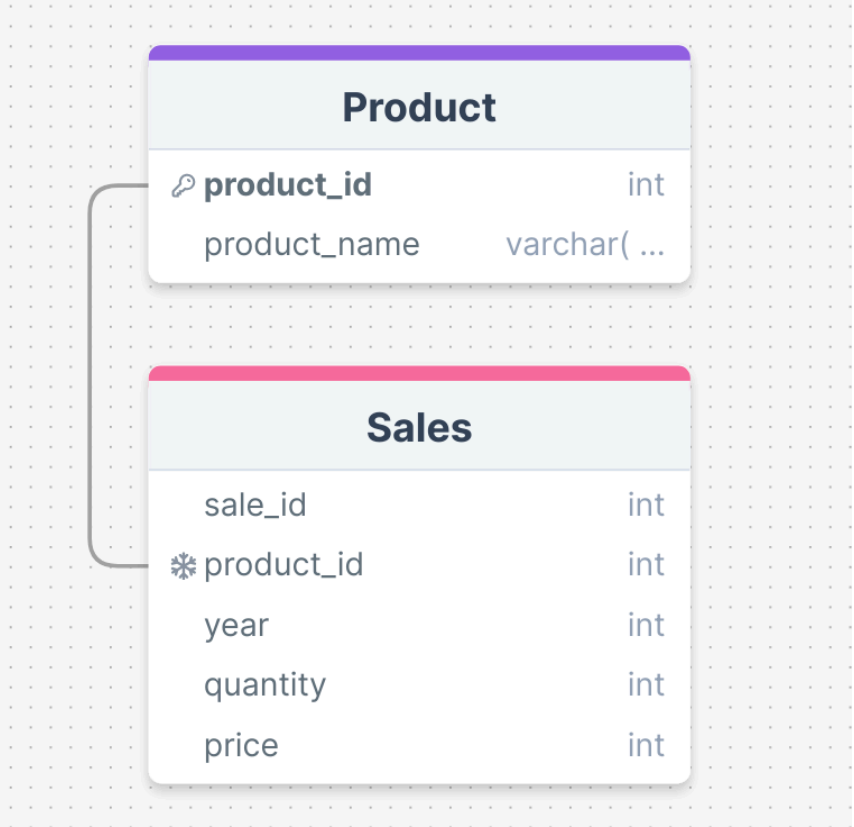
SQL CODE
WRITE-UP

PRODUCT SALES ANALYSIS

MAY 2024	
Grouping & CTE	Write a solution to select the **product id**, **year**, **quantity**, and **price** for the **first year** of every product sold. Return the resulting table in **any order**
Leetcode	
Advanced	

INPUT FORMAT

The main source tables are **SALES** and **PRODUCT.**



Sales table:

sale_id	product_id	year	quantity	price
1	100	2008	10	5000
2	100	2009	12	5000
7	200	2011	15	9000

Product table:

product_id	product_name
100	Nokia
200	Apple
300	Samsung

CODE SOLUTION

```
WITH fy AS(

    SELECT product_id, min(year) AS first_year

    FROM Sales

    GROUP BY 1

    ORDER BY 1

)

SELECT fy.product_id, fy.first_year, s.quantity, s.price

FROM Sales s

JOIN fy ON fy.first_year = s.year AND fy.product_id = s.product_id
```

SOLUTION PROCESS

- fy CTE function: Using a CTE to extract records that correspond with the time period parameters outlined per product
- JOIN function: Standard inner join to select sales dimensions that correspond with the data parameters in the CTE

OUTPUT

```
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| product_id | first_year | quantity | price |

| ---------- | ---------- | -------- | ----- |

| 100        | 2008       | 10       | 5000  |

| 200        | 2011       | 15       | 9000  |

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```