

Products Table

The Products table contains details about products, including their names, categories, and unit prices. It provides reference data for linking product information to sales transactions.

Query:

-- Create Products table

```
CREATE TABLE Products (  
    product_id INT PRIMARY KEY,  
    product_name VARCHAR(100),  
    category VARCHAR(50),  
    unit_price DECIMAL(10, 2)  
);
```

-- Insert sample data into Products table

```
INSERT INTO Products (product_id, product_name, category, unit_price) VALUES  
(101, 'Laptop', 'Electronics', 500.00),  
(102, 'Smartphone', 'Electronics', 300.00),  
(103, 'Headphones', 'Electronics', 30.00),  
(104, 'Keyboard', 'Electronics', 20.00),  
(105, 'Mouse', 'Electronics', 15.00);
```

1. Retrieve all columns from the product table.
2. Retrieve the product_name and unit_price from the Products table.
3. Filter the Products table to show only products in the 'Electronics' category.
4. Retrieve the product_id and product_name from the Products table for products with a unit_price greater than \$100.
5. Calculate the average unit_price of products in the Products table.
6. Retrieve product_name and unit_price from the Products table with the Highest Unit Price
7. Retrieve the product_name and unit_price from the Products table, ordering the results by unit_price in descending order.
8. Retrieve the product_name and unit_price from the Products table, filtering the unit_price to show only values between \$20 and \$600.
9. Retrieve the product_name and category from the Products table, ordering the results by category in ascending order.

<https://onecompiler.com/mysql/43swey4u>

```
CREATE TABLE Products (
```

```
    product_id INT PRIMARY KEY,
```

```
    product_name VARCHAR(100),
```

```
    category VARCHAR(50),
```

```
    unit_price DECIMAL(10, 2)
```

```
);
```

```
INSERT INTO Products (product_id, product_name, category, unit_price) VALUES
```

```
(101, 'Laptop', 'Electronics', 500.00),
```

```
(102, 'Smartphone', 'Electronics', 300.00),
```

```
(103, 'Headphones', 'Electronics', 30.00),
```

```
(104, 'Keyboard', 'Electronics', 20.00),
```

```
(105, 'Mouse', 'Electronics', 15.00);
```

```
SELECT * FROM Products;
```

```
SELECT product_name, unit_price FROM Products;
```

```
SELECT * FROM Products
```

```
WHERE category = 'Electronics';
```

```
SELECT product_id, product_name
```

```
FROM Products
```

```
WHERE unit_price > 100;
```

```
SELECT AVG(unit_price) AS average_price
```

```
FROM Products;
```

```
SELECT product_name, unit_price
```

```
FROM Products
```

```
ORDER BY unit_price DESC
```

```
LIMIT 1;
```

```
SELECT product_name, unit_price
```

```

FROM Products

ORDER BY unit_price DESC;

SELECT product_name, unit_price

FROM Products

WHERE unit_price BETWEEN 20 AND 600;

SELECT product_name, category

FROM Products

ORDER BY category ASC;

```

OUTPUT:

```

+-----+-----+-----+-----+
| product_id | product_name | category | unit_price |
+-----+-----+-----+-----+
|    101 | Laptop      | Electronics | 500.00 |
|    102 | Smartphone  | Electronics | 300.00 |
|    103 | Headphones  | Electronics | 30.00 |
|    104 | Keyboard    | Electronics | 20.00 |
|    105 | Mouse       | Electronics | 15.00 |
+-----+-----+-----+-----+

+-----+-----+
| product_name | unit_price |
+-----+-----+
| Laptop       | 500.00 |
| Smartphone   | 300.00 |
| Headphones   | 30.00 |
| Keyboard     | 20.00 |
| Mouse        | 15.00 |
+-----+-----+

+-----+-----+-----+-----+

```

product_id	product_name	category	unit_price
------------	--------------	----------	------------

101	Laptop	Electronics	500.00
-----	--------	-------------	--------

102	Smartphone	Electronics	300.00
-----	------------	-------------	--------

103	Headphones	Electronics	30.00
-----	------------	-------------	-------

104	Keyboard	Electronics	20.00
-----	----------	-------------	-------

105	Mouse	Electronics	15.00
-----	-------	-------------	-------

101	Laptop	Electronics	500.00
-----	--------	-------------	--------

102	Smartphone	Electronics	300.00
-----	------------	-------------	--------

103	Headphones	Electronics	30.00
-----	------------	-------------	-------

104	Keyboard	Electronics	20.00
-----	----------	-------------	-------

105	Mouse	Electronics	15.00
-----	-------	-------------	-------

101	Laptop	Electronics	500.00
-----	--------	-------------	--------

102	Smartphone	Electronics	300.00
-----	------------	-------------	--------

103	Headphones	Electronics	30.00
-----	------------	-------------	-------

104	Keyboard	Electronics	20.00
-----	----------	-------------	-------

105	Mouse	Electronics	15.00
-----	-------	-------------	-------

101	Laptop	Electronics	500.00
-----	--------	-------------	--------

102	Smartphone	Electronics	300.00
-----	------------	-------------	--------

103	Headphones	Electronics	30.00
-----	------------	-------------	-------

104	Keyboard	Electronics	20.00
-----	----------	-------------	-------

105	Mouse	Electronics	15.00
-----	-------	-------------	-------

101	Laptop	Electronics	500.00
-----	--------	-------------	--------

102	Smartphone	Electronics	300.00
-----	------------	-------------	--------

103	Headphones	Electronics	30.00
-----	------------	-------------	-------

104	Keyboard	Electronics	20.00
-----	----------	-------------	-------

105	Mouse	Electronics	15.00
-----	-------	-------------	-------

101	Laptop	Electronics	500.00
-----	--------	-------------	--------

102	Smartphone	Electronics	300.00
-----	------------	-------------	--------

Smartphone		300.00	
------------	--	--------	--

Headphones		30.00	
------------	--	-------	--

Keyboard		20.00	
----------	--	-------	--

Mouse		15.00	
-------	--	-------	--

+-----+	+-----+
---------	---------

+-----+	+-----+
---------	---------

product_name		unit_price	
--------------	--	------------	--

+-----+	+-----+
---------	---------

Laptop		500.00	
--------	--	--------	--

Smartphone		300.00	
------------	--	--------	--

Headphones		30.00	
------------	--	-------	--

Keyboard		20.00	
----------	--	-------	--

+-----+	+-----+
---------	---------

+-----+	+-----+
---------	---------

product_name		category	
--------------	--	----------	--

+-----+	+-----+
---------	---------

Laptop		Electronics	
--------	--	-------------	--

Smartphone		Electronics	
------------	--	-------------	--

Headphones		Electronics	
------------	--	-------------	--

Keyboard		Electronics	
----------	--	-------------	--

Mouse		Electronics	
-------	--	-------------	--

+-----+	+-----+
---------	---------

Sales Table

The Sales table records information about product sales, including the quantity sold, sale date, and total price for each sale. It serves as a transactional data source for analyzing sales trends.

Query:

-- Create Sales table

```
CREATE TABLE Sales (  
    sale_id INT PRIMARY KEY,  
    product_id INT,  
    quantity_sold INT,  
    sale_date DATE,  
    total_price DECIMAL(10, 2)  
    FOREIGN KEY (product_id) REFERENCES Products(product_id)  
);
```

-- Insert sample data into Sales table

```
INSERT INTO Sales (sale_id, product_id, quantity_sold, sale_date, total_price) VALUES  
(1, 101, 5, '2024-01-01', 2500.00),  
(2, 102, 3, '2024-01-02', 900.00),  
(3, 103, 2, '2024-01-02', 60.00),  
(4, 104, 4, '2024-01-03', 80.00),  
(5, 105, 6, '2024-01-03', 90.00);
```

- 1. Retrieve all columns from the Sales table.**
- 2. Retrieve the sale_id and sale_date from the Sales table.**
- 3. Filter the Sales table to show only sales with a total_price greater than \$100.**
- 4. Retrieve the sale_id and total_price from the Sales table for sales made on January 3, 2024.**
- 5. Calculate the total revenue generated from all sales in the Sales table.**
- 6. Calculate the total quantity_sold from the Sales table.**

7. Retrieve the sale_id, product_id, and total_price from the Sales table for sales with a quantity_sold greater than 4.

8. Calculate the average total_price of sales in the Sales table.

<https://onecompiler.com/mysql/43swfa6f8>

```
CREATE TABLE IF NOT EXISTS Products (
```

```
    product_id INT PRIMARY KEY,
```

```
    product_name VARCHAR(100),
```

```
    category VARCHAR(50),
```

```
    unit_price DECIMAL(10, 2)
```

```
);
```

```
INSERT INTO Products (product_id, product_name, category, unit_price) VALUES
```

```
(101, 'Laptop', 'Electronics', 500.00),
```

```
(102, 'Smartphone', 'Electronics', 300.00),
```

```
(103, 'Headphones', 'Electronics', 30.00),
```

```
(104, 'Keyboard', 'Electronics', 20.00),
```

```
(105, 'Mouse', 'Electronics', 15.00);
```

```
CREATE TABLE Sales (
```

```
    sale_id INT PRIMARY KEY,
```

```
    product_id INT,
```

```
    quantity_sold INT,
```

```
    sale_date DATE,
```

```
    total_price DECIMAL(10, 2),
```

```
    FOREIGN KEY (product_id) REFERENCES Products(product_id)
```

```
);
```

```
INSERT INTO Sales (sale_id, product_id, quantity_sold, sale_date, total_price) VALUES
```

```
(1, 101, 5, '2024-01-01', 2500.00),
```

```
(2, 102, 3, '2024-01-02', 900.00),
```

```

(3, 103, 2, '2024-01-02', 60.00),
(4, 104, 4, '2024-01-03', 80.00),
(5, 105, 6, '2024-01-03', 90.00);

SELECT * FROM Sales;

SELECT sale_id, sale_date FROM Sales;

SELECT * FROM Sales

WHERE total_price > 100;

SELECT sale_id, total_price

FROM Sales

WHERE sale_date = '2024-01-03';

SELECT SUM(total_price) AS total_revenue

FROM Sales;

SELECT SUM(quantity_sold) AS total_quantity_sold

FROM Sales;

SELECT sale_id, product_id, total_price

FROM Sales

WHERE quantity_sold > 4;

SELECT AVG(total_price) AS average_sale_price

FROM Sales;

```

OUTPUT:

```

-----+-----+-----+-----+-----+
| sale_id | product_id | quantity_sold | sale_date | total_price |
+-----+-----+-----+-----+-----+
| 1 | 101 | 5 | 2024-01-01 | 2500.00 |
| 2 | 102 | 3 | 2024-01-02 | 900.00 |
| 3 | 103 | 2 | 2024-01-02 | 60.00 |
| 4 | 104 | 4 | 2024-01-03 | 80.00 |
| 5 | 105 | 6 | 2024-01-03 | 90.00 |

```


+-----+-----+-----+-----+-----+

+-----+-----+

| sale_id | sale_date |

+-----+-----+

| 1 | 2024-01-01 |

| 2 | 2024-01-02 |

| 3 | 2024-01-02 |

| 4 | 2024-01-03 |

| 5 | 2024-01-03 |

+-----+-----+

+-----+-----+-----+-----+-----+

| sale_id | product_id | quantity_sold | sale_date | total_price |

+-----+-----+-----+-----+-----+

| 1 | 101 | 5 | 2024-01-01 | 2500.00 |

| 2 | 102 | 3 | 2024-01-02 | 900.00 |

+-----+-----+-----+-----+-----+

+-----+-----+

| sale_id | total_price |

+-----+-----+

| 4 | 80.00 |

| 5 | 90.00 |

+-----+-----+

+-----+

| total_revenue |

+-----+

| 3630.00 |

+-----+

+-----+

total_quantity_sold

+-----+

20

+-----+

+-----+-----+-----+

sale_id product_id total_price

+-----+-----+-----+

1 101 2500.00

5 105 90.00

+-----+-----+-----+

+-----+

average_sale_price

+-----+

726.000000

+-----+
