

WHERE CLAUSE

WHERE clause

- Filter the rows retrieved
- Commands/key words include
 - IN
 - NULL
 - BETWEEN
 - LIKE
 - Boolean operators: AND, OR
 - Concatenate: &
- Operators
 - Comparison operators
 - Special operators
 - Logical operators
 - Arithmetic operators
 - Concatenation operators

TABLE 7.6

COMPARISON OPERATORS

SYMBOL	MEANING
=	Equal to
<	Less than
<=	Less than or equal to
>	Greater than
>=	Greater than or equal to
<> or !=	Not equal to

TABLE 7.7

THE ARITHMETIC OPERATORS

OPERATOR	DESCRIPTION
+	Add
-	Subtract
*	Multiply
/	Divide
^	Raise to the power of (some applications use ** instead of ^)

- **Logical operators**
 - combines the result of two component conditions to produce a single result based on them or to invert the result of a single condition
 - **AND**
 - Returns TRUE if *both* component conditions are TRUE
 - **OR**
 - Returns TRUE if *either* component condition is TRUE
 - **NOT**
 - Returns TRUE if the following condition is FALSE

- When writing an SQL query using operators it is important to be aware of how the query is evaluated

ORDER EVALUATED

1

2

3

4

OPERATOR

ALL Comparison Operators

NOT

AND

OR

- To override the order of precedence **use parenthesis** around the clauses – *suggest always use to clarify requirement*

WHERE clause

- Find DoB and Salary of Staff Rupam Deb

```
SELECT StaffName, DateOfBirth, Salary  
FROM staff  
Where StaffName = 'Rupam Deb';
```

StaffName	DateOfBirth	Salary
Rupam Deb	1980-10-21	55000.00

- Find the departments whose budget is at least \$1m.

```
SELECT DepartmentName, Budget  
FROM DEPARTMENT  
Where Budget >= 1000000;
```

DepartmentName	Budget
Sales	5005000

- Find the budget of marketing and sales departments.

```
SELECT DepartmentName, Budget  
FROM DEPARTMENT  
Where DepartmentName IN ('Sales','Marketing');
```

DepartmentName	Budget
Sales	5005000
Marketing	509000

- Find the budget of all departments **except** marketing and sales.

```
SELECT DepartmentName, Budget  
FROM DEPARTMENT  
Where DepartmentName NOT IN ('Sales','Marketing');
```

DepartmentName	Budget
Finance	650000
Accounting	360000
Human Resource	550000

WHERE clause

- Find departments which have managers.

```
SELECT DepartmentName, ManagerID  
FROM DEPARTMENT  
Where ManagerID IS NOT NULL;
```

DepartmentName	ManagerID
Sales	2
Marketing	1
Finance	5
Accounting	3
Human Resource	7

- Find the staff who were born **between 1975 to 1985**.

```
SELECT *  
FROM Staff  
Where DateOfBirth >= '1975-01-01' AND DateOfBirth <= '1985-12-31';
```

StaffID	StaffName	DateOfBirth	Salary
2	Teddy Bear	1983-12-03	87125.02
5	Jacek Jones	1984-10-19	35000.00
6	Mohammad Awrangjeb	1977-11-21	35000.00
7	Rupam Deb	1980-10-21	55000.00
8	Md Polash	1981-11-25	38000.00
9	Teddy Bear	1983-12-03	87125.02

- Find the staff who were not born **between 1975 to 1985**.

```
SELECT *  
FROM Staff  
Where DateOfBirth < '1975-01-01' OR DateOfBirth > '1985-12-31';
```

StaffID	StaffName	DateOfBirth	Salary
1	Buffy Winters	1987-09-15	27000.00
3	John Smith	1972-09-20	25000.00
4	Jane Doe	1969-01-25	55000.00
10	Fred Smith	1956-06-30	25125.02

WHERE clause

- Show the department budget with 10% increase where budget is more than \$1m.

```
SELECT DepartmentName, 1.1*Budget AS 'New Budget'  
FROM DEPARTMENT  
Where Budget > 1000000;
```

DepartmentName	New Budget
Sales	5505500

- Find all departments other than Finance.

```
SELECT *  
FROM DEPARTMENT  
Where NOT DepartmentName = 'Finance';
```

DepartmentID	DepartmentName	Budget	ManagerID
1	Sales	5005000	2
2	Marketing	509000	1
4	Accounting	360000	3
5	Human Resource	550000	7

Thank you