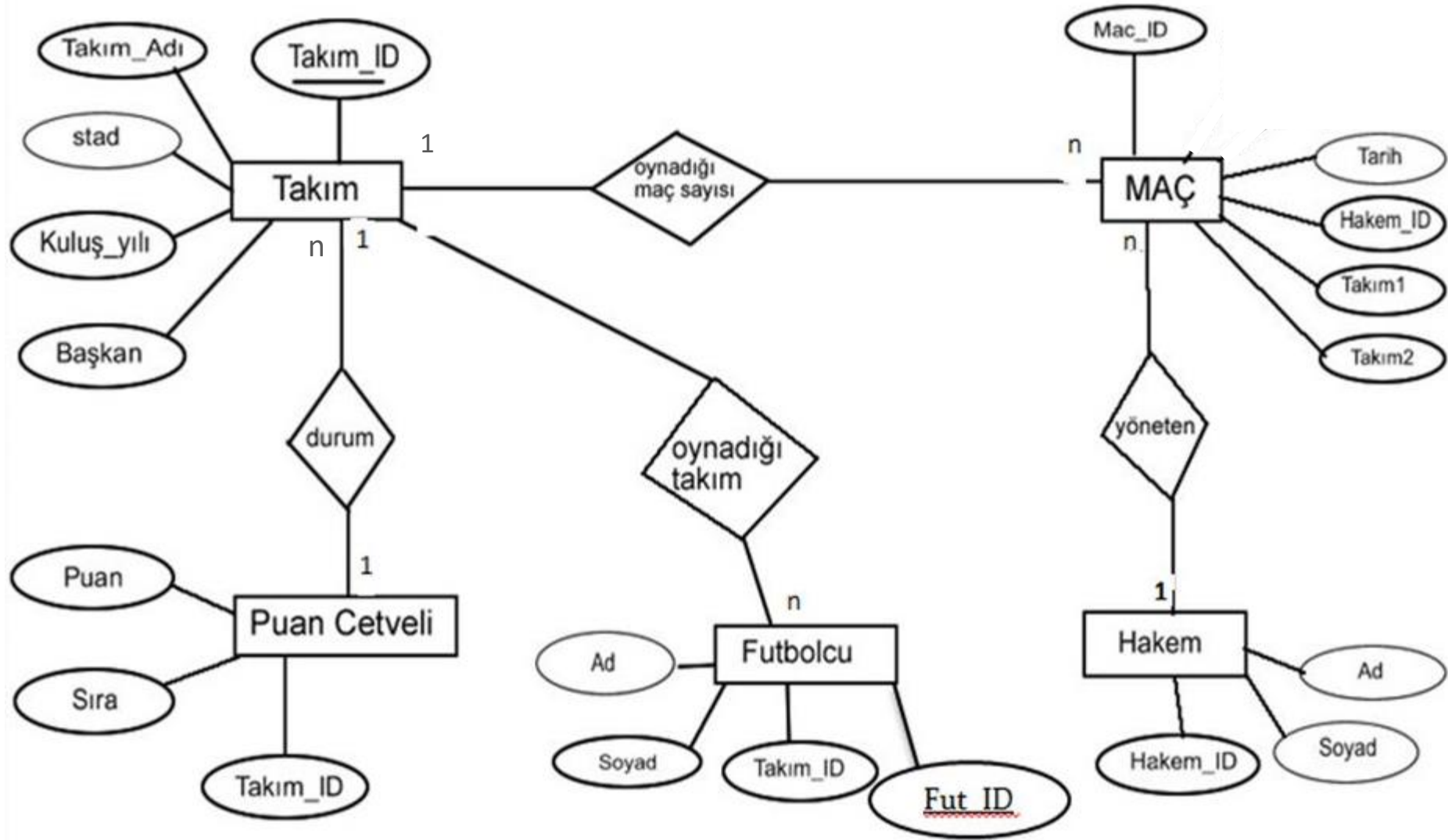
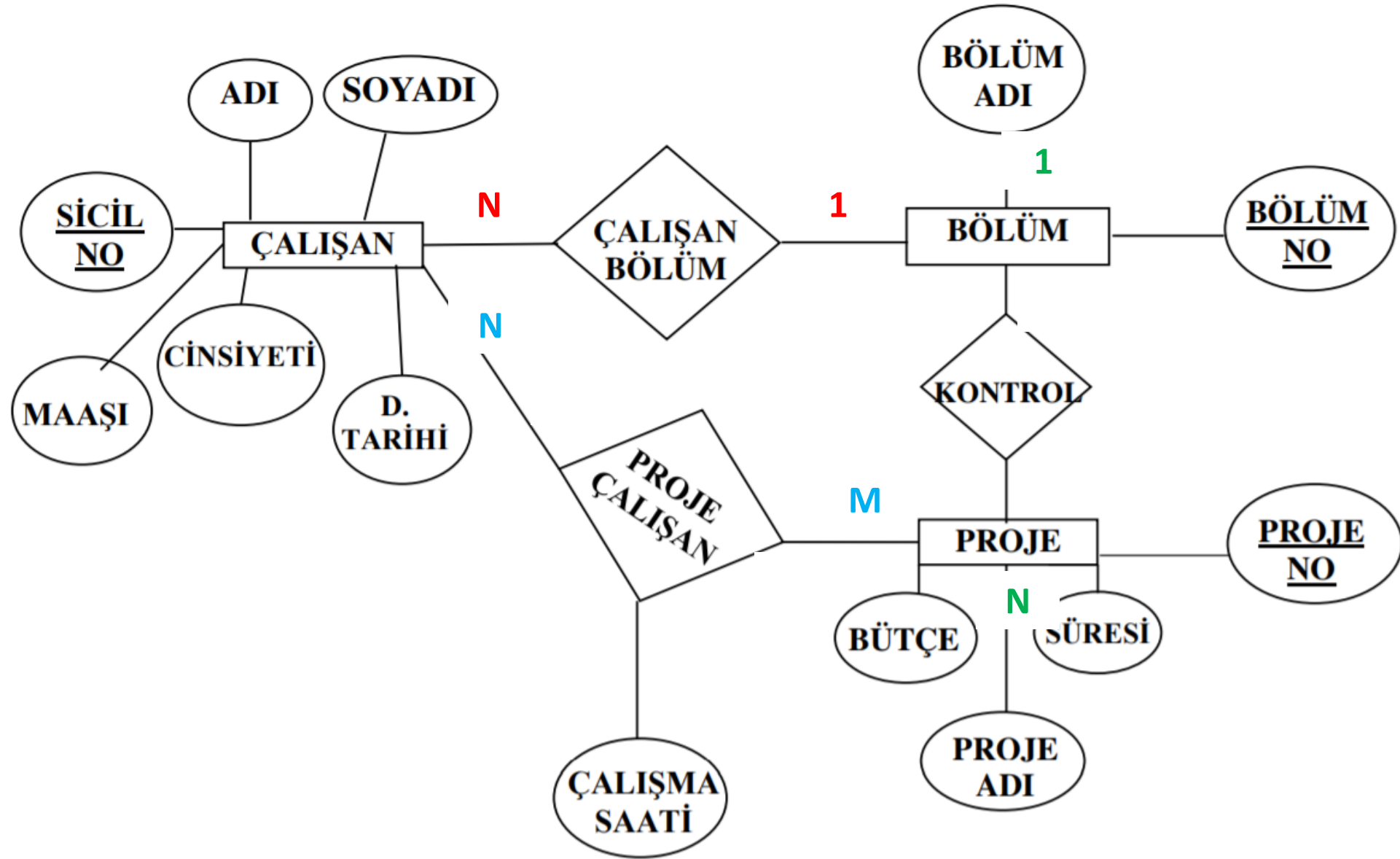


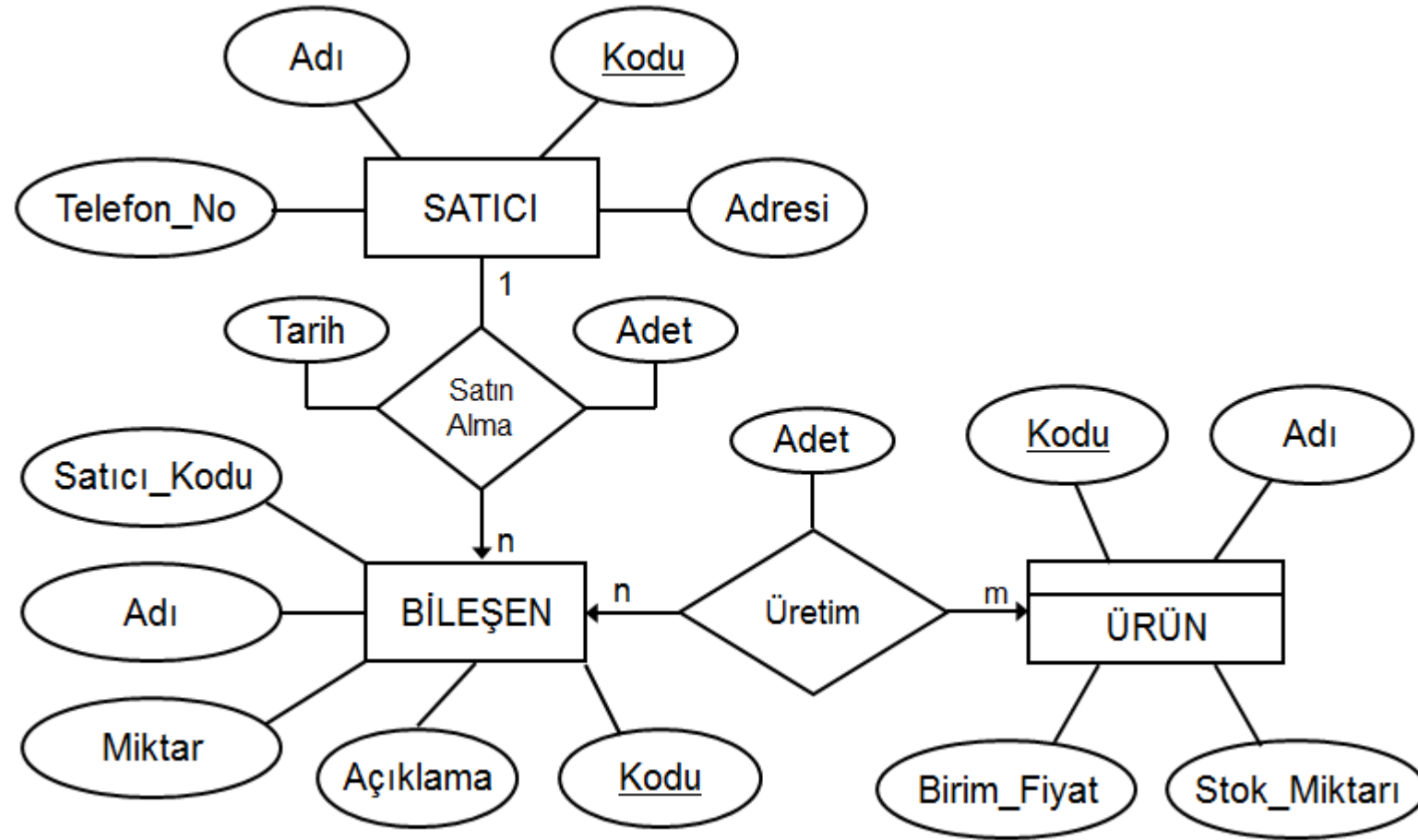
VERİTABANI TASARIMI

İçindekiler

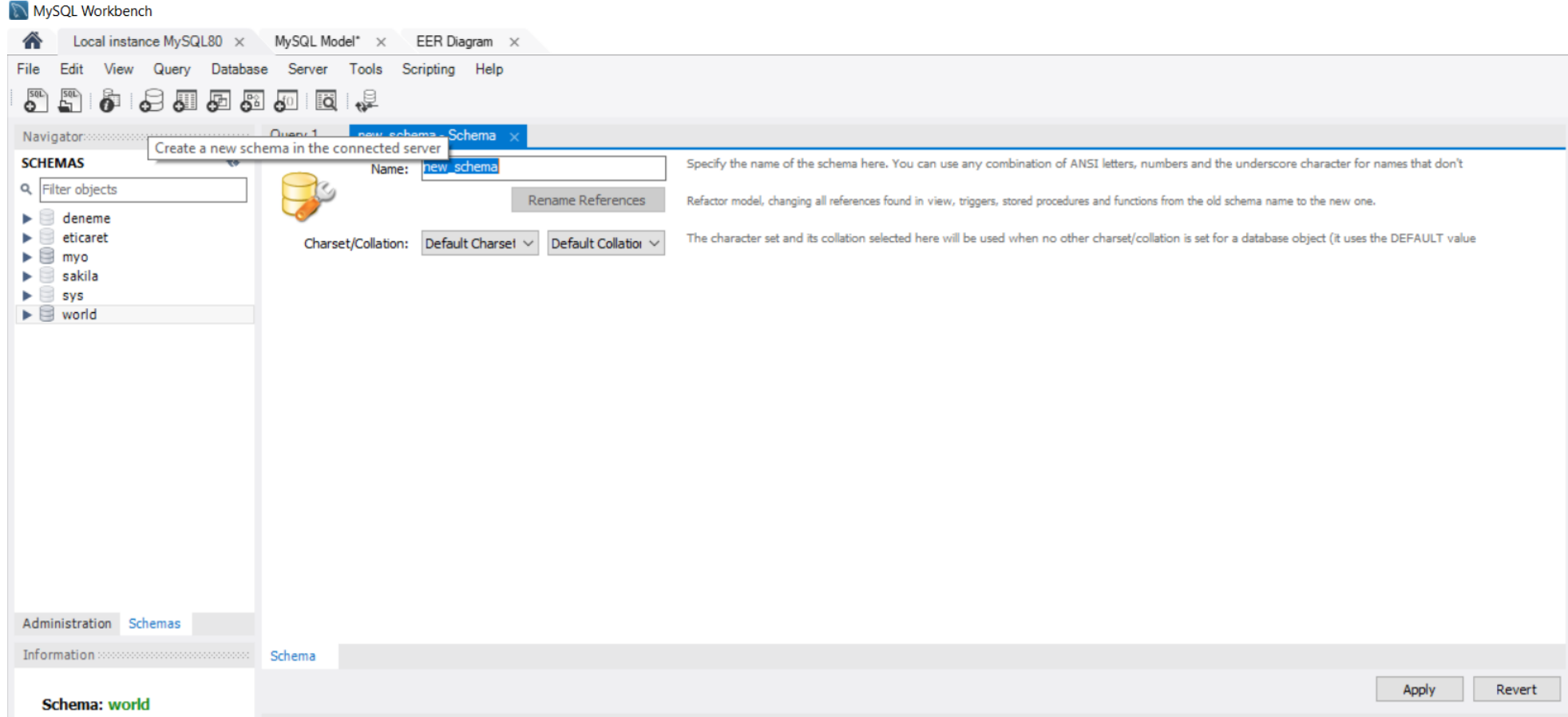
- E-R Diyagram örnekleri
- Şema Oluşturma
- Tablo oluşturma
- DDL ifadeleri



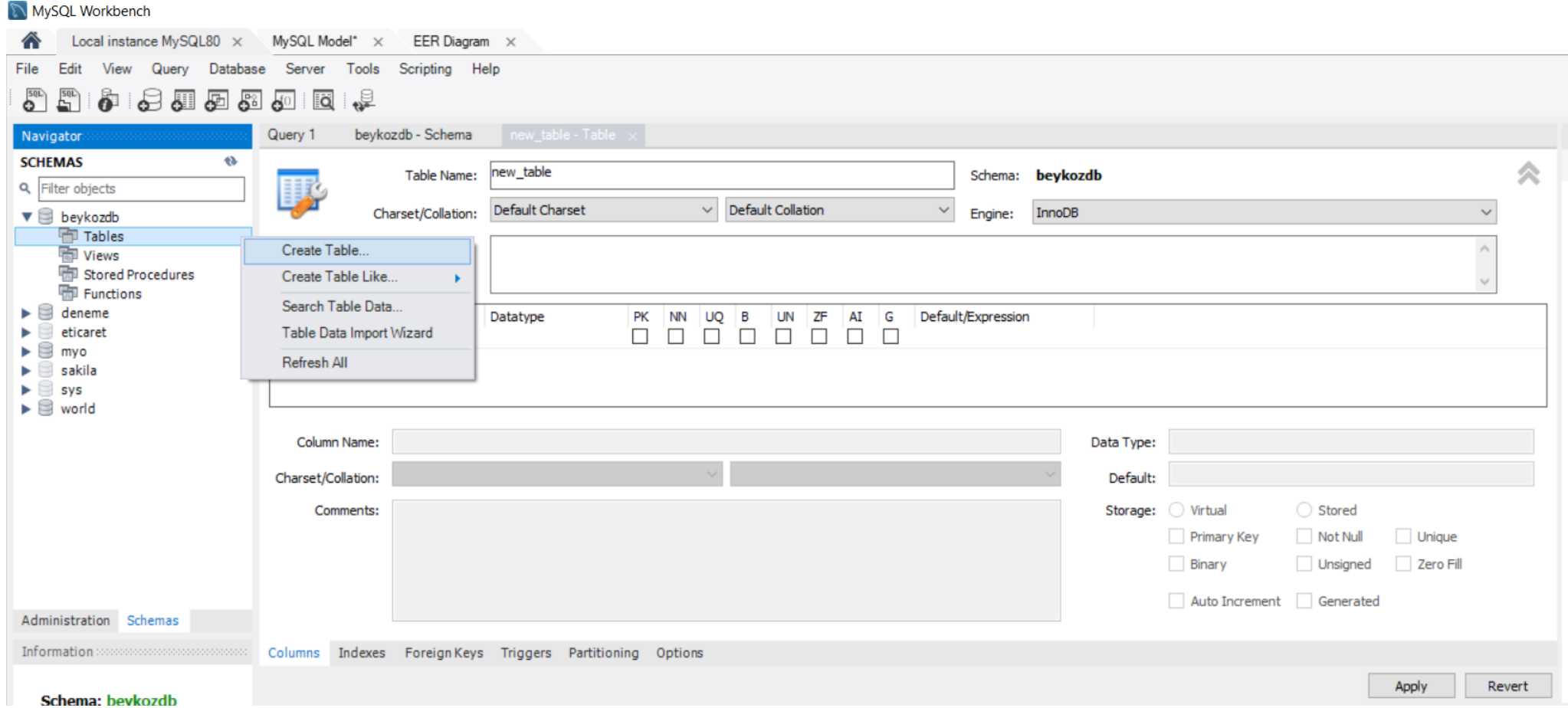




Otomatik Şema Oluşturma



Otomatik Tablo Oluřturma



Otomatik Tablo Oluřturma

Query 1 beykozdb - Schema öğrenci - Table x




Table Name: öğrenci

Schema: beykozdb

Charset/Collation: Default Charset Default Collation

Engine: InnoDB

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
idogrenci	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ad	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ders	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name: ad

Charset/Collation: Default Charset Default Collation

Comments:

Data Type: VARCHAR(45)

Default:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

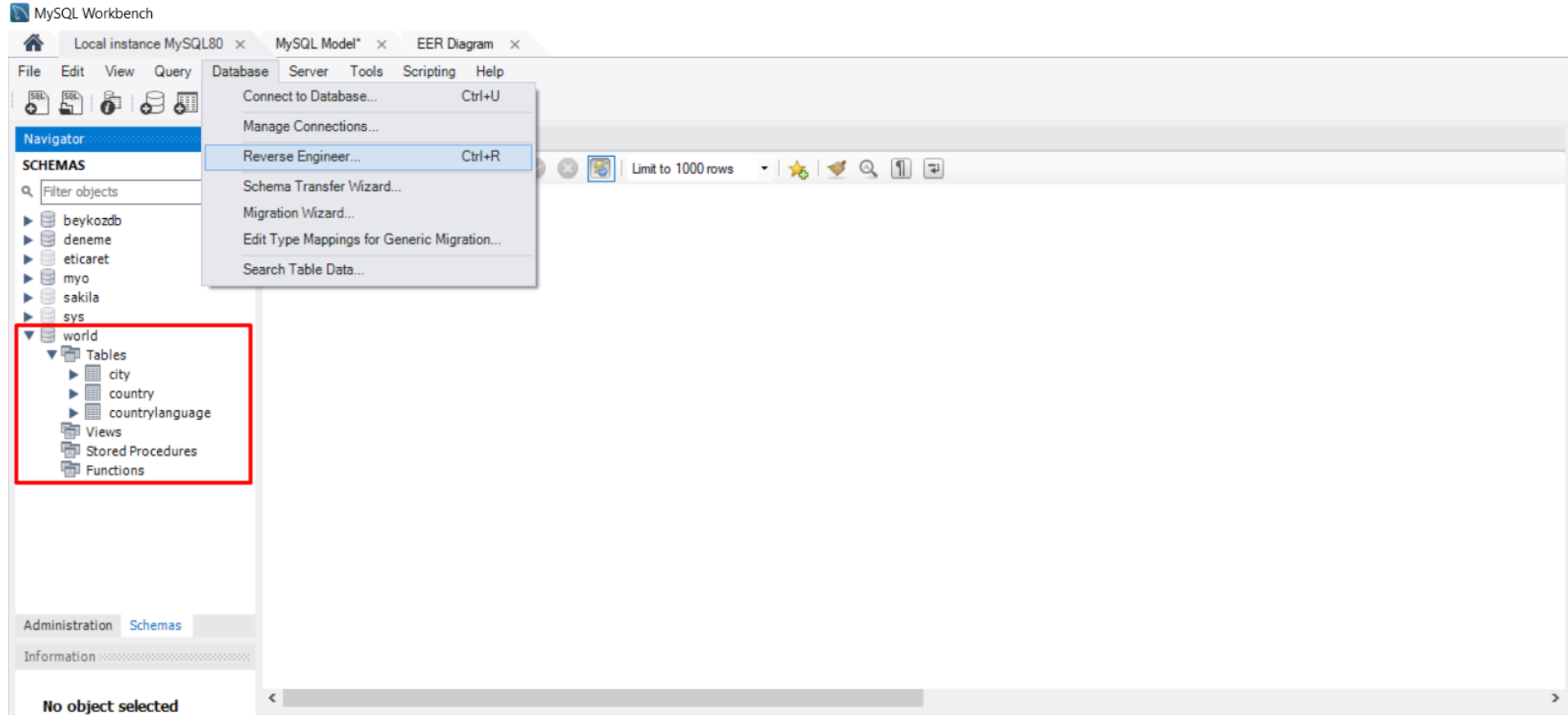
☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options

Apply Revert

E-R Diyagramı Oluřturma



Connection Options

Connect to DBMS

Select Schemas

Retrieve Objects

Select Objects

Reverse Engineer

Results

Select Schemas to Reverse Engineer



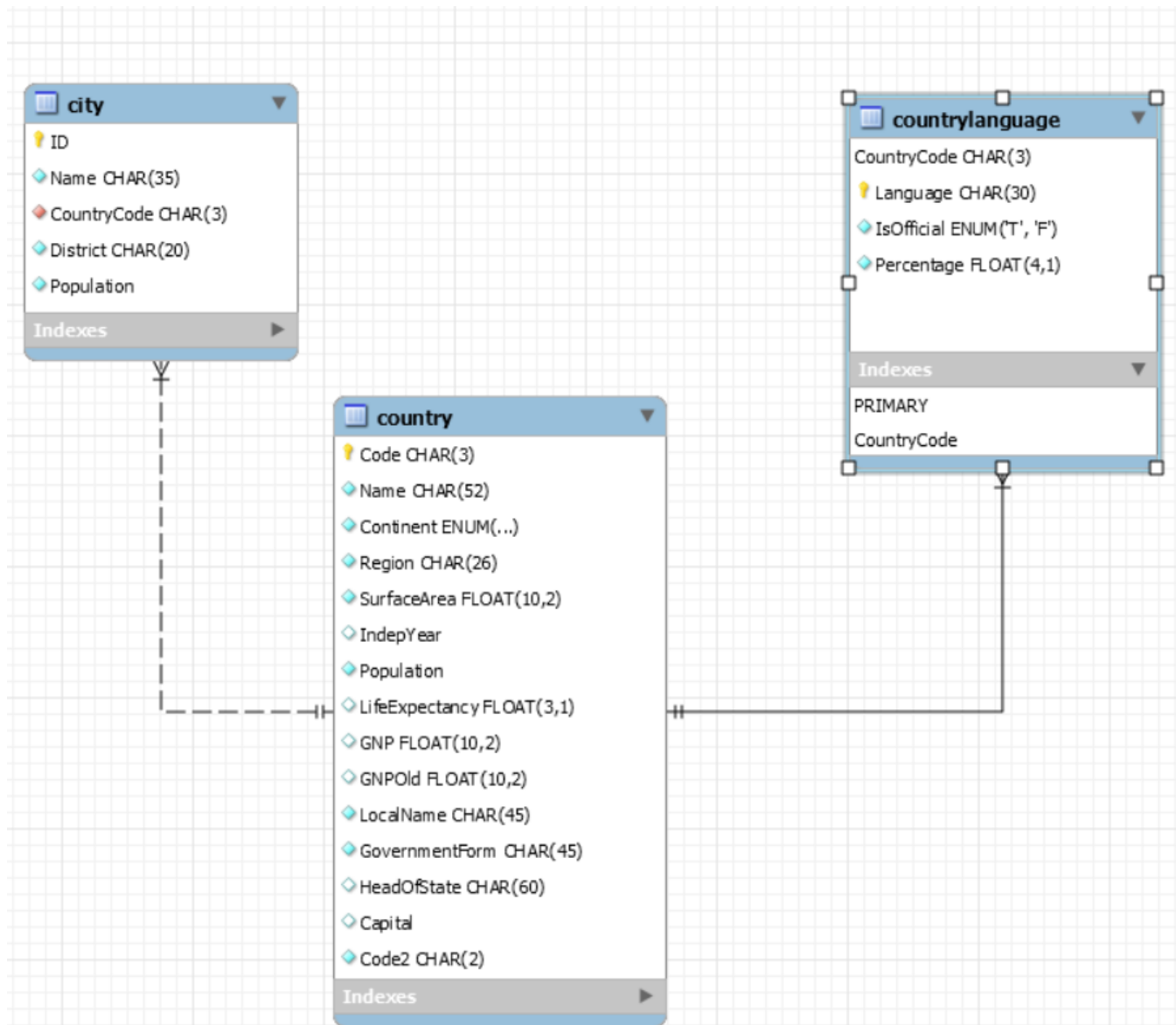
Select the schemas you want to include:

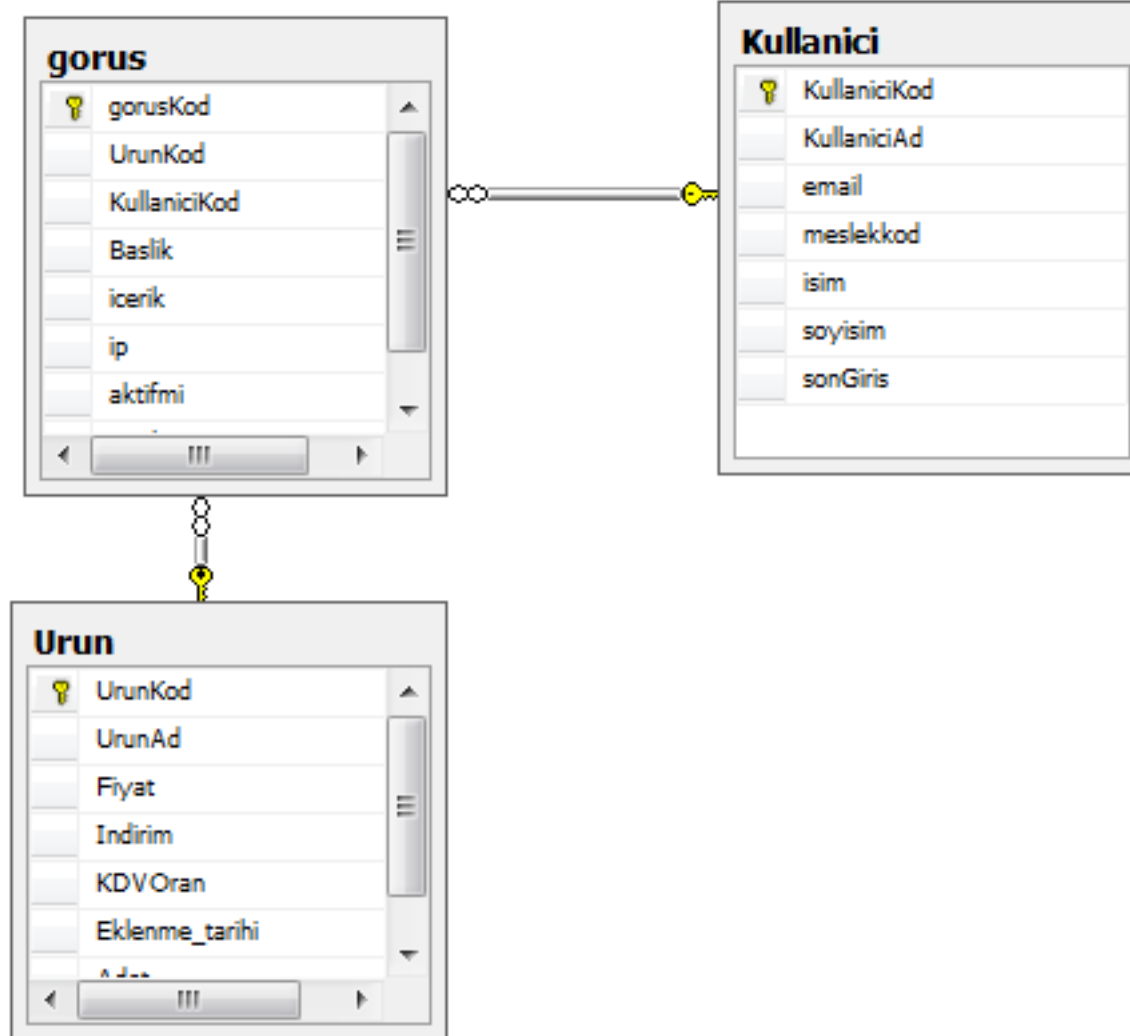
- ☐ beykozdb
- ☐ deneme
- ☐ eticaret
- ☐ myo
- ☐ sakila
- ☒ world

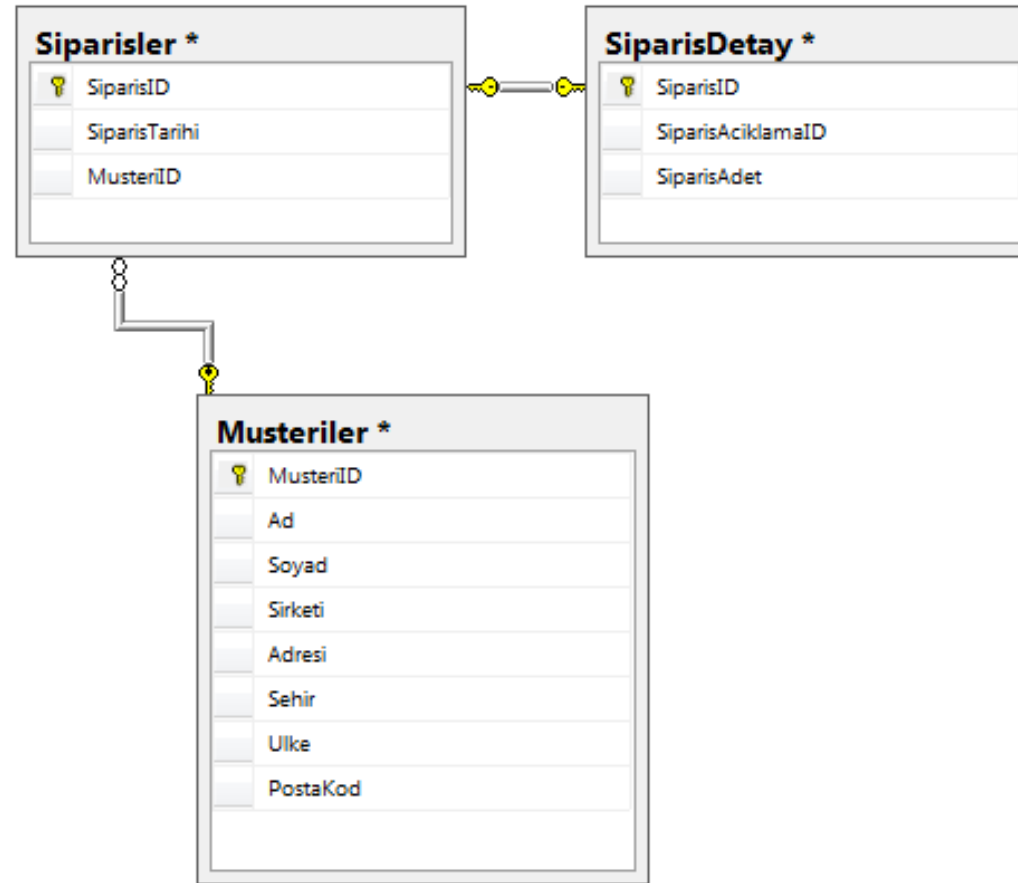
Back

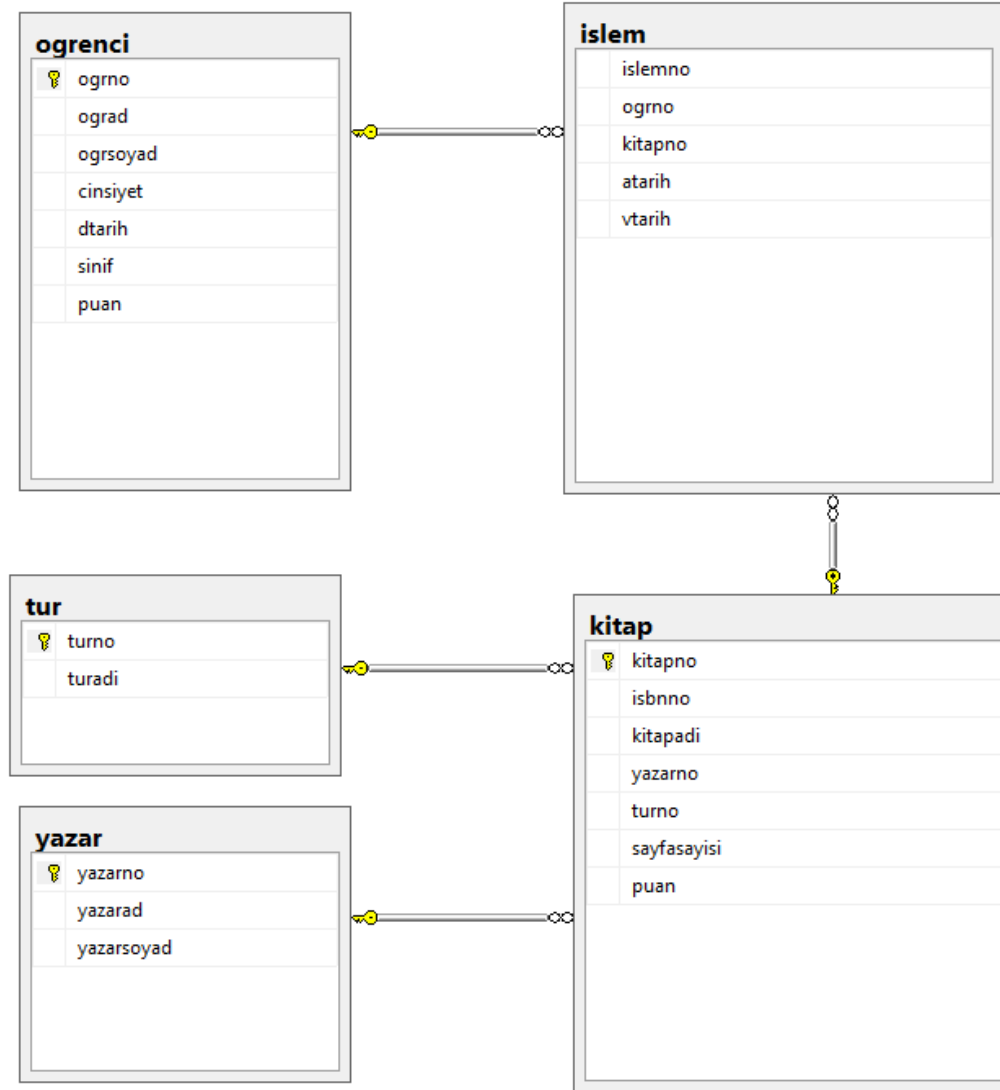
Next

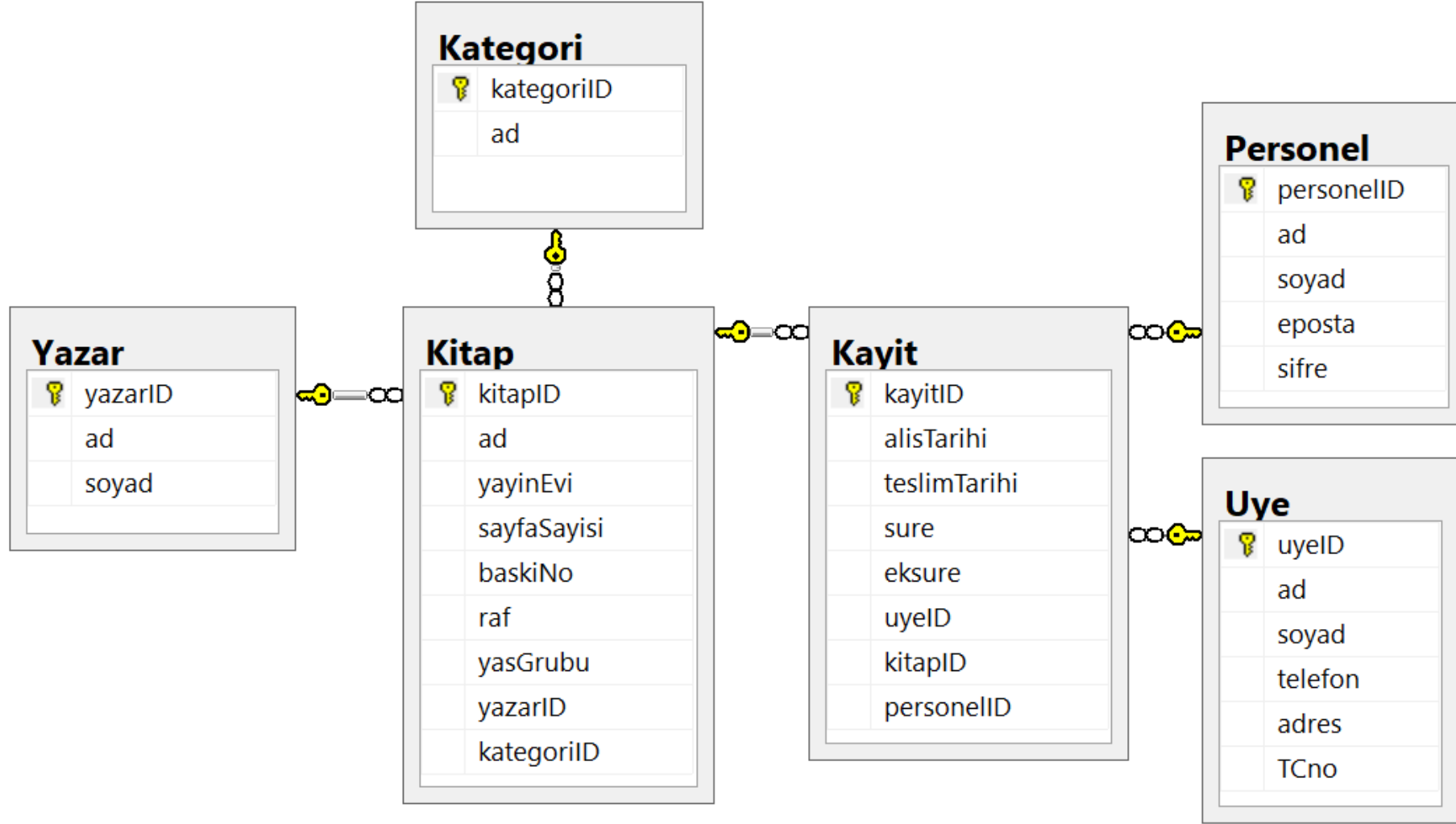
Cancel

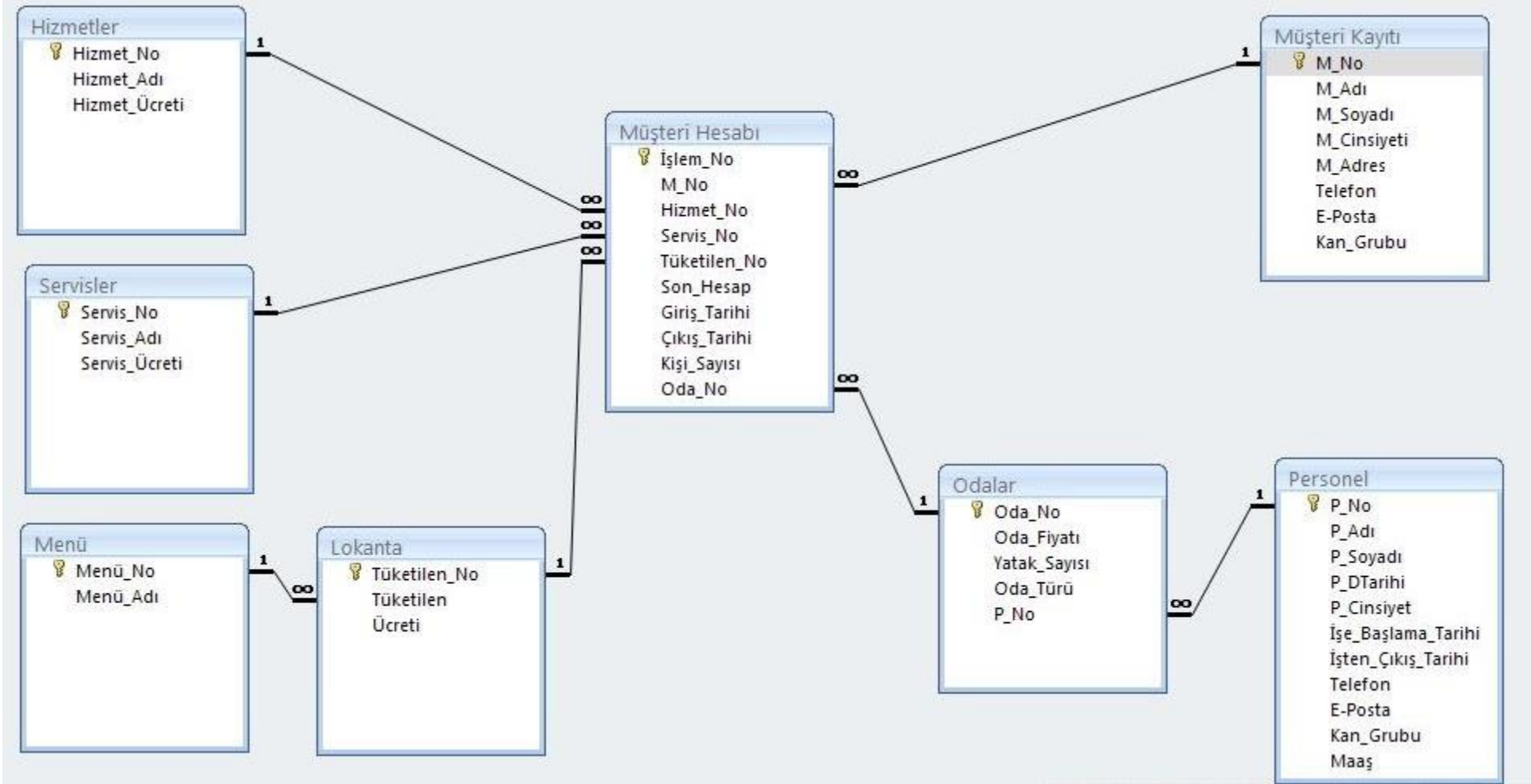






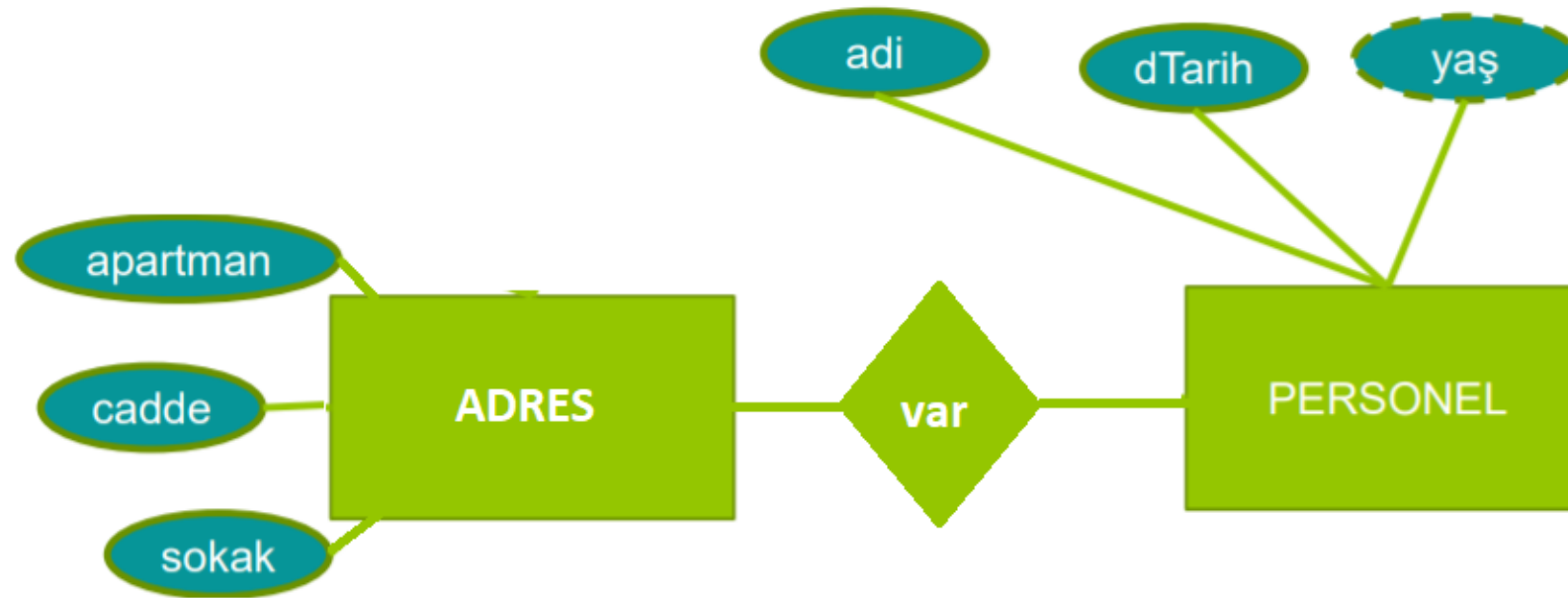






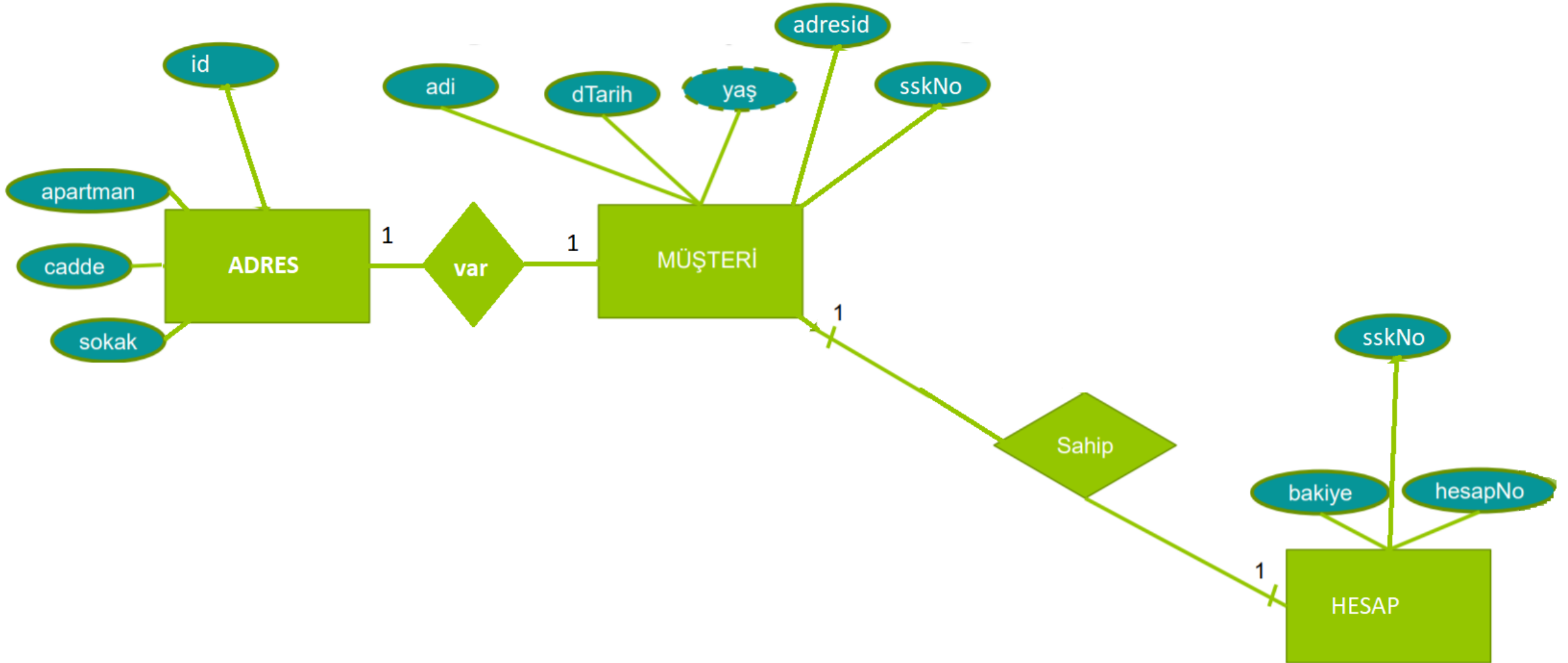
Örnek 1: E-R Diyagram Oluşturma

- Bir personel varlığının aşağıda belirtilen özelliklere sahip olduğu varsayılın
 - Adı
 - Doğum Tarihi
 - Yaş doğum tarihinden elde edilecektir.
- Cadde, sokak ve apartman nitelikleri adres varlığında yer alacaktır.
- Uygun E-R diyagramını oluşturun



Örnek 2: E-R Diyagram Oluşturma

- “Müşteri”, “Adres” ve “Hesap” isimli iki varlık kümesinin nitelikleri aşağıdaki gibidir:
 - Müşteri: adı, sskNo, dTarih, yaş (dTarihten türetilmiş)
 - Adres: cadde, sokak ve apartman
 - Hesap: hesap No, Bakiye
 - Müşteri varlığı sskNo ile, hesap varlığı ise hesapNo ile tanımlanmaktadır.
- Uygun E-R diagramını oluşturun

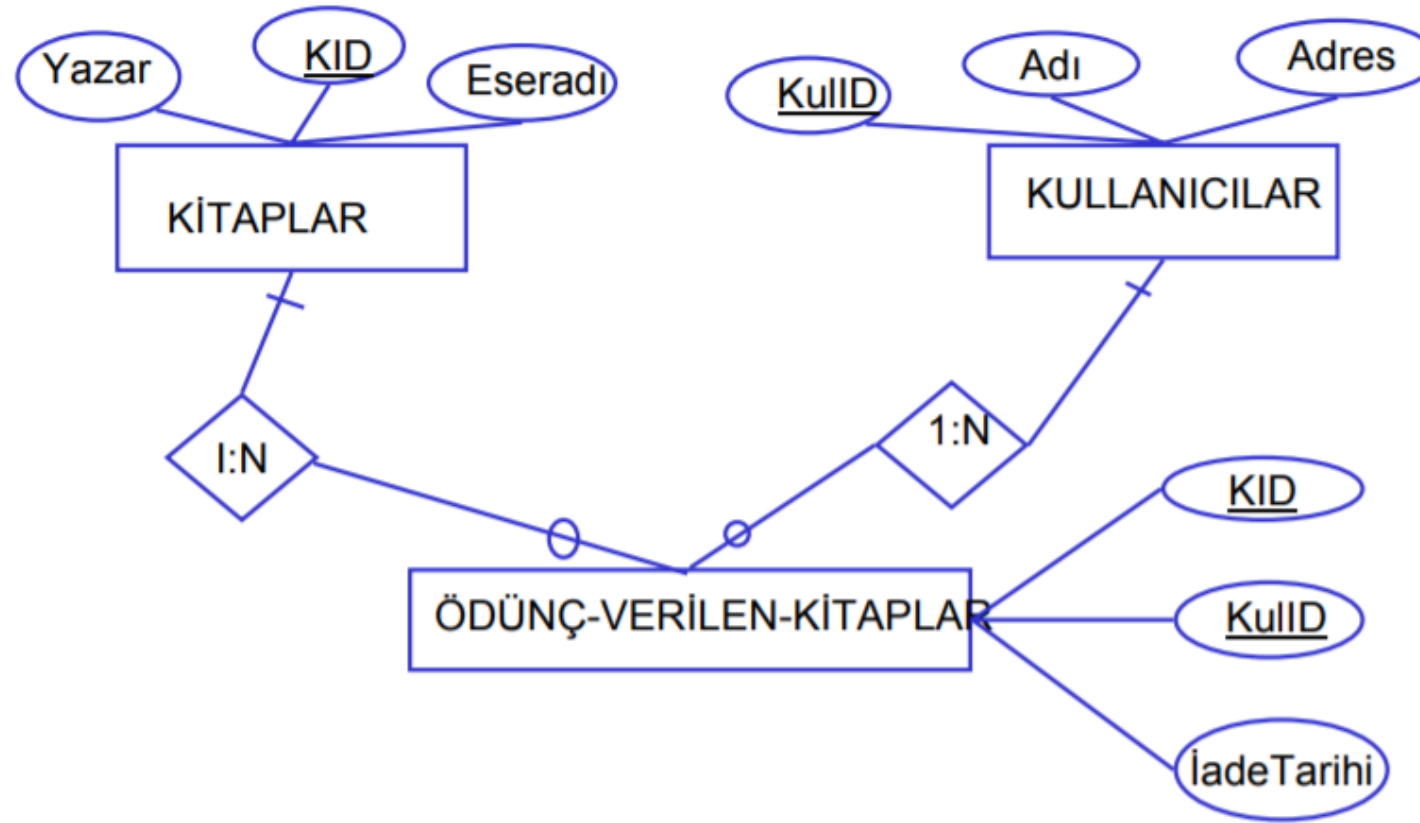


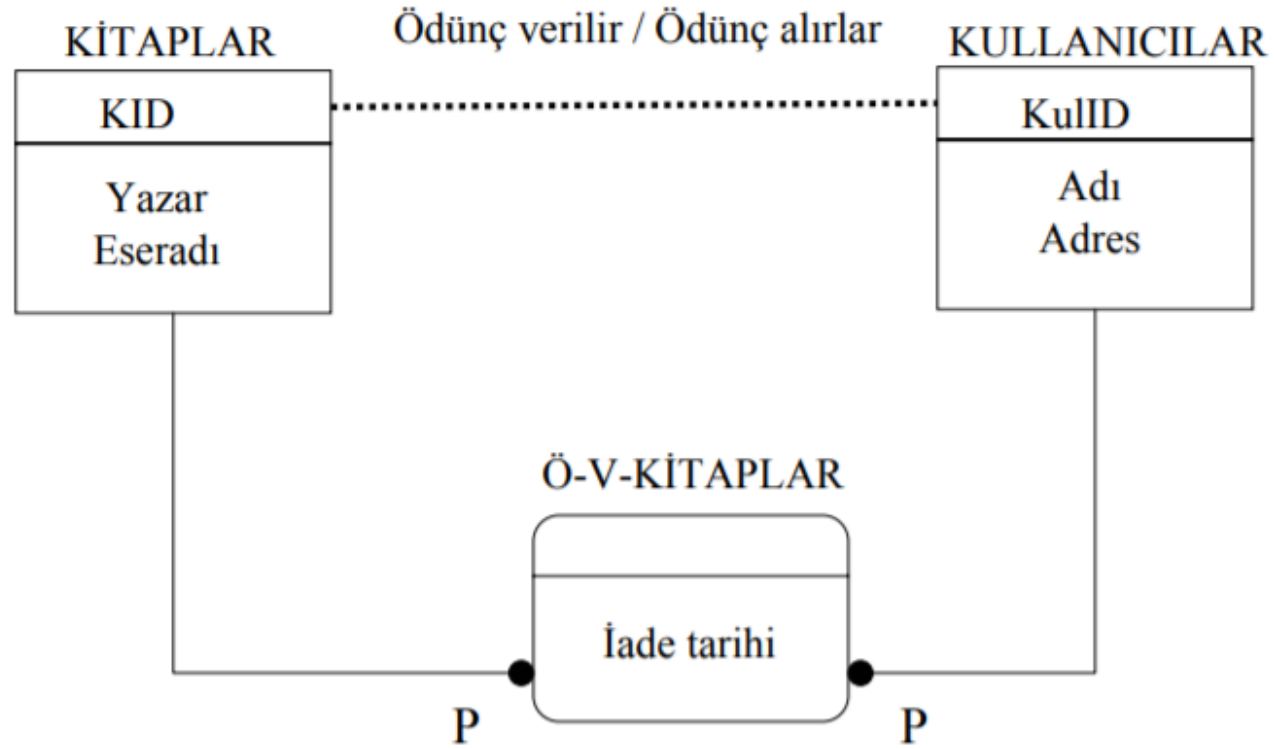
Örnek 3: E-R Diyagram Oluşturma

- Bir kütüphane için basit bir ödünç verme sistemi
- Kütüphanede her kitaptan bir tane var
- İstenen kitap bir kullanıcıya ödünç verilir ve dönüş tarihi belirtilir.
- Ayırtma yok
- Yenileme yok

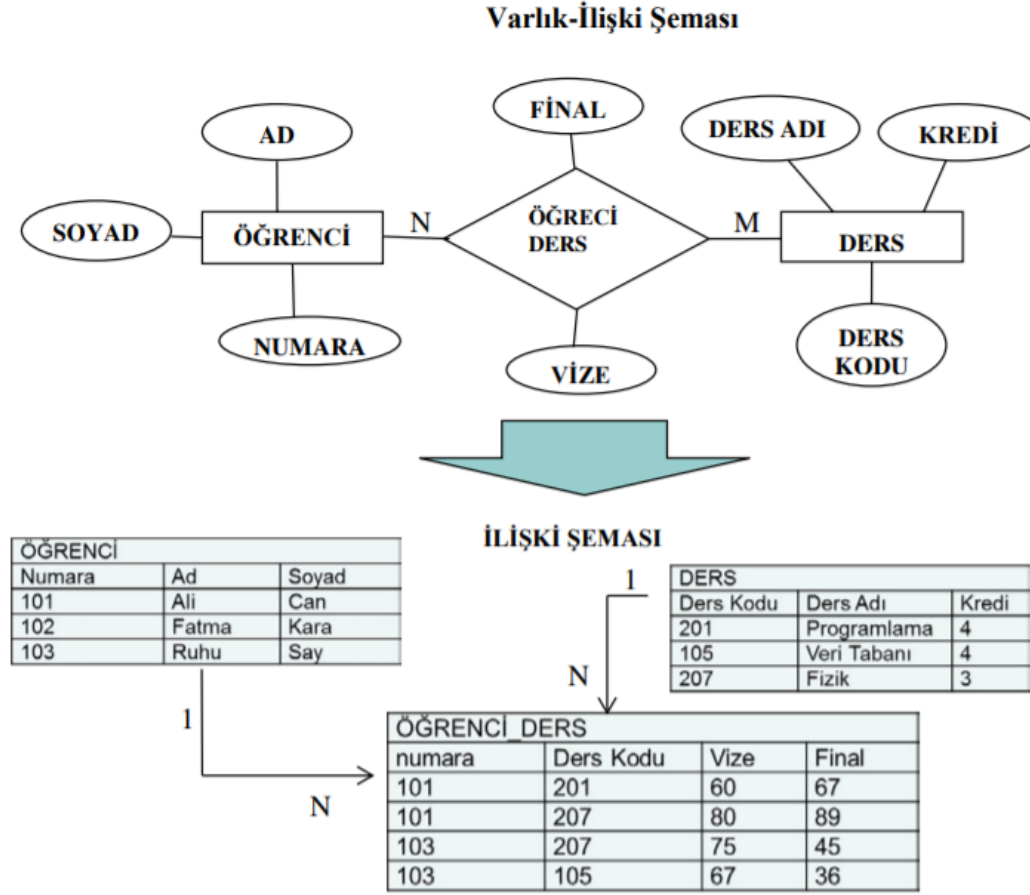
Örnek 3: E-R Diyagram Oluşturma

- VARLIKLAR
 - Kitaplar
 - Kullanıcılar
 - Ödünç verilen kitaplar





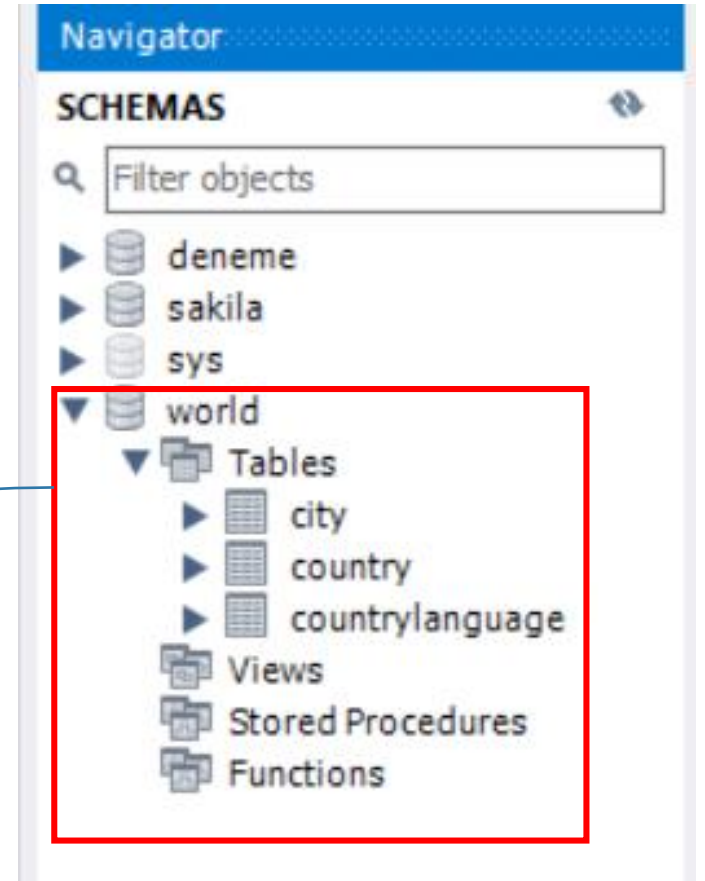
E-R Diyagramından Tabloya Dönüştürme



Tablolar ve Sütun Özellikleri

- Veritabanı şemalardan oluşmaktadır.
- Şemalar tablolardan oluşmaktadır.
- Bu tablolara E-R diyagramında varlık denir.

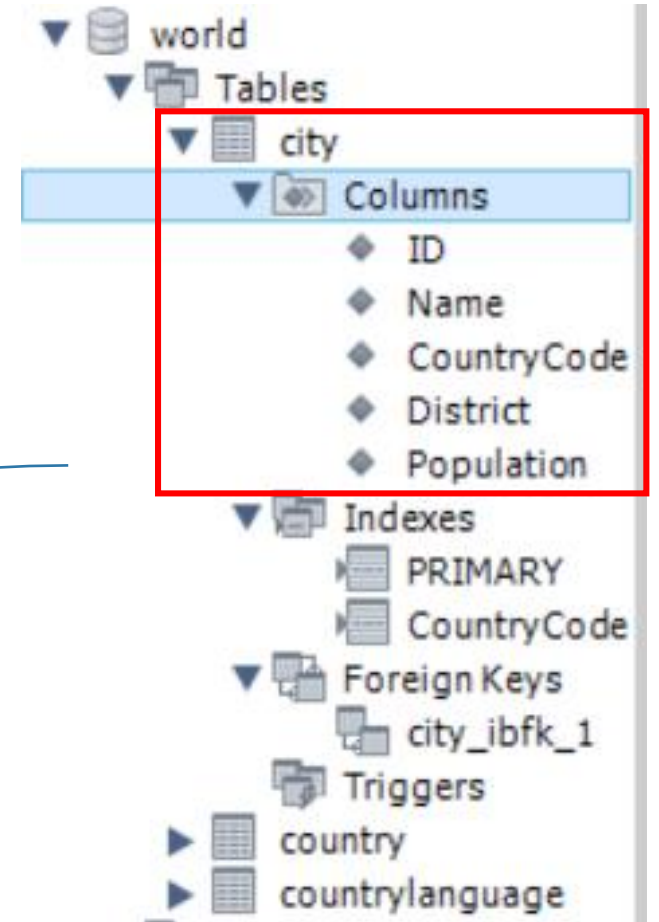
'world' şeması içerisinde
'city', 'country' ve
'countrylanguage' tabloları
oluşturulmuştur.



Tablo ve Sütun Özellikleri

- Tablolardaki sütunlar ise özellikleri temsil eder.
- Özelliklere atanan farklı veri tipleri vardır.

'city' tablosu içerisinde 'ID',
'Name', 'CountryCode',
'District' ve 'Population'
özellikleri oluşturulmuştur.



Tablo ve Sütun Özellikleri

Table Name: Schema: **world**

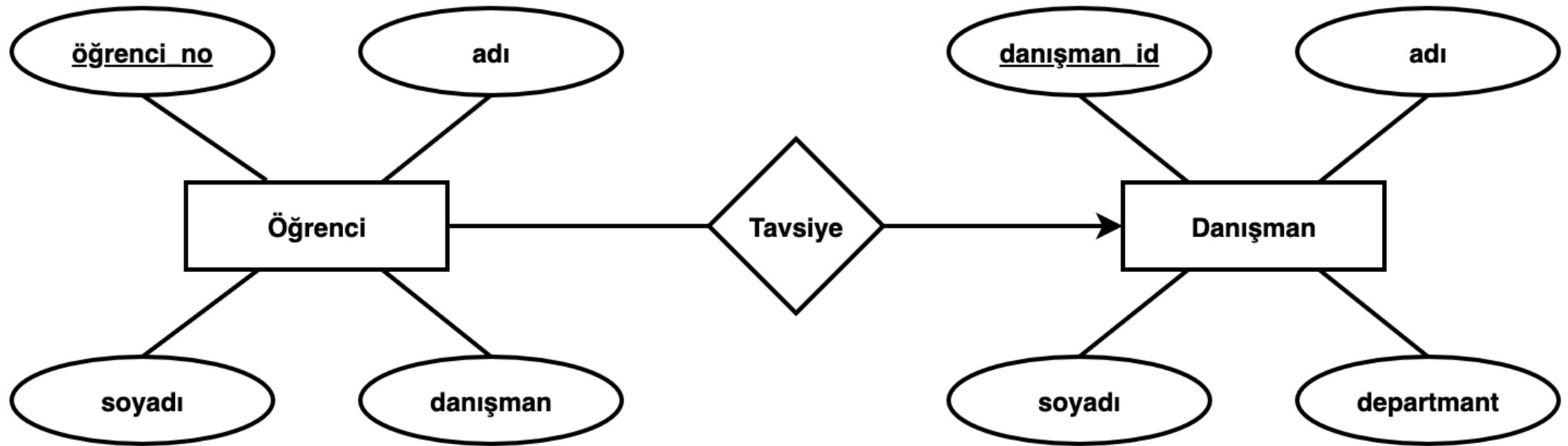
Charset/Collation: Engine:

Comments:

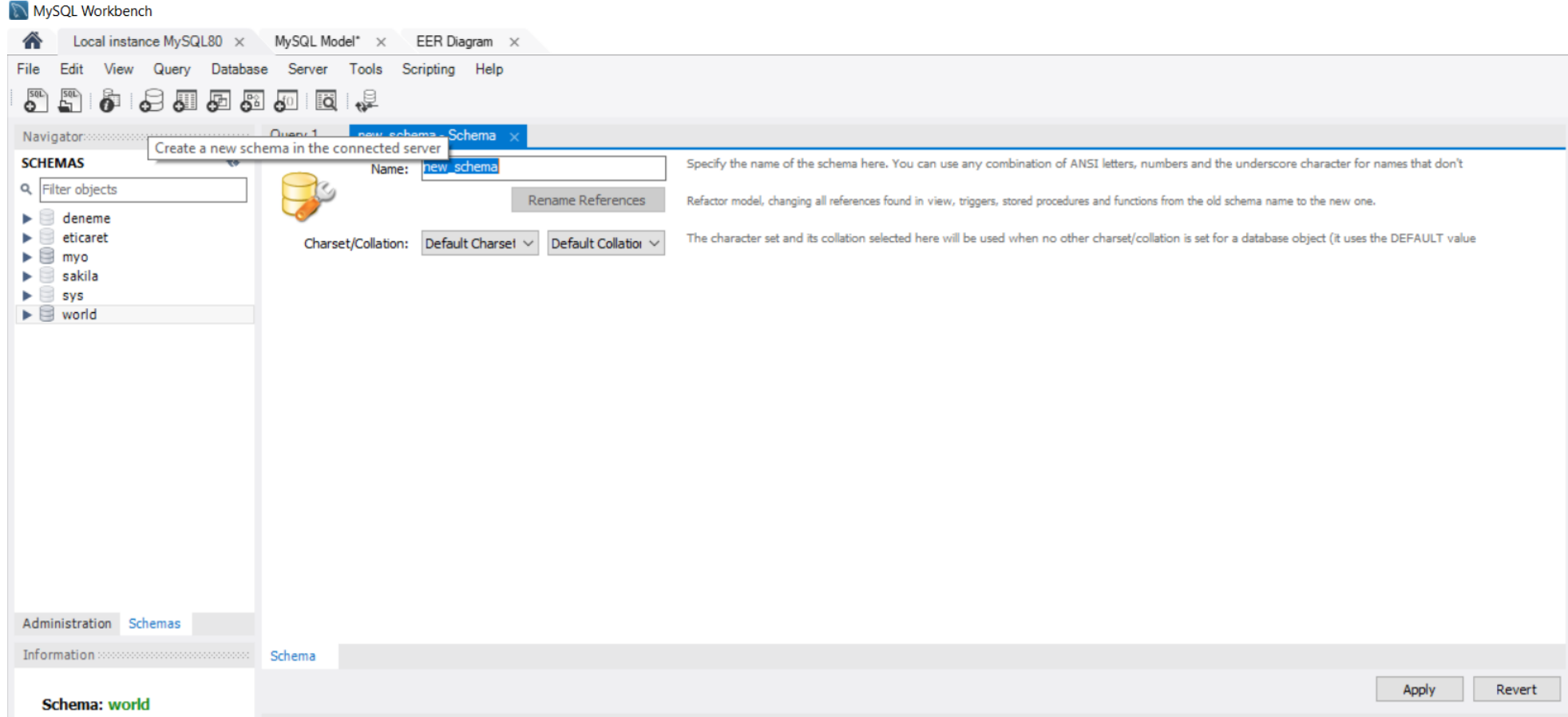
Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
ID		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Name	CHAR(35)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"
CountryCode	CHAR(3)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"
District	CHAR(20)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"

INT
VARCHAR()
DECIMAL()
DATETIME
BLOB
-
BINARY()
BLOB()
LONGBLOB
MEDIUMBLOB
TINYBLOB
VARBINARY()
-
DATE
DATETIME()
TIME()
TIMESTAMP()
YEAR()
-
GEOMETRY
GEOMETRYCOLLEC
LINESTRING
MULTILINESTRING
MULTIPOINT
MULTIPOLYGON
POINT
POLYGON
-
BIGINT()
DECIMAL
DOUBLE
FLOAT
INT()
MEDIUMINT()
REAL

Veri tipleri



Otomatik Şema Oluşturma



Schema

Name:

Charset/Collation:

Rename References

Specify the name of the schema here. You can use any combination of ANSI letters, numbers and the underscore character for names that don't

Refactor model, changing all references found in view, triggers, stored procedures and functions from the old schema name to the new one.

The character set and its collation selected here will be used when no other charset/collation is set for a database object (it uses the DEFAULT value

Schema

Apply Revert

SCHEMAS

Filter objects

okul

Tables

Views

Stored Pr

Functions

sakila

sys

world

Table Name: new_table

Schema: okul

Charset/Collation: Default Charset Default Collation

Engine: InnoDB

Comments:

Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name: Data Type: Charset/Collation: Default: Comments: Storage: ☐ Virtual ☐ Stored ☐ Primary Key ☐ Not Null ☐ Unique ☐ Binary ☐ Unsigned ☐ Zero Fill ☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options

Apply Revert



Table Name: danisman

Schema: okul

Charset/Collation:

utf8mb4

utf8mb4_0900_ai_ci

Engine:

InnoDB

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
danisman_id		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ad	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
soyad	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
departman	VARCHAR(100)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL

Column Name:

Charset/Collation:

Default Charset

Default Collation

Comments:

Data Type:

Default:

Storage:

☐ Virtual

☐ Stored

☐ Primary Key

☐ Not Null

☐ Unique

☐ Binary

☐ Unsigned

☐ Zero Fill

☐ Auto Increment

☐ Generated

Columns

Indexes

Foreign Keys

Triggers

Partitioning

Options

Apply

Revert



Table Name:

ogrenci

Schema:

okul

Charset/Collation:

utf8mb4

utf8mb4_0900_ai_ci

Engine:

InnoDB

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
ogrenci_no		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ad	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
soyad	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
danisman	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL

Column Name:

Charset/Collation:

Default Charset

Default Collation

Comments:

Data Type:

Default:

Storage:

☐ Virtual☐ Stored☐ Primary Key☐ Not Null☐ Unique☐ Binary☐ Unsigned☐ Zero Fill☐ Auto Increment☐ Generated

Columns

Indexes

Foreign Keys

Triggers

Partitioning

Options

Apply

Revert

Foreign Key Name	Referenced Table
fk_key	`okul`,`ogrenci`

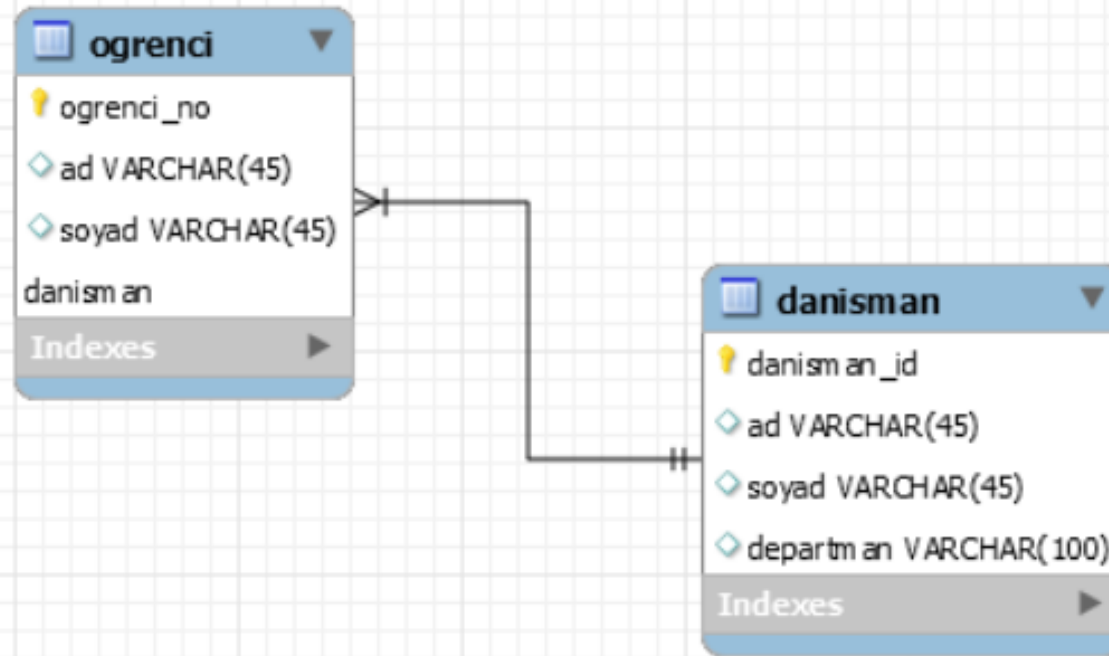
Column	Referenced Column
<input type="checkbox"/> danisman_id	
<input type="checkbox"/> ad	ogrenci_no
<input type="checkbox"/> soyad	ad
<input type="checkbox"/> departman	soyad
	danisman
	Specify Column...

Foreign Key Options
On Update: NO ACTION
On Delete: NO ACTION
☐ Skip in SQL generation

Foreign Key Comment

ColumnsIndexesForeign KeysTriggersPartitioningOptions

ApplyRevert



SCHEMAS

Filter objects

- okul
 - Tables
 - danisman**
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
 - ogrenci
 - Views
 - Stored Procedures
 - Functions
 - sakila
 - sys
 - world

1 • `SELECT * FROM okul.danisman;`

Limit to 1000 rows

Result Grid

	danisman_id	ad	soyad	departman
*	NULL	NULL	NULL	NULL

Result Grid				
	danisman_id	ad	soyad	departman
	1	ali	öztürk	bilgisayar
✎	2	ayşe	can	kimya
⊕	NULL	NULL	NULL	NULL

Result Grid				
	ogrenci_no	ad	soyad	danisman
	101	büşra	tiryaki	2
	102	utku	kara	1
✎	103	bersu	ay	2
⊕	NULL	NULL	NULL	NULL

Tablo ve Sütun İsimlendirme Kuralları

- Karakterler ile başlamalıdır.
- 30 karakteri geçmemelidir.
- A–Z, a–z, 0–9, _, \$, ve # kullanılabilir.
- Bir isimlendirmeyi sadece bir yerde kullanabilir.
- Tablo adı anlamlı, tanımlayıcı ve kısa olmalıdır.
- Yabancı anahtarların (FK) isimleri ana tablodaki alan isimleriyle aynı olmalı. (Kolon için)

SQL ile Tablo Oluşturma

- "Structured Query Language" yani Yapısal Sorgulama Dili'nin baş harflerinden oluşmuştur.
- Veritabanı ile anlaşmayı sağlayan dildir.
- Veritabanındaki işlemleri DDL – DML – DCL – TCL başlıkları altında bölümlere ayırabiliriz.

SQL İfadeleri

- **DDL:** Data Definition Language (DDL) tabloları veritabanı yapısı veya şema tanımlamak için kullanılır.
- **DML:** Data Manipulation Language (DML) tabloları şema nesneleri içinde verileri yönetmek için kullanılır.
- **DCL:** Data Control Language (DCL) işlemleri.
- **TCL:** Transaction Control (TCL) işlemleri DML ile yapılanları yönetmeye yarar.