

# Datatype

## Like

## Joins

## Built in function

### Numeric Datatype

int  
decimal  
money

date

char(100)  
varchar(100)  
ncahr  
nvarchar(50)

## Like

```
--  
select * from employee  
where fname like '___'
```

```
select * from employee  
where fname like '___a'
```

```
select * from employee  
where fname like 'A___'
```

```
SELECT * FROM EMPLOYEE  
where fname like 'A%'
```

```
SELECT * FROM EMPLOYEE  
where fname like 'a%a'
```

```
SELECT * FROM EMPLOYEE  
where fname like '%aI%'
```

```
SELECT * FROM EMPLOYEE  
where fname like '%aI'
```

```
SELECT * FROM EMPLOYEE  
where fname like '[a-z]%aI'
```

```
SELECT * FROM EMPLOYEE  
where fname like '[0-9]%aI'
```

```
SELECT * FROM EMPLOYEE  
where fname like '[a-z]%'[0-3]'
```

```
select * from employee  
where fname not like '[a-b][a-z]%'
```

```
select * from employee  
where fname not like '%aI%'
```

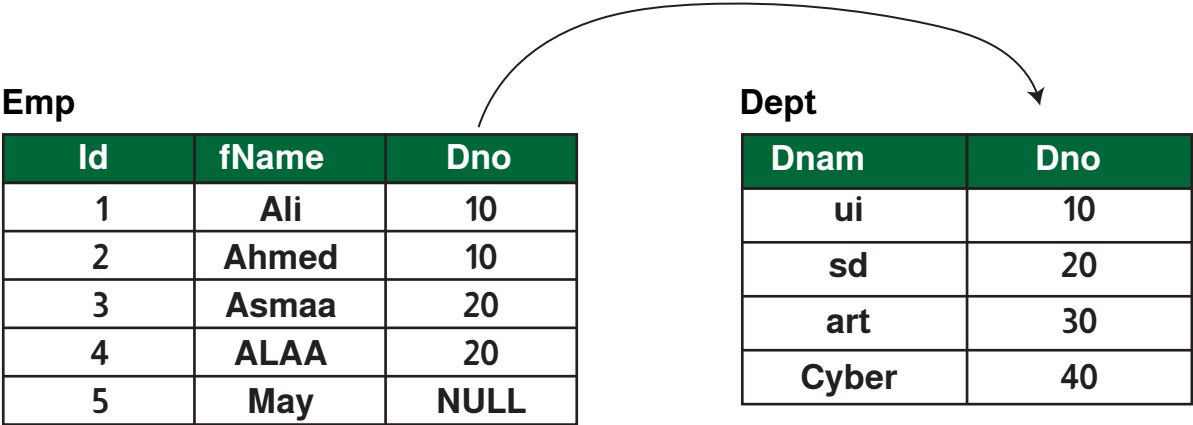
```
_ one character  
% ay haga  
[a-e]  
[0-9]
```

```
select * from employee  
where fname like 'aI_u_z%' and city like 'aI%'
```

id	Name	City
1	Ahmed	Arish
2	Mohamed	Alex
3	Ali	Cairo
4	Ibrahim	Alex
5	Maayada	mansora
6	Mostafa	Arish
7	Saaed	Cairo

# Join

## Cross Join



## Inner Join

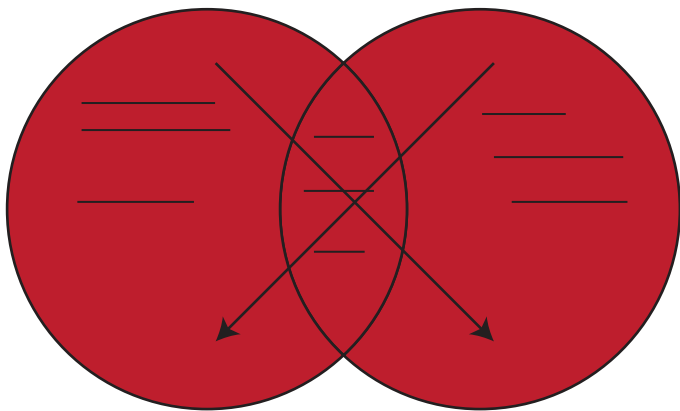
## Outer Join

- left outer
- right outer
- full outer

## Self Join

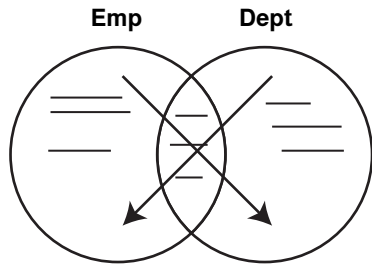
Cross Jois

Select fName, Dnam from Emp Cross join Dept



Fname	Name
Ali	ui
Ahmed	ui
Asmaa	ui
ALAA	ui
May	ui
Ali	sd
Ahmed	sd
Asmaa	sd
ALAA	sd
May	sd
Ali	art
Ahmed	art
Asmaa	art
ALAA	art
May	

## Cross Join



Fname	Name
Ali	ui
Ahmed	ui
Asmaa	ui
ALAA	ui
May	ui
Ali	sd
Ahmed	sd
Asmaa	sd
ALAA	sd
May	sd
Ali	art
Ahmed	art
Asmaa	art
ALAA	art
May	

Emp		
Id	fName	Dno
1	Ali	10
2	Ahmed	10
3	Asmaa	20
4	ALAA	20
5	May	NULL

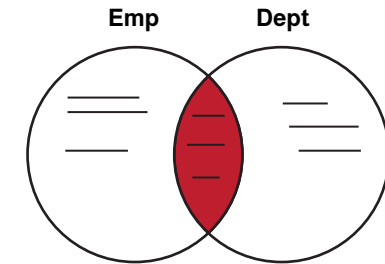
Dept	
Dnam	Dno
ui	10
sd	20
art	30
Cyber	40

Select fname, Dnam from Emp  
inner join Dept  
on Emp.Dno = Dept.Dno

Fname	Name
Ali	ui
Ahmed	ui
Asmaa	sd
ALAA	sd

## Inner Join

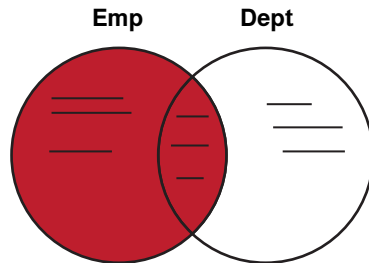
بوصل عن طريقها للبيانات الى داخلة فما لريليشن من الجدولين



# Outer Join

## Left Outer Join

بوصل عن طريقها للبيانات الى Maches مع ما تبقى من جدول الLeftv



Select fname, dnam from Emp  
left outer join Dept  
on Emp.Dno = Dept.Dno

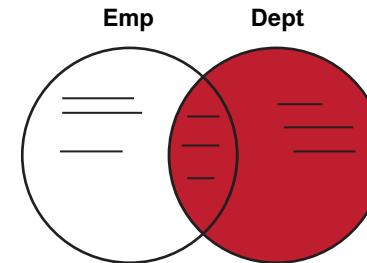
Fname	Name
Ali	ui
Ahmed	ui
Asmaa	sd
ALAA	sd
May	Null

Emp		
Id	fName	Dno
1	Ali	10
2	Ahmed	10
3	Asmaa	20
4	ALAA	20
5	May	NULL

Dept	
Dnam	Dno
ui	10
sd	20
art	30
Cyber	40

## Right Outer Join

بوصل عن طريقها للبيانات الى Maches مع ما تبقى من جدول الRight



Select fname, dname from Emp  
right outer Join Dept  
on Emp.Dno = Dept.Dno

Fname	Name
Ali	ui
Ahmed	ui
Asmaa	sd
ALAA	sd
Null	Art
Null	Cyber

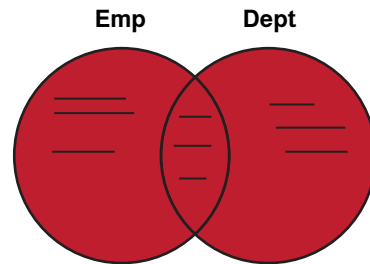
# Full Outer Join

بوصل عن طريقها للبيانات Maches مع ما تبقى من جدول الRight وما تبقى من الLeft

Select fname, Dname from Emp

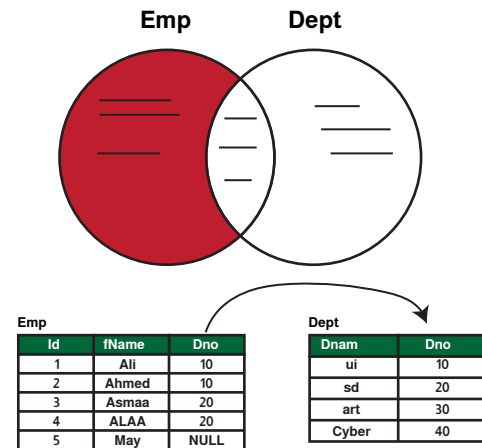
Full Outer Join Dept

on Emp.Dno = Dept.Dno



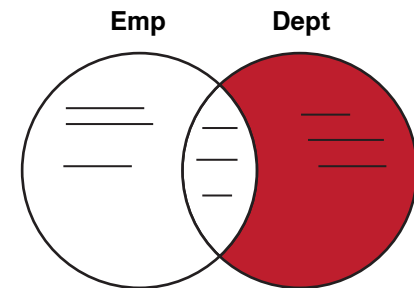
Fname	Name
Ali	ui
Ahmed	ui
Asmaa	sd
ALAA	sd

Null Art  
Null Cyber  
May Null



Select fname from employee

where dno is null



Emp

Id	fName	Dno
1	Ali	10
2	Ahmed	10
3	Asmaa	20
4	ALAA	20
5	May	NULL

Dept

Dnam	Dno
ui	10
sd	20
art	30
Cyber	40

Select fname , dname from Employee as e

full outer join Department as d

on e.Dno = d.Dno

where Dname is null and fname is null

May Null  
Null Art  
Null Cyber

Select Dnam from Emp

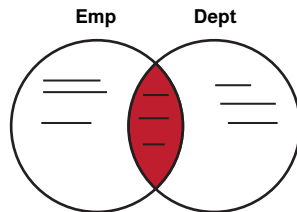
right outer join Department

on Emp.Dno = Dept.Dno

where fname is null

Dname  
art  
Cyber

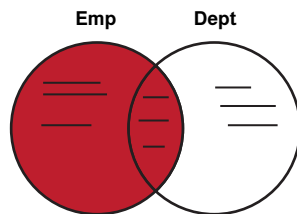
Emp			Dept	
Id	fName	Dno	Dnam	Dno
1	Ali	10	ui	10
2	Ahmed	10	sd	20
3	Asmaa	20	art	30
4	ALAA	20	Cyber	40
5	May	NULL		



Fname	Name
Ali	ui
Ahmed	ui
Asmaa	sd
ALAA	sd

select fname, dname from employee  
inner join Department  
on Emp.dno = Dept.Dno

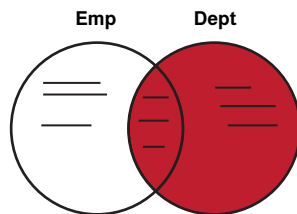
Emp			Dept	
Id	fName	Dno	Dnam	Dno
1	Ali	10	ui	10
2	Ahmed	10	sd	20
3	Asmaa	20	art	30
4	ALAA	20	Cyber	40
5	May	NULL		



Fname	Name
Ali	ui
Ahmed	ui
Asmaa	sd
ALAA	sd
May	Null

select fname, dname from employee  
Left outer join Department  
on Emp.dno = Dept.Dno

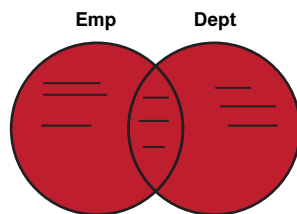
Emp			Dept	
Id	fName	Dno	Dnam	Dno
1	Ali	10	ui	10
2	Ahmed	10	sd	20
3	Asmaa	20	art	30
4	ALAA	20	Cyber	40
5	May	NULL		



Fname	Name
Ali	ui
Ahmed	ui
Asmaa	sd
ALAA	sd
Null	Art
Null	CCyber

select fname, dname from employee  
right outer join Department  
on Emp.dno = Dept.Dno

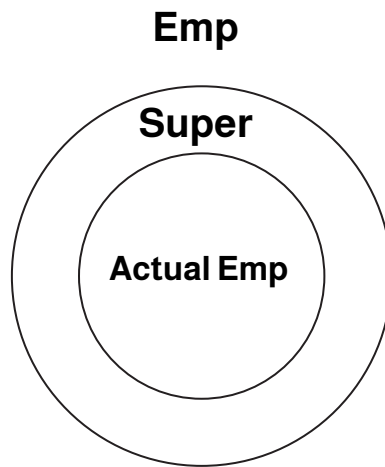
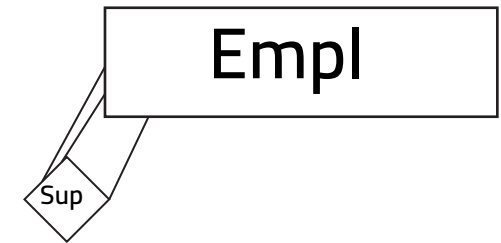
Emp			Dept	
Id	fName	Dno	Dnam	Dno
1	Ali	10	ui	10
2	Ahmed	10	sd	20
3	Asmaa	20	art	30
4	ALAA	20	Cyber	40
5	May	NULL		



Fname	Name
Ali	ui
Ahmed	ui
Asmaa	sd
ALAA	sd
Null	Art
Null	CCyber
May	Null

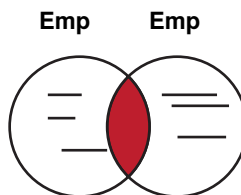
select fname, dname from employee  
full outer join Department  
on Emp.dno = Dept.Dno

# Self Join



id	Name	Dno	SuperSSN
1	Ahmed	10	Null
2	Kamal	20	1
3	May	30	1
4	Asmaa	20	2
5	Waled	20	1

**Select name,name from Employee  
inner join employee  
on supperssn = id**



Child				Super			
id	Name	Dno	SuperSSN	id	Name	Dno	SuperSSN
1	Ahmed	10	Null	1	Ahmed	10	Null
2	Kamal	20	1	2	Kamal	20	1
3	May	30	1	3	May	30	1
4	Asmaa	20	2	4	Asmaa	20	2
5	Waled	20	1	5	Waled	20	1

**Select Super.name as Super\_Name ,Emp.name as Emp\_Name from Employee As Super  
inner join employee As Emp  
on Super.l= Emp.id**