

Date : _____

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Session 7

* Schema → used to organized database
Can divided large database to set of

schemas

* dbo → database owner
↳ default schema

IF you not defined schema

- Make in dbo (default schema)

* by using Go create schema name Go
to can Make in own Patch

* Schema can make related objects
in one schema البيانات المتعلقة
↳ schema

* Go used to divided Patch about
another Patch

* union Family used to make Combination
between results

① → union return result but not repeated
data

② * union all " " " " by repeated
data

③ → intersect Get Data Match between
two result

④ → EXCEPT intersect البيانات التي
البيانات التي البيانات التي البيانات التي

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① Union Conditions to execute

① # of Columns in First DB result same # " " " second " "

② Columns in Two Same Datatype
Compare

~~② Intersect~~

* Select Into

→ Select Into: Take Copy of Table
not Take relation, Constraint, Key

Columns ← structure
Take IF Column not null ← ONLY

* Take only structure without data

Ex) by using condition مستحيل يتحقق

```
select * into employee
from MyCompany. [dbo].[Employee]
where 1 = 2
```

→ Condition impossible

Ex) (Without Data) to Take Structure

```
select * into HomeProject
from MyCompany. dbo. Project
where City = 'Cairo'
```

Ex)

```
select Pnum, Pname into MyProject
from MyCompany. dbo. Project
where City in ('Cairo', 'Alex')
```

* Insert Based on select

```
insert into MyProject (Pnum, Pname)
select Pnumber, PName from MyCompany. Project
```


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* User Defined Function

encapsulate block to can use when you need (call)

→ have two benefits

① reusability

② Maintainability

* Fun Must have return value

Have Two Types

1] Scalar Valued return just only one value

→ Select statement Body

Ex) create Function GetStudentName
Parameter (@stid int)

Return s varchar (Max)

As Begin

End

//Body

2] Table - Valued return Table

① inline Table Valued Function
body is one statement

② Multi Statements Table Valued

→ Select statement body

→ Select / insert Based on select

* Multi Statement Table Fun

Return Table with logic

[Declare, IF, while] inside its Body

Self study syntax

* Function consists of 2:

① signature (Name, Parameters, return Type)
 (الاسم، المعاملات، نوع الارجاع)
 (اسم الدالة، المعاملات، نوع الارجاع)

② body (select statement, insert Based on select)

II Scalar Function

→ Get St-name & Take St-Id

Create Function getName (@StID int)
 Returns Varchar (Max)

AS

Begin

Declare @StName Varchar (Max)

select @StName = StFname

From Student

Where St-Id = @StID

Return @StName

End

Call Fun

Select SchemaName.Fun Name (Parameter)

builtin (الدالة المدمجة)

select dbo.GetName (1)

Date :

2.1 inline Table-Valued Function

Create Fun GetInstructorOfDept (@DeptId)
 int

Returns Table

AS
 RETURN

(
 SELECT ins_id, ins_name, salary
 FROM instructor
 WHERE Dept_id = @DeptId)

Call Fun

database

Select * From dbo. Fun Name

Columns, etc.

Columns, etc.

2.2 Multi statement Table Function

Create Fun GetStudents (@Format
 varchar(Max))

Returns @table
 (st_id int, st_name varchar(Max))

AS

Begin

IF @Format = 'First'
 INSERT INTO @table
 SELECT st_id, st_firstname

FROM student

ELSE IF @Format = 'last'

SELECT st_id, st_lastname

ELSE IF @Format = 'Full Name'

SELECT st_id, Concat (st_firstname, ' ', st_lastname)
 FROM student

Return
 End

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* Call Fun
Select * From dbo: FunName()

↳ Create or Alter Function

تسمى الدالة أو الدالة
Create : الدالة

Execution order

- ① From , ② Join , ③ on , ④ where , ⑤ Group By
- ⑥ Having , ⑦ Select , Update , Delete
- ⑧ order By ⑨ Top

[ex]

Select Concat(Fname, ' ', lname) as
Fullname

From Student

where Fullname = 'Ahmed Hassan'

have error because Fullname not
define ~~في~~ Select where ~~في~~ Fullname
Column Fullname

[ex]

Select Concat(Fname, ' ', lname) as
Fullname

From Student

order By Fullname

↳ here ~~في~~ Column ~~في~~ Fullname

- ① From Then ② select
- ③ order By

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Schema

درستی 3 Problems

① You Can't Create DB objects with Same name

DB Schema
MyCompany.Sales.Employee
Schema
MyCompany.HR.Employee

Same name of (Table, View, Index, Trigger, Rule, Stored procedure)

② There is No logical Meaning (logical Name)

Schema is related to the database

③ Permissions

Permissions of Schema

Ex:

select *

from servername.DBName.SchemaName

Fun
Table

server

have set of

DBs

each

have set of

Schemas

objects

each schema have set of

NEGO

Create Schema Name of Schema

EO

- * For Create Schema
- IF you need Alter (edit) of Schema

Alter - S Schema Name of S Schema
Transfer another S Schema. object

ex

Alter Schemen also
Transfer Sales. Student
in öffentliche Sales in object
Sales -> also

* IF you want Create Table in Schema

Create Table Sales.Department

(id int Primary Key)

* IF you want Drop Schema Must
Drop Data of Schema before Delete
Schema

Schema

① Drop Table sales.Department

② Drop & Chemical sales

Date:

Ex

FOR SYNTAX OF UNION FAMILY

① union

select Fname From Student

UNION

select ins.name From instructor

② union all

select Fname, StAge From Student

Union all

select ins.name, ins.Age From instructor

③ intersect

select Fname From Student

INTERSECT

select ins.name From instructor

④ EXCEPT

select Fname From Student

EXCEPT

select ins.name From instructor

* while

While condition

Begin

insert into Table (columns) Values (var)

set Counter = Counter + 1

End.