NAME:	TRISECT INSTITUTE	SQL2
DATE:	Advanced Java	SQL 2: WHERE AND UPDATE

SELECT: WHERE Clause

WHERE clause can be used to filter records. So, we can use WHERE to get only those rows that fulfils a specified criterion.

Query Syntax:

SELECT column_1, column_2
FROM database_name
WHERE condition;

Table 1: employee Note: We'll refer this table for all the queries in this sheet								
employee_id first_name last_name salary department city								
[integer]	[characters]	[characters]	[integer]	[characters]	[characters]			
1	John	Abraham	1000000	Banking	Delhi			
2	Michael	Clarke	800000	Insurance	Bangalore			
3	Roy	Thomas	700000	Banking	Gujarat			
4	Tom	Jose	600000	Insurance	Delhi			
5	Jerry	Pinto	650000	Insurance	Bangalore			
6	Philip	Mathew	750000	Services	Chandigarh			
7	Amir	Khan	650000	Services	Delhi			

Example 1: Find an employee whose salary is equal or greater than or equal to 800000.

Example 2: Get employee details from employee table whose salary greater than 600000.

Query:

- 1 SELECT *
- 2 FROM employee
- 3 WHERE salary > 600000;

Result:

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1 John Abraham 1000000 Banking Delhi 2 Michael Clarke 800000 Insurance Bangalore 3 Roy Thomas 700000 Banking Gujarat 5 Jerry Pinto 650000 Insurance Bangalore 6 Philip Mathew 750000 Services Chandigarh 7 Amir Khan 650000 Services Delhi	employee_id	+ first_name	last_name	salary	department	city
	1 2 3 5 6 7	Michael Roy Jerry Philip	Clarke Thomas Pinto Mathew	800000 700000 650000 750000	Insurance Banking Insurance Services	Bangalore Gujarat Bangalore Chandigarh

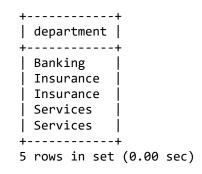
6 rows in set (0.00 sec)

Example 3: Get employee's department from employee table whose salary less than 800000.

Query:

- 1 SELECT department
- 2 FROM employee
- 3 WHERE salary < 800000;

Result:



Example 4: Get employee names (first and last) from employee table whose salary is 1000000.

Query:

- 1 SELECT first_name, last_name
- 2 FROM employee
- 3 WHERE salary = 1000000;

Result:

```
+----+
| first_name | last_name |
         Abraham
1 row in set (0.03 sec)
```

WHERE: AND, OR, NOT, BETWEEN

Example 5: Get employee details from employee table whose city is Delhi "and" salary is equal or greater than 800000.

Query:

- 1 SELECT *
- 2 FROM employee
- 3 WHERE city = 'Delhi' AND salary >= 800000;

Result:

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+	+			+	+		
employee_id	 first_name	last_name	salary	department	city		
1	John	Abraham	1000000	 Banking	Delhi		
++ 1 row in set (0.00 sec)							

Example 6: Get employee details from employee table whose city is delhi "or" salary is equal or greater than 800000.

Query:

- 1 SELECT *
- 2 FROM employee
- 3 WHERE city = 'Delhi' OR salary >= 800000;

Result:

+				+		++
	employee_id	first_name	last_name	salary	department	city
	4	John Michael Tom Amir	Abraham Clarke Jose Khan	1000000 800000 600000 650000	Banking Insurance Insurance Services	Delhi
- +						+

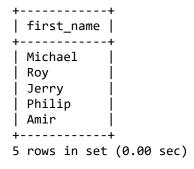
4 rows in set (0.00 sec)

Example 7: Get employee first names from employee table whose salary between 650000 and 800000.

Query:

- 1 SELECT first_name
- 2 FROM employee
- 3 WHERE salary **BETWEEN** 650000 **AND** 800000;

Result:

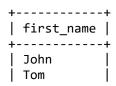


Example 8: Get employee first names from employee table whose salary does not fall between 650000 and 800000.

Query:

- 1 SELECT first_name
- 2 FROM employee
- 3 WHERE salary NOT BETWEEN 650000 AND 800000;

Result:



|--|

```
+-----+
2 rows in set (0.00 sec)
```

WHERE: LIKE with wildcards - % and underscore (_)

We can use wildcards to create some really interesting filters. You can create queries like – all whose name start with 'S', names ending with 'P', all people with an 'f' in their name, people with names of exactly 4 characters, etc.

To achieve this we use wildcards to create advanced filters:

Wildcard	Description		
%	Matches zero or more characters		
_ (underscore)	Matches exactly one character		

Example 9: Write SQL Query to find name of employee whose name Start with 'M'.

Query:

- 1 SELECT *
- 2 FROM employee
- 3 WHERE first_name LIKE 'M%';

Result:

```
+------+
| employee_id | first_name | last_name | salary | department | city |
+------+
| 2 | Michael | Clarke | 800000 | Insurance | Bangalore |
+-----+
1 row in set (0.00 sec)
```

Example 10: Get all employee details from employee table whose first name is "John".

Query:

- 1 SELECT *
- 2 FROM employee
- 3 WHERE first name = 'John';

Result:

```
+-----+
| employee_id | first_name | last_name | salary | department | city |
+------+
| 1 | John | Abraham | 1000000 | Banking | Delhi |
+-----+
1 row in set (0.00 sec)
```

Example 11: Get employee names from employee table whose salary start with 7.

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Example 12: Get employee names from employee table whose name end with 'y'.

```
      Query:
      Result:

      1 SELECT first_name
      +-----+

      2 FROM employee
      | first_name |

      3 WHERE first_name LIKE '%y';
      | Roy |

      | Jerry |
      +------+

      2 rows in set (0.00 sec)
```

Example 13: Get all cities from employee table whose name start with 'G' and end with 't'.

Example 14: Get Department of employee from employee table whose Department name second letter is 'e', fifth letter is 'i' and last letter is 's'.

Example 15: Get names of employees whose name contain exactly three characters.

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Example 16: Get employee names whose name contains letter 'e' at any position.

```
      Query:
      Result:

      1 SELECT first_name
      +-----+

      2 FROM employee
      | first_name |

      3 WHERE first_name LIKE '%e%';
      | Michael |

      | Jerry |
      +------+

      2 rows in set (0.00 sec)
```

TABLE: UPDATE

To update data in the table, we use UPDATE statement. The UPDATE command specifies the row to be changed using the WHERE clause, and the new data using the SET keyword. Note: without the where clause UPDATE command will change all rows.

Query Syntax: To Update all rows

Query Syntax: To Update specific rows

Example 17: Update name of employees with "Jones" whose name is "Roy".

```
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```

Query:

```
1 SELECT employee_id, first_name, last_name
2 FROM employee
3 WHERE first_name = 'Roy';
5 UPDATE employee
6
 SET
7
    first_name = 'Jones'
8 WHERE first_name = 'Roy';
9
10 SELECT employee id, first name, last name
11 FROM employee
12 WHERE first_name = 'Jones';
Result:
+----+
| employee_id | first_name | last_name |
+----+
Roy Thomas
+----+
Query OK, 1 row affected (0.32 sec)
Rows matched: 1 Changed: 1 Warnings: 0
+----+
| employee_id | first_name | last_name |
+----+
   3 | Jones | Thomas |
```

NOTE: You can see that 1 row affected, that means change has been done.

Example 18: Delete record of the employee whose name is "Jerry".

Query:

```
1 DELETE FROM employee
2 WHERE first_name = 'Jerry';
Result:
```

Query OK, 1 row affected (0.09 sec)

NOTE: You can see that 1 row affected, that means we deletion has been performed.

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Probl	Problem 1 Refer the table structure given below and answer the questions that follows.						
Table	Table Structure						
				Table 2:	student		
	student	_id	first_name	last_name	age	city	fees
	[integer]	[characters]	[characters]	[integer]	[characters]	[integer]
Probl	em 1.1	Write	a query for sel	ecting student	s whose age is	not 14.	
Probl	em 1.2	Select	those student	details whose	fees is either	less than 4500	or greater than
		6000.					
Probl	em 1.3	Get st	udent details o	of those studer	nts whose age	does not lie bet	tween 12 and 20.
Probl	em 1.4	Get st	udent details o	of those studer	nts having nam	e started with	any vowels ('a', 'e',
		'i', 'o',	, 'u').				
Probl	Problem 1.5 Get student details whose first name and city both starts with same letter 'd'.						
Probl	Problem 1.6 Get student_id and first_name of those students having their first_name starting						
	with 'g' and the third char is 'r'.						
Probl	em 1.7	Get fi	rst_name of all	those student	s whose first_	name ends wit	h 'k' and age is
		greate	er than 14 and	they reside in	Delhi.		

Problem 2		Refer table structure given below.							
Table Structure									
Table 3: student									
	student_id		first_name	last_name	•	age	city	fees	
	[integer]		[characters]	[character	s]	[integer]	[characters]	[integer]	
	1		Vikas	Kumar		15	Delhi	2000	
	2		Neha	Jain		14	Alwar	4500	
				·			·	·	
Probl	em 2.1	Writ	Write a query for following output.						
++									
	_	•					fees		
			.kas		-				

2 | Neha | Jain | 17 | Gurugram | 4500 |

Problem 2.2 Write a query for deletion of all records where name ends with 'y'.

+----+

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