

## Object Explorer

Connect

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    - AdventureWorks2019
    - Company\_SD
    - data\_test
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  - XEvent Profiler

## AdventureWorks DB...VER22.ITI (sa (52))\*

```
1  --1.    Retrieve number of students who have a value in their age.
2
3  select count(St_Id) as StudentCount from Student where st_age is not null
4
5  --2.    Get all instructors Names without repetition
6
7  select distinct Ins_Name from Instructor
8
9
10
11
12
13
14
15
16
17
```

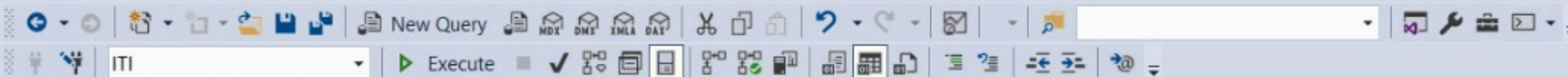
100 %

Results Messages

	Ins_Name
1	Adel
2	Ahmed
3	Amany
4	Amena
5	Amr
6	Eman
7	Fakry
8	Ghada
9	Hany
10	Hussien
11	Khalid
12	Reham
13	Salah
14	Saly
15	Yasmin



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AdventureWorks DB...VER22.ITI (sa (52))\*

```
2
3 select count(St_Id) as StudentCount from Student where st_age is not null
4
5 --2.    Get all instructors Names without repetition
6
7 select distinct Ins_Name from Instructor
8
9
10 --3.    Display student with the following Format (use isNull function)
11 --Student ID    Student Full Name    Department name
12
13 select St_Id as 'Student ID', isnull(St_Fname+' '+St_Lname,'Student Full Name') as 'Student Full Name' ,Dept_Name as 'Department Name' from Student
14 inner join Department on Student.Dept_Id = Department.Dept_Id
15
16
17
18
```

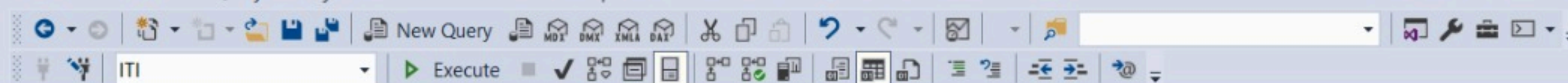
100 %

Results Messages

	Ins_Name
1	Adel
2	Ahmed
3	Amany
4	Amena
5	Amr
6	Eman
7	Fakry
8	Ghada
9	Hany
10	Hussien
11	Khalid
12	Reham
13	Salah
14	Saly
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AdventureWorks DB...VER22.ITI (sa (52))\*

```
10 --3.    Display student with the following Format (use isNull function)
11 --Student ID    Student Full Name    Department name
12
13 select St_Id as 'Student ID', isnull(St_Fname+' '+St_Lname,'Student Full Name') as 'Student Full Name' ,Dept_Name as 'Department Name' from Student
14 inner join Department on Student.Dept_Id = Department.Dept_Id
15
16 --4.    Display instructor Name and Department Name
17 --Note: display all the instructors if they are attached to a department or not
18
19 select Ins_Name as InstuctorName , Dept_Name as DepartmentName from Instructor left join Department on Instructor.Dept_Id = Department.Dept_Id
20
21
22
23
24
25
26
```

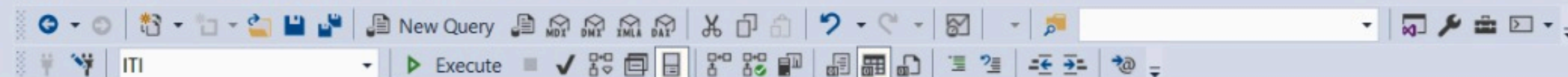
100 %

Results Messages





	InstuctorName	DepartmentName
1	Ahmed	SD
2	Hany	SD
3	Reham	SD
4	Yasmin	SD
5	Amany	SD
6	Eman	SD
7	Saly	SD
8	Amr	Java
9	Hussien	Unix
10	Khalid	Java
11	Salah	EB
12	Adel	EB
13	Fakry	EL
14	Amena	EL
15	Ghada	MM



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AdventureWorks DB...VER22.ITI (sa (52))\*

```
14 inner join Department on Student.Dept_Id = Department.Dept_Id
15
16 --4. Display instructor Name and Department Name
17 --Note: display all the instructors if they are attached to a department or not
18
19 select Ins_Name as InstructorName , Dept_Name as DepartmentName from Instructor left join Department on Instructor.Dept_Id = Department.Dept_Id
20
21 --5. Display student full name and the name of the course he is taking
22 --For only courses which have a grade
23
24 select St_Fname+' '+St_Lname as 'Student Full Name' , Crs_Name as 'Course Name'
25 from Student inner join Stud_Course
26 on Student.St_Id =Stud_Course.St_Id
27 inner join Course
28 on Course.Crs_Id=Stud_Course.Crs_Id and Grade is not null
29
30
```

100 %

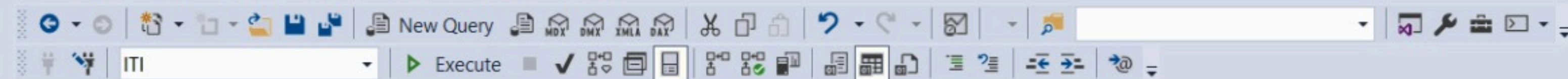
Results Messages

	Student Full Name	Course Name
1	Ahmed Hassan	HTML
2	Amr Magdy	HTML
3	Mona Saleh	HTML
4	Ahmed Mohamed	HTML
5	Khalid Moahmed	HTML
6	Heba Farouk	HTML
7	Ahmed Hassan	C Progammg
8	Amr Magdy	C Progammg
9	Mona Saleh	C Progammg
10	Ahmed Mohamed	C Progammg
11	Khalid Moahmed	C Progammg
12	Ali Hussien	C Progammg
13	Mohamed Fars	C Progammg
14	Saly Ahmed	C Progammg
15	Khalid Moahmed	OOP
16	Heba Farouk	OOP
17	Ali Hussien	OOP
18	Fadv Ali	OOP

Query executed successfully.



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AdventureWorks DB...VER22.ITI (sa (52))\*

```
17 --Note: display all the instructors if they are attached to a department or not
18
19 select Ins_Name as InstuctorName , Dept_Name as DepartmentName from Instructor left join Department on Instructor.Dept_Id = Department.Dept_Id
20
21 --5. Display student full name and the name of the course he is taking
22 --For only courses which have a grade
23
24 select St_Fname+' '+St_Lname as 'Student Full Name' , Crs_Name as 'Course Name'
25 from Student inner join Stud_Course
26 on Student.St_Id =Stud_Course.St_Id
27 inner join Course
28 on Course.Crs_Id=Stud_Course.Crs_Id and Grade is not null
29
30 --6. Display number of courses for each topic name
31
32 select count(Crs_Id) ,Top_Name from Course inner join Topic on Course.Top_Id = Topic.Top_Id group by Top_Name
33
```

100 %

Results Messages

	(No column name)	Top_Name
1	2	DB
2	1	Design
3	2	Operating System
4	4	Programming
5	3	Web





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AdventureWorks DB...VER22.ITI (sa (52))\*

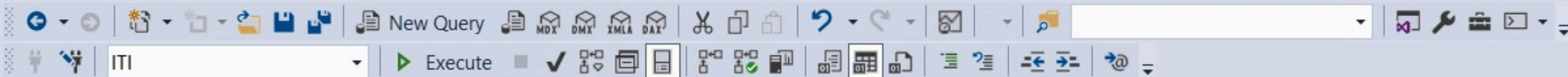
```
20
21 --5.    Display student full name and the name of the course he is taking
22 --For only courses which have a grade
23
24 select St_Fname+' '+St_Lname as 'Student Full Name' , Crs_Name as 'Course Name'
25 from Student inner join Stud_Course
26     on Student.St_Id =Stud_Course.St_Id
27 inner join Course
28     on Course.Crs_Id=Stud_Course.Crs_Id and Grade is not null
29
30 --6.    Display number of courses for each topic name
31
32 select count(Crs_Id) ,Top_Name from Course inner join Topic on Course.Top_Id = Topic.Top_Id grou
33
34 --7.    Display max and min salary for instructors
35
36 select min(salary) as 'Min Salary',max(salary) as 'Max Salary' from Instructor
```

100 %

Results Messages

	Min Salary	Max Salary
1	NULL	NULL











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```
25 from Student inner join Stud_Course
26     on Student.St_Id =Stud_Course.St_Id
27 inner join Course
28     on Course.Crs_Id=Stud_Course.Crs_Id and Grade is not null
29
30 --6.    Display number of courses for each topic name
31
32 select count(Crs_Id) ,Top_Name from Course inner join Topic on Course.Top_Id = Topic.Top_Id gr
33
34 --7.    Display max and min salary for instructors
35
36 select min(salary) as 'Min Salary',max(salary) as 'Max Salary' from Instructor
37
38 --8.    Display instructors who have salaries less than the average salary of all instructors.
39
40 select * from Instructor where Salary < (select avg(Salary) from Instructor)
41
```

















Ins_Id	Ins_Name	Ins_Degree	Salary	Dept_Id
--------	----------	------------	--------	---------



Object Explorer



Connect ▾      

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```
AdventureWorks2019 (sa (SE))
30 --6.    Display number of courses for each topic name
31
32 select count(Crs_Id) ,Top_Name  from Course inner join Topic on Course.Top_Id = Topic.Top_Id group by Top_Name
33
34 --7.    Display max and min salary for instructors
35
36 select min(salary) as 'Min Salary',max(salary) as 'Max Salary'  from Instructor
37
38 --8.    Display instructors who have salaries less than the average salary of all instructors.
39
40 select *  from Instructor where Salary < (select avg(Salary) from Instructor)
41
42 --9.    Display the Department name that contains the instructor who receives the minimum salary.
43
44 select Dept_Name as 'Department name' from Department inner join Instructor
45 on Department.Dept_Id = Instructor.Dept_Id and Salary =(select min(Salary) from Instructor)
46
```

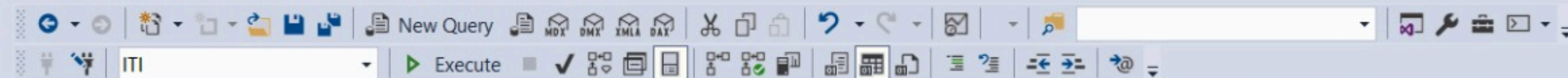
100 % ◀

 Results  Messages

Department name



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AdventureWorks DB...VER22.ITI (sa (52))\*

```
39
40 select * from Instructor where Salary < (select avg(Salary) from Instructor)
41
42 --9. Display the Department name that contains the instructor who receives the minimum salary.
43
44 select Dept_Name as 'Department name' from Department inner join Instructor
45 on Department.Dept_Id = Instructor.Dept_Id and Salary =(select min(Salary) from Instructor)
46
47 --10. Select max two salaries in instructor table.
48
49 select top(2) salary from Instructor order by Salary desc
50
51 --11. Select instructor name and his salary but if there is no salary display instructor bonus keyword. Use coalesce Function
52
53 select Ins_Name as InstuctorName, coalesce(convert(nvarchar(20),salary),'instructor bonus') as Salary from Instructor
54
55 --12. Select Average Salary for instructors
```

100 %

Results Messages

	InstuctorName	Salary
1	Ahmed	instructor bonus
2	Hany	instructor bonus
3	Reham	instructor bonus
4	Yasmin	instructor bonus
5	Amany	instructor bonus
6	Eman	instructor bonus
7	Saly	instructor bonus
8	Amr	instructor bonus
9	Hussien	instructor bonus
10	Khalid	instructor bonus
11	Salah	instructor bonus
12	Adel	instructor bonus
13	Fakry	instructor bonus
14	Amena	instructor bonus
15	Ghada	instructor bonus



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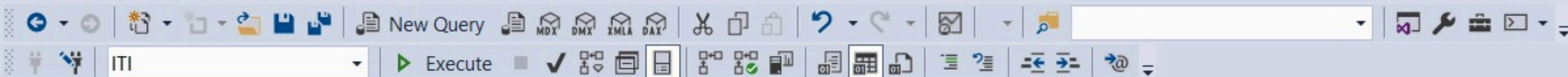
```
42 --9.    Display the Department name that contains the instructor
43
44 select Dept_Name as 'Department name' from Department inner join I
45 on Department.Dept_Id = Instructor.Dept_Id and Salary =(select mi
46
47 --10.    Select max two salaries in instructor table.
48
49 select top(2) salary from Instructor order by Salary desc
50
51 --11.    Select instructor name and his salary but if there is no
52
53 select Ins_Name as InstructorName, coalesce(convert(nvarchar(20),s
54
55 --12.    Select Average Salary for instructors
56
57 select avg(salary) as AvgSalary from Instructor
58
```

100 %

Results Messages

	AvgSalary
1	NULL





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47 --10. Select max two salaries in instructor table.

48

49 select top(2) salary from Instructor order by Salary desc

50

51 --11. Select instructor name and his salary but if there is no salary display instructor bonu

52

53 select Ins\_Name as InstuctorName, coalesce(convert(nvarchar(20),salary),'instructor bonus') as S

54

55 --12. Select Average Salary for instructors

56

57 select avg(salary) as AvgSalary from Instructor

58

59 --13. Select Student first name and the data of his supervisor

60

61 select s.St\_Fname as StudentFirstName , super.\* from student as s inner join student super

62 on s.St\_super = super.St\_Id

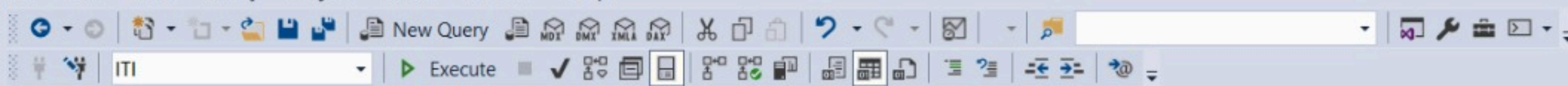
63

100 %

Results Messages

	StudentFirstName	St_Id	St_Fname	St_Lname	St_Address	St_Age	Dept_Id	St_super
1	Amr	1	Ahmed	Hassan	Cairo	25	10	NULL
2	Mona	1	Ahmed	Hassan	Cairo	25	10	NULL
3	Ahmed	1	Ahmed	Hassan	Cairo	25	10	NULL
4	Khalid	1	Ahmed	Hassan	Cairo	25	10	NULL
5	Ali	6	Heba	Farouk	Mansoura	25	20	NULL
6	Mohamed	6	Heba	Farouk	Mansoura	25	20	NULL
7	Fady	9	Saly	Ahmed	Mansoura	25	30	NULL
8	Marwa	9	Saly	Ahmed	Mansoura	25	30	NULL
9	Said	12	Noha	Omar	Cairo	25	40	NULL
10	khalid1	1	Ahmed	Hassan	Cairo	25	10	NULL
11	khalid3	1	Ahmed	Hassan	Cairo	25	10	NULL
12	khalid5	1	Ahmed	Hassan	Cairo	25	10	NULL





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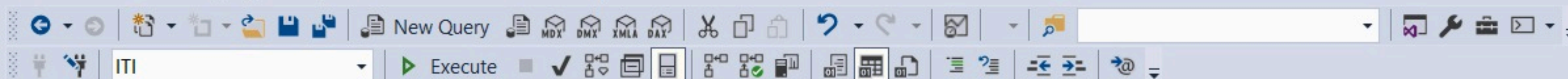
```
52
53 select Ins_Name as InstructorName, coalesce(convert(nvarchar(20),salary),'instructor bonus') as Salary from Instructor
54
55 --12.   Select Average Salary for instructors
56
57 select avg(salary) as AvgSalary from Instructor
58
59 --13.   Select Student first name and the data of his supervisor
60
61 select s.St_Fname as StudentFirstName , super.* from student as s inner join student super
62 on s.St_super = super.St_Id
63
64 --14.   Write a query to select the highest two salaries in Each Department for instructors who have salaries. Using one of Ranking Functions
65
66 select * from (select salary,Dept_Id, ROW_NUMBER() over (partition by Dept_Id order by salary) as rk from instructor where salary is not null)
67 as newtable where rk <=2
68
```

100 %

Results Messages

salary Dept\_Id rk





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AdventureWorks DB...VER22.ITI (sa (52))\*

```
59  --13.  Select Student first name and the data of his supervisor
60
61  select s.St_Fname as StudentFirstName , super.*  from student as s inner join student super
62  on s.St_super = super.St_Id
63
64  --14.  Write a query to select the highest two salaries in Each Department for instructors who have salaries.
65
66  select * from (select salary,Dept_Id, ROW_NUMBER() over (partition by Dept_Id order by salary) as rk from inst
67  as newtable where rk <=2
68
69  --15.  Write a query to select a random student from each department.  Using one of Ranking Functions
70
71  select * from (select *, rank() over (partition by Dept_Id order by newid()) as rk from Student)
72  as newtable where rk <2
```

100 %

Results Messages

	St_Id	St_Fname	St_Lname	St_Address	St_Age	Dept_Id	St_super	rk
1	14	NULL	Saleh	Tanta	25	NULL	NULL	1
2	402	khalid1	ali	cairo	25	10	1	1
3	6	Heba	Farouk	Mansoura	25	20	NULL	1
4	9	Saly	Ahmed	Mansoura	25	30	NULL	1
5	12	Noha	Omar	Cairo	25	40	NULL	1