

Module

7

The UNION Operator

Objectives

At the end of this module, you will be able to:

- Use the UNION operator to combine multiple queries into a single query
- Use the UNION operator to facilitate sorts not feasible using a single SELECT statement

The UNION Operator

```
SELECT stock_num, manu_code  
FROM stock  
WHERE unit_price < 25
```

UNION

```
SELECT stock_num, manu_code  
FROM items  
WHERE quantity = 10
```

stock_num	manu_code
5	ANZ
5	NRG
9	ANZ
103	PRC
106	PRC
302	HRO
302	KAR

UNION ALL

```
SELECT stock_num, manu_code  
FROM stock  
WHERE unit_price < 25
```

UNION ALL

```
SELECT stock_num, manu_code  
FROM items  
WHERE quantity = 10
```

Duplicate values
are retained.

stock_num	manu_code
5	ANZ
9	ANZ
103	PRC
106	PRC
302	HRO
302	KAR
5	NRG
5	ANZ
9	ANZ

UNION Operator Restrictions

- The number of items in the select-list of each query must be the same
- Corresponding items in each select-list must have matching data types
- An ORDER BY clause can be placed after the last SELECT statement only
- Sort columns must be referenced by column position, not by column name

Facilitating Irregular Sorts

Constant selected
in both statements.

```
SELECT 'A' sortkey, manu_name, description
FROM stock, manufact
WHERE stock.manu_code = manufact.manu_code
      AND manu_name = 'Husky'
UNION
SELECT 'B' sortkey, manu_name, description
FROM stock, manufact
WHERE stock.manu_code = manufact.manu_code
      AND manu_name <> 'Husky'
ORDER BY 1,2
```

The diagram illustrates the use of a constant in a UNION query to facilitate irregular sorting. Two grey text boxes provide context: the first points to the constant 'A' and 'B' in the SELECT clauses, and the second points to the ORDER BY clause. Arrows indicate the flow from these boxes to the corresponding parts of the SQL query.

Results ordered
by constant first

Sample Output

sortkey	manu_name	description
A	Husky	baseball bat
A	Husky	baseball gloves
A	Husky	football
A	Husky	helmet
B	Anza	3 golf balls
B	Anza	golf shoes
B	Anza	helmet
B	Anza	kick board
...		
B	Smith	tennis racquet



Lab Exercise

Lab Exercise

1. Rewrite the following query using the UNION statement.

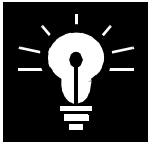
```
SELECT * FROM stock
WHERE manu_code = 'HRO'
OR stock_num = 1;
```

2. Develop a query that outputs information from the customer table ordered by city. However, place Redwood City customers at the top of the list.

sortkey	city	company
A	Redwood City	AA Athletics
A	Redwood City	Kids Korner
A	Redwood City	Play Ball!
A	Redwood City	Quinn's Sports
A	Redwood City	Sporting Place
B	Bartlesville	Putnum's Putters
B	Blue Island	Big Blue Bike Shop
B	Cherry Hill	The Triathletes Club
B	Denver	Neelie's Discount Sp
.



Solutions



Solution

Solution

Solution to Exercise 1

```
SELECT * FROM stock
      WHERE manu_code = 'HRO'
```

UNION

```
SELECT * FROM stock
      WHERE stock_num = 1;
```

Result:

stock_num	manu_code	description	unit_price	unit	unit_descr
1	HRO	baseball gloves	\$250.00	case	10 gloves/case
1	HSK	baseball gloves	\$800.00	case	10 gloves/case
1	SMT	baseball gloves	\$450.00	case	10 gloves/case
...
309	HRO	ear drops	\$40.00	case	20/case
312	HRO	racer goggles	\$72.00	box	12/box

Solution to Exercise 2

```
SELECT 'A' sortkey, city, company
      FROM customer
      WHERE city = 'Redwood City'
```

UNION

```
SELECT 'B' sortkey, city, company
      FROM customer
      WHERE city <> 'Redwood City'
      ORDER BY 1, 2;
```