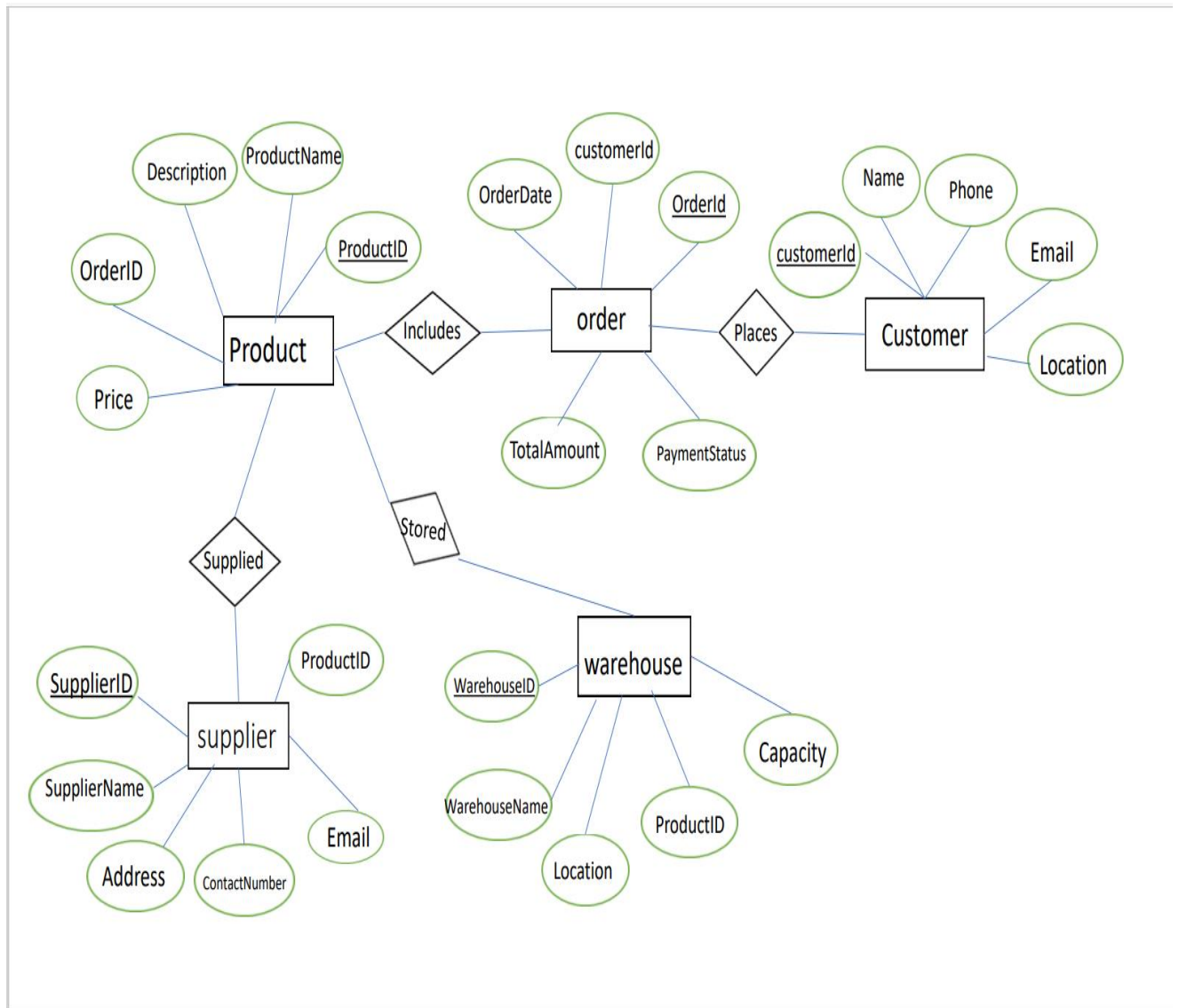# FABRICEDGE TEXTILE

INTRODUCTION:

A textile management system is a software solution designed to streamline and automate processes related to inventory management, production planning, sales, and customer relationship management in the textile industry. It helps businesses optimize operations, improve efficiency, and enhance customer satisfaction.

ER DIAGRAM:

STRUCTURE OF TABLES

CUSTOMER: Represents the individuals or organizations who purchase textile products.

```
MariaDB [textile]> desc customer;
+------------+--------------+------+-----+---------+-------+
| Field      | Type         | Null | Key | Default | Extra |
+------------+--------------+------+-----+---------+-------+
| CustomerID | int(11)      | NO   | PRI | NULL    |       |
| Name       | varchar(100) | YES  |     | NULL    |       |
| Location   | varchar(100) | YES  |     | NULL    |       |
| Email      | varchar(100) | YES  |     | NULL    |       |
| Phone      | varchar(20)  | YES  |     | NULL    |       |
+------------+--------------+------+-----+---------+-------+
5 rows in set (0.011 sec)
```

ORDER: Represents an order placed by a customer.

```
MariaDB [textile]> desc orders;
+---------------+--------------+------+-----+---------+-------+
| Field         | Type         | Null | Key | Default | Extra |
+---------------+--------------+------+-----+---------+-------+
| OrderID       | int(11)      | NO   | PRI | NULL    |       |
| CustomerID    | int(11)      | YES  | MUL | NULL    |       |
| OrderDate     | date         | YES  |     | NULL    |       |
| TotalAmount   | decimal(4,2) | YES  |     | NULL    |       |
| PaymentStatus | varchar(20)  | YES  |     | NULL    |       |
+---------------+--------------+------+-----+---------+-------+
5 rows in set (0.006 sec)
```

PRODUCT: Represents the textile products available for sale.

```
MariaDB [textile]> desc product;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| ProductID   | int(11)      | NO   | PRI | NULL    |       |
| ProductName | varchar(100) | YES  |     | NULL    |       |
| Description | varchar(255) | YES  |     | NULL    |       |
| orderID     | int(11)      | YES  | MUL | NULL    |       |
| Price       | decimal(4,2) | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
5 rows in set (0.010 sec)
```

SUPPLIER: Represents the suppliers who provide textile products.

```
MariaDB [textile]> desc suppliers;
+---------------+--------------+------+-----+---------+-------+
| Field         | Type         | Null | Key | Default | Extra |
+---------------+--------------+------+-----+---------+-------+
| SupplierID    | int(11)      | NO   | PRI | NULL    |       |
| SupplierName  | varchar(100) | YES  |     | NULL    |       |
| Address       | varchar(200) | YES  |     | NULL    |       |
| ContactNumber | bigint(20)   | YES  |     | NULL    |       |
| Email         | varchar(100) | YES  |     | NULL    |       |
| ProductID     | int(11)      | YES  | MUL | NULL    |       |
+---------------+--------------+------+-----+---------+-------+
6 rows in set (0.005 sec)
```

WAREHOUSE: Represents the storage location for textile products.

```
MariaDB [textile]> desc warehouse;
+---------------+--------------+------+-----+---------+-------+
| Field         | Type         | Null | Key | Default | Extra |
+---------------+--------------+------+-----+---------+-------+
| WarehouseID   | int(11)      | NO   | PRI | NULL    |       |
| WarehouseName | varchar(100) | YES  |     | NULL    |       |
| Location      | varchar(200) | YES  |     | NULL    |       |
| Capacity      | int(11)      | YES  |     | NULL    |       |
| ProductID     | int(11)      | YES  | MUL | NULL    |       |
+---------------+--------------+------+-----+---------+-------+
5 rows in set (0.006 sec)
```

CONTENTS OF TABLES

CUSTOMER:

```
MariaDB [textile]> select *from customer;
+------------+-------------------+---------------+----------------------------------+-----------+
| CustomerID | Name              | Location      | Email                            | Phone     |
+------------+-------------------+---------------+----------------------------------+-----------+
|       2001 | John Doe          | New York      | johndoe@example.com              | 555-1234  |
|       2002 | Jane Smith        | Los Angeles   | janesmith@example.com            | 555-5678  |
|       2003 | David Johnson     | Chicago       | davidjohnson@example.com         | 555-9876  |
|       2004 | Sarah Williams    | Houston       | sarahwilliams@example.com        | 555-4321  |
|       2005 | Michael Brown     | San Francisco | michaelbrown@example.com         | 555-8765  |
|       2006 | Emily Jones       | Seattle       | emilyjones@example.com           | 555-2468  |
|       2007 | Christopher Taylor| Miami         | christophertaylor@example.com    | 555-1357  |
|       2008 | Jessica Davis     | Dallas        | jessicadavis@example.com         | 555-5792  |
|       2009 | Daniel Miller     | Phoenix       | danielmiller@example.com         | 555-8246  |
|       2010 | Megan Wilson      | Denver        | meganwilson@example.com          | 555-7681  |
|       2011 | Matthew Anderson  | Atlanta       | matthewanderson@example.com      | 555-9213  |
|       2012 | Olivia Thomas     | Boston        | oliviathomas@example.com         | 555-3179  |
|       2013 | Andrew Jackson    | Philadelphia  | andrewjackson@example.com        | 555-4682  |
|       2014 | Ava White         | San Diego     | avawhite@example.com             | 555-7269  |
|       2015 | Ryan Harris       | Las Vegas     | ryanharris@example.com           | 555-6341  |
|       2016 | Sophia Martin     | Orlando       | sophiamartin@example.com         | 555-9824  |
|       2017 | William Thompson  | New Orleans   | williamthompson@example.com      | 555-2157  |
|       2018 | Isabella Garcia   | Nashville     | isabellagarcia@example.com       | 555-9734  |
|       2019 | Ethan Martinez    | Austin        | ethanmartinez@example.com        | 555-4618  |
|       2020 | Emma Robinson     | San Antonio   | emmarobinson@example.com         | 555-7392  |
+------------+-------------------+---------------+----------------------------------+-----------+
20 rows in set (0.003 sec)
```

ORDER:

```
MariaDB [textile]> select *from orders;
+---------+------------+------------+-------------+---------------+
| OrderID | CustomerID | OrderDate  | TotalAmount | PaymentStatus |
+---------+------------+------------+-------------+---------------+
|    1001 |       2001 | 2023-06-15 |       75.99 | Paid          |
|    1002 |       2002 | 2023-06-16 |       99.99 | Paid          |
|    1003 |       2003 | 2023-06-17 |       39.99 | Pending       |
|    1004 |       2004 | 2023-06-18 |       89.99 | Paid          |
|    1005 |       2005 | 2023-06-19 |       29.99 | Paid          |
|    1006 |       2006 | 2023-06-20 |       64.99 | Pending       |
|    1007 |       2007 | 2023-06-21 |       99.99 | Paid          |
|    1008 |       2008 | 2023-06-22 |       99.99 | Paid          |
|    1009 |       2009 | 2023-06-23 |       54.99 | Paid          |
|    1010 |       2010 | 2023-06-24 |       79.99 | Paid          |
|    1011 |       2011 | 2023-06-25 |       99.99 | Pending       |
|    1012 |       2012 | 2023-06-26 |       44.99 | Paid          |
|    1013 |       2013 | 2023-06-27 |       69.99 | Paid          |
|    1014 |       2014 | 2023-06-28 |       99.99 | Paid          |
|    1015 |       2015 | 2023-06-29 |       94.99 | Pending       |
|    1016 |       2016 | 2023-06-30 |       24.99 | Paid          |
|    1017 |       2017 | 2023-07-01 |       99.99 | Paid          |
|    1018 |       2018 | 2023-07-02 |       79.99 | Pending       |
|    1019 |       2019 | 2023-07-03 |       59.99 | Paid          |
|    1020 |       2020 | 2023-07-04 |       99.99 | Paid          |
+---------+------------+------------+-------------+---------------+
20 rows in set (0.000 sec)
```

PRODUCT:

```
MariaDB [textile]> select *from product;
+-----------+----------------------+-------------------------------------------------------------+---------+--------+
| ProductID | ProductName          | Description                                                 | orderID | Price  |
+-----------+----------------------+-------------------------------------------------------------+---------+--------+
|         1 | Cotton T-shirt       | A comfortable and breathable cotton T-shirt for everyday wear. |    1001 |  15.99 |
|         2 | Denim Jeans          | Classic denim jeans with a slim fit and durable construction. |    1002 |  49.99 |
|         3 | Silk Scarf           | Luxurious silk scarf with a vibrant floral print.           |    1003 |  29.99 |
|         4 | Linen Dress          | Lightweight linen dress in a relaxed fit, perfect for summer. |    1004 |  39.99 |
|         5 | Wool Sweater         | Cozy wool sweater with a cable knit pattern.                |    1005 |  59.99 |
|         6 | Polyester Blouse     | Elegant polyester blouse with ruffled sleeves.              |    1006 |  24.99 |
|         7 | Velvet Skirt         | Soft velvet skirt with a flared silhouette.                 |    1007 |  34.99 |
|         8 | Cashmere Scarf       | Luxurious cashmere scarf, incredibly soft and warm.         |    1008 |  79.99 |
|         9 | Cotton Shorts        | Comfortable cotton shorts for casual summer outfits.        |    1009 |  19.99 |
|        10 | Linen Tablecloth     | High-quality linen tablecloth for elegant dining experiences. |    1010 |  49.99 |
|        11 | Chiffon Maxi Dress   | Flowy chiffon maxi dress with a floral print.               |    1011 |  69.99 |
|        12 | Wool Coat            | Warm wool coat with a tailored fit and classic design.      |    1012 |  99.99 |
|        13 | Silk Blouse          | Luxurious silk blouse with a button-up front.               |    1013 |  39.99 |
|        14 | Velvet Jacket        | Plush velvet jacket with a relaxed fit and satin lining.    |    1014 |  79.99 |
|        15 | Cotton Socks         | Soft and breathable cotton socks in various colors.         |    1015 |   9.99 |
|        16 | Linen Pillowcases    | Set of two linen pillowcases with a subtle embroidered detail. |    1016 |  29.99 |
|        17 | Polyester Blend Blazer | Stylish polyester blend blazer for formal occasions.      |    1017 |  89.99 |
|        18 | Wool Hat             | Cozy wool hat with a folded brim and a pom-pom accent.      |    1018 |  24.99 |
|        19 | Silk Pajama Set      | Luxurious silk pajama set for a comfortable night's sleep.  |    1019 |  79.99 |
|        20 | Cashmere Sweater     | Soft and luxurious cashmere sweater with a crew neck.       |    1020 |  99.99 |
+-----------+----------------------+-------------------------------------------------------------+---------+--------+
20 rows in set (0.001 sec)
```

SUPPLIERS:

```
MariaDB [textile]> select *from suppliers;
+------------+--------------+---------------------+---------------+---------------------+-----------+
| SupplierID | SupplierName | Address             | ContactNumber | Email               | ProductID |
+------------+--------------+---------------------+---------------+---------------------+-----------+
|        101 | Supplier A   | 123 Main St, City A  |    1234567890 | supplierA@email.com |         1 |
|        102 | Supplier B   | 456 Elm St, City B   |    9876543210 | supplierB@email.com |         2 |
|        103 | Supplier C   | 789 Oak St, City C   |    5551234567 | supplierC@email.com |         3 |
|        104 | Supplier D   | 321 Maple St, City D |    8885551234 | supplierD@email.com |         4 |
|        105 | Supplier E   | 654 Pine St, City E  |    7778889999 | supplierE@email.com |         5 |
|        106 | Supplier F   | 987 Cedar St, City F |    1112223333 | supplierF@email.com |         6 |
|        107 | Supplier G   | 852 Elm St, City G   |    4445556666 | supplierG@email.com |         7 |
|        108 | Supplier H   | 741 Oak St, City H   |    2223334444 | supplierH@email.com |         8 |
|        109 | Supplier I   | 963 Maple St, City I |    9998887777 | supplierI@email.com |         9 |
|        110 | Supplier J   | 159 Pine St, City J  |    3332221111 | supplierJ@email.com |        10 |
|        111 | Supplier K   | 258 Cedar St, City K |    6667778888 | supplierK@email.com |        11 |
|        112 | Supplier L   | 753 Elm St, City L   |    7777777777 | supplierL@email.com |        12 |
|        113 | Supplier M   | 852 Oak St, City M   |    8888888888 | supplierM@email.com |        13 |
|        114 | Supplier N   | 369 Maple St, City N |    9999999999 | supplierN@email.com |        14 |
|        115 | Supplier O   | 147 Pine St, City O  |    1010101010 | supplierO@email.com |        15 |
|        116 | Supplier P   | 258 Cedar St, City P |    1111111111 | supplierP@email.com |        16 |
|        117 | Supplier Q   | 369 Elm St, City Q   |    2222222222 | supplierQ@email.com |        17 |
|        118 | Supplier R   | 852 Oak St, City R   |    3333333333 | supplierR@email.com |        18 |
|        119 | Supplier S   | 741 Pine St, City S  |    4444444444 | supplierS@email.com |        19 |
|        120 | Supplier T   | 963 Cedar St, CityT  |    5555555555 | supplierT@email.com |        20 |
+------------+--------------+---------------------+---------------+---------------------+-----------+
20 rows in set (0.001 sec)
```

WAREHOUSE:

```
MariaDB [textile]> select *from warehouse;
+-------------+---------------+----------------------+----------+-----------+
| WarehouseID | WarehouseName | Location             | Capacity | ProductID |
+-------------+---------------+----------------------+----------+-----------+
|         201 | Warehouse A   | 123 Main St, City A  |     1000 |         1 |
|         202 | Warehouse B   | 456 Elm St, City B   |     1500 |         2 |
|         203 | Warehouse C   | 789 Oak St, City C   |     2000 |         3 |
|         204 | Warehouse D   | 321 Maple St, City D |     1200 |         4 |
|         205 | Warehouse E   | 654 Pine St, City E  |     1800 |         5 |
|         206 | Warehouse F   | 987 Cedar St, City F |      800 |         6 |
|         207 | Warehouse G   | 852 Elm St, City G   |     1500 |         7 |
|         208 | Warehouse H   | 741 Oak St, City H   |     2000 |         8 |
|         209 | Warehouse I   | 963 Maple St, City I |     1200 |         9 |
|         210 | Warehouse J   | 159 Pine St, City J  |     1800 |        10 |
|         211 | Warehouse K   | 258 Cedar St, City K |      800 |        11 |
|         212 | Warehouse L   | 753 Elm St, City L   |     1500 |        12 |
|         213 | Warehouse M   | 852 Oak St, City M   |     2000 |        13 |
|         214 | Warehouse N   | 369 Maple St, City N |     1200 |        14 |
|         215 | Warehouse O   | 147 Pine St, City O  |     1800 |        15 |
|         216 | Warehouse P   | 258 Cedar St, City P |      800 |        16 |
|         217 | Warehouse Q   | 369 Elm St, City Q   |     1500 |        17 |
|         218 | Warehouse R   | 852 Oak St, City R   |     2000 |        18 |
|         219 | Warehouse S   | 741 Pine St, City S  |     1200 |        19 |
|         220 | Warehouse T   | 963 Cedar St, City T |     1800 |        20 |
+-------------+---------------+----------------------+----------+-----------+
20 rows in set (0.000 sec)
```

SUBQUERIES

1. Retrieve the names of product stored in a specific warehouse.

MariaDB [textile]> SELECT ProductName FROM Product WHERE ProductID IN (SELECT ProductID FROM Warehouse WHERE WarehouseName = 'warehouse A');

```
+----------------+
| ProductName    |
+----------------+
| Cotton T-shirt |
+----------------+
1 row in set (0.005 sec)
```

2. Retrieve suppliers name who supply products with a price higher than the average price of all products.

MariaDB [textile]> SELECT SupplierName FROM Suppliers WHERE productID IN (SELECT productID FROM Product WHERE Price > (SELECT AVG(Price) FROM Product));

```
+--------------+
| SupplierName |
+--------------+
| Supplier E   |
| Supplier H   |
| Supplier K   |
| Supplier L   |
| Supplier N   |
| Supplier Q   |
| Supplier S   |
| Supplier T   |
+--------------+
8 rows in set (0.003 sec)
```

3. Retrieve the names of customer who have placed an order for a specific orderid =1011.

MariaDB [textile]> select name from customer where customerid in (select customerid from orders where orderid = '1011');

```
+------------------+
| name             |
+------------------+
| Matthew Anderson |
+------------------+
1 row in set (0.004 sec)
```

4. Retrieve the names of customers along with the average order amount for each customer.

MariaDB [textile]> SELECT Name, (SELECT AVG(TotalAmount) FROM Orders WHERE CustomerID = Customer.CustomerID) AS AverageOrderAmount from customer;

```
+--------------------+--------------------+
| Name               | AverageOrderAmount |
+--------------------+--------------------+
| John Doe           |          75.990000 |
| Jane Smith         |          99.990000 |
| David Johnson      |          39.990000 |
| Sarah Williams     |          89.990000 |
| Michael Brown      |          29.990000 |
| Emily Jones        |          64.990000 |
| Christopher Taylor |          99.990000 |
| Jessica Davis      |          99.990000 |
| Daniel Miller      |          54.990000 |
| Megan Wilson       |          79.990000 |
| Matthew Anderson   |          99.990000 |
| Olivia Thomas      |          44.990000 |
| Andrew Jackson     |          69.990000 |
| Ava White          |          99.990000 |
| Ryan Harris        |          94.990000 |
| Sophia Martin      |          24.990000 |
| William Thompson   |          99.990000 |
| Isabella Garcia    |          79.990000 |
| Ethan Martinez     |          59.990000 |
| Emma Robinson      |          99.990000 |
+--------------------+--------------------+
20 rows in set (0.001 sec)
```

JOINS

1. Show the details of products along with their corresponding supplier names.

MariaDB [textile]> SELECT Product.ProductName, Suppliers.SupplierName FROM Product INNER JOIN Suppliers ON Product.productID = Suppliers.productID;

```
+------------------------+--------------+
| ProductName            | SupplierName |
+------------------------+--------------+
| Cotton T-shirt         | Supplier A   |
| Denim Jeans            | Supplier B   |
| Silk Scarf             | Supplier C   |
| Linen Dress            | Supplier D   |
| Wool Sweater           | Supplier E   |
| Polyester Blouse       | Supplier F   |
| Velvet Skirt           | Supplier G   |
| Cashmere Scarf         | Supplier H   |
| Cotton Shorts          | Supplier I   |
| Linen Tablecloth       | Supplier J   |
| Chiffon Maxi Dress     | Supplier K   |
| Wool Coat              | Supplier L   |
| Silk Blouse            | Supplier M   |
| Velvet Jacket          | Supplier N   |
| Cotton Socks           | Supplier O   |
| Linen Pillowcases      | Supplier P   |
| Polyester Blend Blazer | Supplier Q   |
| Wool Hat               | Supplier R   |
| Silk Pajama Set        | Supplier S   |
| Cashmere Sweater       | Supplier T   |
+------------------------+--------------+
20 rows in set (0.060 sec)
```

2. Retrieve all customers and their orders, including customers who have not placed any orders.

MariaDB [textile]> SELECT Customer.Name, Orders.OrderID, Orders.OrderDate FROM Customer LEFT JOIN Orders ON Customer.CustomerID = Orders.CustomerID;

```
+--------------------+---------+------------+
| Name               | OrderID | OrderDate  |
+--------------------+---------+------------+
| John Doe           |    1001 | 2023-06-15 |
| Jane Smith         |    1002 | 2023-06-16 |
| David Johnson      |    1003 | 2023-06-17 |
| Sarah Williams     |    1004 | 2023-06-18 |
| Michael Brown      |    1005 | 2023-06-19 |
| Emily Jones        |    1006 | 2023-06-20 |
| Christopher Taylor |    1007 | 2023-06-21 |
| Jessica Davis      |    1008 | 2023-06-22 |
| Daniel Miller      |    1009 | 2023-06-23 |
| Megan Wilson       |    1010 | 2023-06-24 |
| Matthew Anderson   |    1011 | 2023-06-25 |
| Olivia Thomas      |    1012 | 2023-06-26 |
| Andrew Jackson     |    1013 | 2023-06-27 |
| Ava White          |    1014 | 2023-06-28 |
| Ryan Harris        |    1015 | 2023-06-29 |
| Sophia Martin      |    1016 | 2023-06-30 |
| William Thompson   |    1017 | 2023-07-01 |
| Isabella Garcia    |    1018 | 2023-07-02 |
| Ethan Martinez     |    1019 | 2023-07-03 |
| Emma Robinson      |    1020 | 2023-07-04 |
+--------------------+---------+------------+
20 rows in set (0.001 sec)
```

3. Get the details of products along with corresponding warehouses names and with their capacities.

MariaDB [textile]> SELECT Product.ProductID, Product.ProductName, warehouse.warehousename, warehouse.capacity FROM Product RIGHT JOIN warehouse ON Product.ProductID = warehouse.ProductID;

```
+-----------+----------------------+--------------+----------+
| ProductID | ProductName          | warehousename | capacity |
+-----------+----------------------+--------------+----------+
|         1 | Cotton T-shirt       | Warehouse A  |     1000 |
|         2 | Denim Jeans          | Warehouse B  |     1500 |
|         3 | Silk Scarf           | Warehouse C  |     2000 |
|         4 | Linen Dress          | Warehouse D  |     1200 |
|         5 | Wool Sweater         | Warehouse E  |     1800 |
|         6 | Polyester Blouse     | Warehouse F  |      800 |
|         7 | Velvet Skirt         | Warehouse G  |     1500 |
|         8 | Cashmere Scarf       | Warehouse H  |     2000 |
|         9 | Cotton Shorts        | Warehouse I  |     1200 |
|        10 | Linen Tablecloth     | Warehouse J  |     1800 |
|        11 | Chiffon Maxi Dress   | Warehouse K  |      800 |
|        12 | Wool Coat            | Warehouse L  |     1500 |
|        13 | Silk Blouse          | Warehouse M  |     2000 |
|        14 | Velvet Jacket        | Warehouse N  |     1200 |
|        15 | Cotton Socks         | Warehouse O  |     1800 |
|        16 | Linen Pillowcases    | Warehouse P  |      800 |
|        17 | Polyester Blend Blazer | Warehouse Q |     1500 |
|        18 | Wool Hat             | Warehouse R  |     2000 |
|        19 | Silk Pajama Set      | Warehouse S  |     1200 |
|        20 | Cashmere Sweater     | Warehouse T  |     1800 |
+-----------+----------------------+--------------+----------+
20 rows in set (0.002 sec)
```