

Revision and Exercises

Select-----

- *Comparison operators =, >, <, >=, <=, and <>
- *String comparisons LIKE and NOT LIKE
- *Logical operators: combination of conditions AND, OR
- *Logical operator: negations NOT
- *Range of values BETWEEN and NOT BETWEEN
- *Lists of values IN and NOT IN
- *Unknown values IS NULL and IS NOT NULL

-----Comparison operators-----

```
select * from student where class_name='A'
select * from student where student_ID>4
select * from student where student_ID>=4
select * from student where student_ID<4
select * from student where student_ID<=4
select * from student where student_ID<>4
```

-----String Comparison-----

```
select * from student where student_Fname like 'ahmad%' /*don't differ if Ahmad*/
select * from student where student_Fname not like 'ahmad%'
```

LIKE 'BR%' Every name beginning with the letters BR

LIKE 'Br%' Every name beginning with the letters Br

LIKE '%een' Every name ending with the letters een

LIKE '%en%' Every name containing the letters en

LIKE '_en' Every three-letter name ending in the letters en

LIKE '[CK]%' Every name beginning with the letter C or K

LIKE '[S-V]ing' Every four-letter name ending in the letters ing and beginning

with any single letter from S to V

LIKE 'M[^c]%' Every name beginning with the letter M that does not have the

letter c as the second letter

-----Logical operations-----

```
select * from student where (student_fname like 'ahmad%' or student_fname like
'mohamed%')
and (student_Mname='Mohamed')
```

Use the AND operator to retrieve rows that meet all of the search criteria.

Use the OR operator to retrieve rows that meet any of the search criteria.

Use the NOT operator to negate the expression that follows the operator.

-----Range Operator-----

```
select * from student where student_id between 1 and 3 /*1 and 3 included, like >=1
and <=3 */
select * from student where student_id not between 1 and 3 /*outside this range, its
slower*/
```

-----List of values-----

```
select * from student where class_name in ('a','b') /*in class a or class b*/
select * from student where class_name not in ('a','b')
```

-----sorting data-----

```
select * from student order by student_fname asc
select * from student order by student_fname asc, student_minit asc

select class_name, class_floor from class order by 1,2 desc /*position of column in
select list*/
```

-----use literals-----

```
SELECT student_fname, student_lname as 'student last name' , 'Identification number:',
st_number FROM student
```

-----using concatenate-----

```
select student_fname+ ' ' +student_lname from student
```

Select where null:

```
select * from student where st_age is null
select * from student where st_age is not null
```

```
select distinct student_fname, student_lname from student order by student_fname
```

/*it will not get the repeated class_name & class_floor together, */

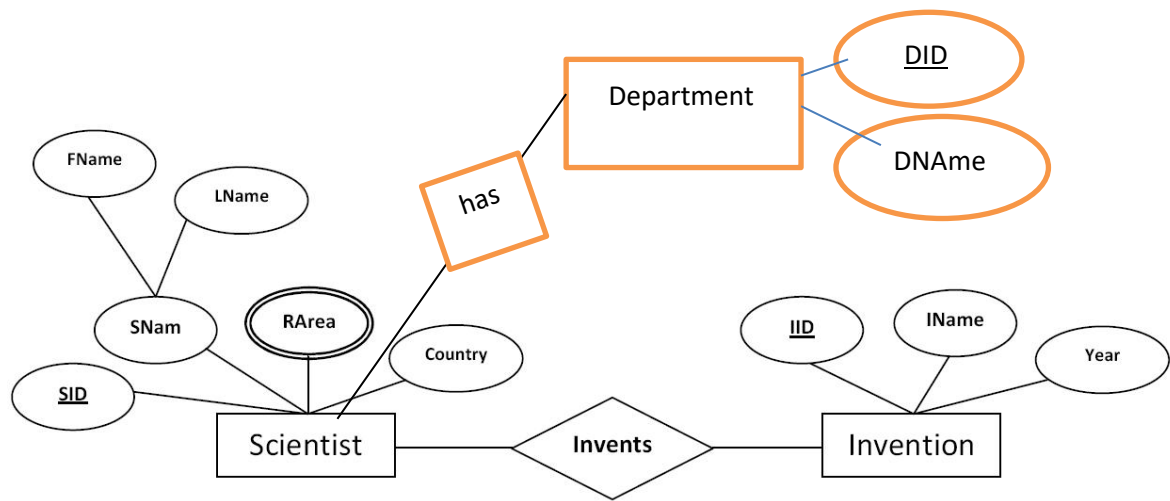
----- Listing the TOP n Values-----

Ex1:

```
select top(1) student_fname, student_minit from student order by student_fname
```

Ex2:

```
select top(1) with ties student_fname, student_minit from student order by
student_fname
```



Create the above entities and their corresponding relationships

Create unique, constraint on INAME ,not null constraint on FName , check that year between 1/1/1999 and 1/1/2017

Insert all row in each table

SID	SFNAME	SLName	Country	Dep.ID
1	Ali	Akram	Cairo	1
2	Maha	Hosney	Giza	1
3	Asmaa	Hany	Cairo	2
4	Omar		Banha	3
5	Alaa	Amin		1

Invention ID	Invention Name	Year	Scientist ID
1	XYZ	2011	1
2	XWE	2015	1
3	QWE	2012	2
4	RET	2013	3

Department ID	Department Name
1	IS
2	CS
3	SWE
4	IT

Update Scientist last name with 'shalaby' since the ID is 4,

Update Scientist country & Department ID with 'aswan', 4 since the ID is 5,

Select inventions names of scientist with id =1

Update country of scientist with name ='Ali' to be USA

Select the Department ID from the scientist table without any redundancy

Select Invention names that start with (X)

Select Invention names that ends with (WE)

Select the Years from Invention

Select all Invention data for the scientist ID 1