation:

```
Order Management System
1. Create User
2. Create Product
3. Create Order
4. Get All Products
5. Get Orders by User
6. Exit
Enter your choice: 1
Enter User ID: 4
Enter Username: surya
Enter Password: surya123
Enter Role (Admin/User): User
User created successfully!
```

2.New Product Creation:

```
Order Management System
1. Create User
2. Create Product
3. Create Order
4. Get All Products
5. Get Orders by User
6. Exit
Enter your choice: 2
Enter Product ID: 10
Enter Product Name: kurta
Enter Description: cotton wear
Enter Price: 1000
Enter Quantity in Stock: 100
Enter Product Type (Electronics/Clothing): Clothing
Product created successfully!
```

```
mysql> select*from products;
```

product_id	product_name	description	price	quantity_in_stock	type	size	color
1	Madurai Silk Saree	Traditional silk saree from Madurai	2500	10	Clothing	NULL	NULL
2	Kancheepuram Silk	Premium silk from Kancheepuram	5000	5	Clothing	NULL	NULL
3	Coimbatore Cotton Shirt	Pure cotton shirt from Coimbatore	1200	15	Clothing	NULL	NULL
4	Bangalore Smart TV	Smart TV manufactured in Bangalore	35000	8	Electronics	NULL	NULL
5	Chennai Laptop	Laptop assembled in Chennai	45000	6	Electronics	NULL	NULL
6	Hyderabad Smartphone	Smartphone from Hyderabad	15000	12	Electronics	NULL	NULL
7	Pulsar bike	super bike	90000	10	Electronics	NULL	NULL
8	shirt	cotton shirt	200	50	Clothing	NULL	NULL
9	modam	wifi module	2000	30	Electronics	NULL	NULL
10	kurta	cotton wear	1000	100	Clothing	NULL	NULL

```
10 rows in set (0.00 sec)
```

3.Create order:

Order Management System

1. Create User
2. Create Product
3. Create Order
4. Get All Products
5. Get Orders by User
6. Exit

Enter your choice: 3

Enter User ID: 2

Available Products in Inventory:

ID	Name	Price	Type	Quantity
1	Madurai Silk Saree	2500.00	Clothing	10
2	Kancheepuram Silk	5000.00	Clothing	5
3	Coimbatore Cotton Shirt	1200.00	Clothing	15
4	Bangalore Smart TV	35000.00	Electronics	8
5	Chennai Laptop	45000.00	Electronics	6
6	Hyderabad Smartphone	15000.00	Electronics	12
7	Pulsar bike	90000.00	Electronics	10
8	shirt	200.00	Clothing	50
9	modam	2000.00	Electronics	30
10	kurta	1000.00	Clothing	100

Enter Product ID you want to order: 1

Enter Quantity: 1

Order created successfully!

4. Get All Products:

Order Management System

1. Create User
2. Create Product
3. Create Order
4. Get All Products
5. Get Orders by User
6. Exit

Enter your choice: 4

All Products in Inventory:

ID: 1

Name: Madurai Silk Saree

Price: 2500.0

Type: Clothing

Quantity: 10

ID: 2

Name: Kancheepuram Silk

Price: 5000.0

Type: Clothing

Quantity: 5

ID: 3

Name: Coimbatore Cotton Shirt

Price: 1200.0

Type: Clothing

Quantity: 15

ID: 4

Name: Bangalore Smart TV

Price: 35000.0

Type: Electronics

Quantity: 8

ID: 5

Name: Chennai Laptop

Price: 45000.0

Type: Electronics

Quantity: 6

ID: 6

Name: Hyderabad Smartphone

Price: 15000.0

Type: Electronics

Quantity: 12

ID: 7

Name: Pulsar bike

Price: 90000.0

Type: Electronics

Quantity: 10

ID: 8

Name: shirt

Price: 200.0

Type: Clothing

Quantity: 50

ID: 9

Name: modam

Price: 2000.0

Type: Electronics

Quantity: 30

ID: 10

Name: kurta

Price: 1000.0

Type: Clothing

Quantity: 100

5.Orders of all Users:

Order Management System

1. Create User
2. Create Product
3. Create Order
4. Get All Products
5. Get Orders by User
6. Exit

Enter your choice: 5

Enter User ID: 1

Orders for User: Rajesh Kumar

No orders found for this user.

Enter your choice: 5

Enter User ID: 2

Orders for User: Priya Menon

Order ID: 5
Product: Coimbatore Cotton Shirt
Price: 1200.0
Type: Clothing
Date: 2024-03-20

Order ID: 2
Product: Bangalore Smart TV
Price: 35000.0
Type: Electronics
Date: 2024-03-05

Order ID: 1
Product: Madurai Silk Saree
Price: 2500.0
Type: Clothing
Date: 2024-03-01
