

Data Visualization – PowerBI block

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```
CREATE TABLE products (  
    product_id SERIAL PRIMARY KEY,  
    product VARCHAR(255) NOT NULL,  
    category VARCHAR(255) NOT NULL  
);  
CREATE TABLE warehouses (  
    warehouse_id SERIAL PRIMARY KEY,  
    address VARCHAR(255),  
    city VARCHAR(255)  
);  
CREATE TABLE orders (  
    order_id SERIAL PRIMARY KEY,  
    order_date DATE,  
    user_id INT NOT NULL,  
    warehouse_id INT,  
    FOREIGN KEY (warehouse_id) REFERENCES warehouses(warehouse_id)  
);  
CREATE TABLE order_line (  
    order_id INT,  
    product_id INT,  
    price DECIMAL(10, 2) NOT NULL,  
    quantity INT NOT NULL,  
    FOREIGN KEY (order_id) REFERENCES orders(order_id),  
    FOREIGN KEY (product_id) REFERENCES products(product_id)  
);
```

Task 2:

```
SELECT DISTINCT o.user_id  
FROM orders o  
JOIN order_line ol ON o.order_id = ol.order_id  
JOIN products p ON ol.product_id = p.product_id  
WHERE p.category = 'animal feed'  
AND p.product != 'Kitekat cat food, with rabbit in sauce, 85 g'  
AND o.order_date BETWEEN '2023-08-01' AND '2023-08-15';
```

Task 3:

```
SELECT p.product, COUNT(*) AS order_count  
FROM orders o  
JOIN order_line ol ON o.order_id = ol.order_id  
JOIN products p ON ol.product_id = p.product_id  
JOIN warehouses w ON o.warehouse_id = w.warehouse_id  
WHERE w.city = 'St. Petersburg'  
AND o.order_date BETWEEN '2023-08-15' AND '2023-08-30'  
GROUP BY p.product  
ORDER BY order_count DESC  
LIMIT 5;
```