# Exercises: Introduction to Databases

## Create New Database

* Connect to Server with Authentication Mode

Graphical user interface, text, application

Description automatically generated

* Create a new database

Graphical user interface, text, application

Description automatically generated

* Type the name of the database and click OK. This will create your database.



## Create Table

* Create **table** **Minions**

Graphical user interface, application

Description automatically generated

* Create columns **Id, Name, Age**. Id and Name are **required**; Age should **allow null values**.

Graphical user interface, table

Description automatically generated

* Set the **Id** as **primary key**.

Graphical user interface, application

Description automatically generated

## Insert Data in the Table

Insert data in the table as its show on the picture

Application

Description automatically generated with medium confidence

## Select Data from Table

* Select all columns from the Minions table.

A picture containing chart

Description automatically generated

* Open new query window, then write the SQL.
  + \* Select **only Names** from Minions table.
  + \*\* **Order** them **ascending by name**

Graphical user interface, application

Description automatically generated with medium confidence

## Update One Record

Change **Stuart’s age** from **NULL** to **10**

Application

Description automatically generated with medium confidence

## Update All Records

Change all of the Minions age to be + 1 years.

## Delete Record

Open table in the Edit Mode, **right click** on the row where **Bob** is situated and delete it.

Graphical user interface, application, table

Description automatically generated

## Create New Table

Create new table **Towns**. Every town has **Id (int)** and **Name (text)**. Make the **Id** column **primary key**.

## \*Connect Tables

Now let’s make a connection (or relationship) between our two tables. First we need modify our Minions table. Add column **TownId** in it **(IMPORTANT: The type of the column must be the same as the type of the column Id of the Towns table)**.



Now we can make new diagram. The diagram shows all tables and the relationships between them.



Select all tables to be on the diagram and click **Add**

Graphical user interface, application, Word

Description automatically generated

Finally, simply drag the **TownId** column and drop it on the Id column in Towns. Then Make sure the window looks like this and click OK.

Graphical user interface, text, application, email

Description automatically generated

That’s all. Now the two tables have a relationship between them.

## Create New Database

Now on your own create a new database **School**. Add a few tables to the database: **Students (Id, Name, Age, PhoneNumber)**, **Classes (Id, Name, MaxStudents), Teachers(Id, Name, Class)**. Add columns for the tables. Populate the tables with random content. Then delete and make changes in some records.

## \*Generate SQL Script

Generate SQL script from the **School** database. View the script file and try to understand different commands. Execute the script.