SQL Interview Question

CASE AND IT'S USE CASE

The CASE statement is SQL's way of handling if/then logic. The CASE statement is followed by at least one pair of WHEN and THEN statements—SQL's equivalent of IF/THEN in Excel. Because of this pairing, you might be tempted to call this SQL CASE WHEN, but CASE is the accepted term

USE CASE 1

- Use CASE to COUNT the number of rows in a column match a condition

```sql
SELECT
    COUNT(Id) AS ItemsCount,
    SUM ( CASE
            WHEN PriceRating = 'Expensive' THEN 1
            ELSE 0
          END
        ) AS ExpensiveItemsCount
FROM ItemSales
```

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Results:

ItemsCount	ExpensiveItemsCount
5	3

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CASE AND IT'S USE CASE

USE CASE 2

- Searched CASE in SELECT (Matches a boolean expression)

```
SELECT Id, ItemId, Price,
  CASE WHEN Price < 10 THEN 'CHEAP'
       WHEN Price < 20 THEN 'AFFORDABLE
       ELSE 'EXPENSIVE'
  END AS PriceRating
FROM ItemSales
```

Id	ItemId	Price	PriceRating
1	100	34.5	EXPENSIVE
2	145	2.3	CHEAP
3	100	34.5	EXPENSIVE
4	100	34.5	EXPENSIVE
5	145	10	AFFORDABLE

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CASE AND IT'S USE CASE

USE CASE 3

- CASE in a clause ORDER BY

```
SELECT * FROM DEPT
ORDER BY
CASE DEPARTMENT
      WHEN 'MARKETING' THEN  1
      WHEN 'SALES' THEN 2
      WHEN 'RESEARCH' THEN 3
      WHEN 'INNOVATION' THEN 4
      ELSE        5
      END,
      CITY
```

ID	REGION	CITY	DEPARTMENT	EMPLOYEES_NUMBER
12	New England	Boston	MARKETING	9
15	West	San Francisco	MARKETING	12
9	Midwest	Chicago	SALES	8
14	Mid-Atlantic	New York	SALES	12
5	West	Los Angeles	RESEARCH	11
10	Mid-Atlantic	Philadelphia	RESEARCH	13
4	Midwest	Chicago	INNOVATION	11
2	Midwest	Detroit	HUMAN RESOURCES	9

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SQL Interview Question

CASE AND IT'S USE CASE

USE CASE 4

- Shorthand CASE in SELECT

```
SELECT Id, ItemId, Price,
  CASE Price WHEN 5  THEN 'CHEAP'
             WHEN 15 THEN 'AFFORDABLE'
             ELSE         'EXPENSIVE'
  END as PriceRating
FROM ItemSales
```

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SQL Interview Question

CASE AND IT'S USE CASE

USE CASE 5

- Using CASE in UPDATE

```
UPDATE ItemPrice
SET Price = Price *
    CASE ItemId
        WHEN 1 THEN 1.05
        WHEN 2 THEN 1.10
        WHEN 3 THEN 1.15
        ELSE 1.00
    END
```

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SQL Interview Question

CASE AND IT'S USE CASE

USE CASE 6

- CASE use for NULL values ordered last

```
SELECT ID
      ,REGION
      ,CITY
      ,DEPARTMENT
      ,EMPLOYEES_NUMBER
  FROM DEPT
  ORDER BY
  CASE WHEN REGION IS NULL THEN 1
  ELSE 0
  END,
  REGION
```

in this way '0' representing the known values are ranked first, '1' representing the NULL values are sorted by the
last:

OUTPUT ↓

ID	REGION	CITY	DEPARTMENT	EMPLOYEES_NUMBER
10	Mid-Atlantic	Philadelphia	RESEARCH	13
14	Mid-Atlantic	New York	SALES	12
9	Midwest	Chicago	SALES	8
12	New England	Boston	MARKETING	9
5	West	Los Angeles	RESEARCH	11
15	NULL	San Francisco	MARKETING	12
4	NULL	Chicago	INNOVATION	11
2	NULL	Detroit	HUMAN RESOURCES	9

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SQL Interview Question

CASE AND IT'S USE CASE

USE CASE 7

- CASE in ORDER BY clause to sort records by lowest value of 2 columns

Sample data

Id	Date1	Date2
1	2017-01-01	2017-01-31
2	2017-01-31	2017-01-03
3	2017-01-31	2017-01-02
4	2017-01-06	2017-01-31
5	2017-01-31	2017-01-05
6	2017-01-04	2017-01-31

Query

```
SELECT Id, Date1, Date2
FROM YourTable
ORDER BY CASE
           WHEN COALESCE(Date1, '1753-01-01') < COALESCE(Date2, '1753-01-01') THEN Date1
           ELSE Date2
         END
```

Results

Id	Date1	Date2
1	**2017-01-01**	2017-01-31
3	2017-01-31	**2017-01-02**
2	2017-01-31	**2017-01-03**
6	**2017-01-04**	2017-01-31
5	2017-01-31	**2017-01-05**
4	**2017-01-06**	2017-01-31

Explanation ↓

As you see row with Id = 1 is first, that because Date1 have lowest record from entire table 2017-01-01, row where Id = 3 is second that because Date2 equals to 2017-01-02 that is second lowest value from table and so on. So we have sorted records from 2017-01-01 to 2017-01-06 ascending and no care on which one column Date1 or Date2 are those values.

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