

## 4. Traffic restriction

Road management organisations regularly publish the country-wide traffic restriction data. The following database contains the traffic restriction data of a report in 2010.

1. Create a new database named *traffic*. Import the three data tables supplied (*restriction.txt*, *naming.txt* and *extent.txt*) into the database with table names that correspond to the file names (***restriction***, ***naming***, ***extent***). All three files are UTF-8 encoded text files tagged by tabs, their first lines contain the field names. Add a unique key named *id* to table ***restriction***. Upon creation, set the suitable types and mark the fields that are used as keys.

### Table:

***restriction*** (*id*, *roadnumber*, *frompoint*, *topoint*, *settlement*, *fromdate*, *todate*, *namingid*, *extentid*, *speed*)

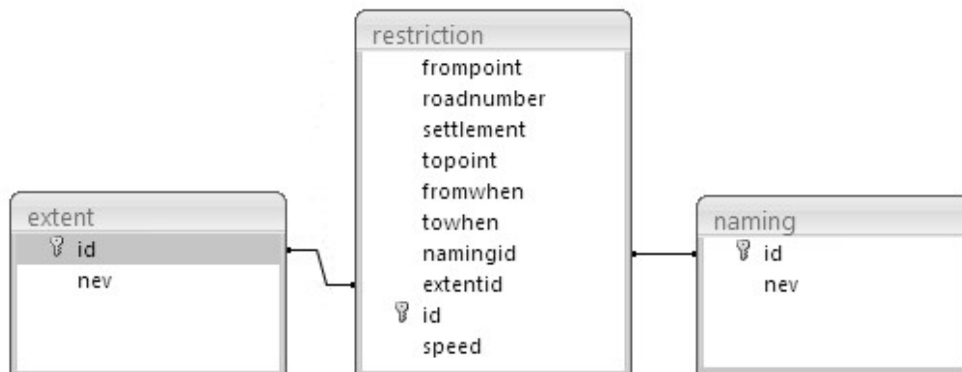
<i>id</i>	The identifier of the place of the restriction (autonumber), this is the key
<i>roadnumber</i>	The number of the road in the register (integer)
<i>frompoint</i>	The start of the restriction given as a kilometre (real)
<i>topoint</i>	The end of the restriction given as a kilometre (real)
<i>settlement</i>	The name of the settlement to which the restricted road section belongs (text)
<i>fromwhen</i>	The starting date of the restriction (date)
<i>towhen</i>	The ending date of the restriction (date)
<i>namingid</i>	The identifier of the cause of the restriction (number)
<i>extentid</i>	The identifier of the extent or the naming of the restriction (number)
<i>speed</i>	The speed limit in km/h (number)

***naming*** (*id*, *nev*)

<i>id</i>	The identifier of the cause of the restriction (number), this is the key
<i>nev</i>	The name of the cause of the restriction (text)

***extent*** (*id*, *nev*)

<i>id</i>	The identifier of the extent of the restriction (number), this is the key
<i>nev</i>	The name of the extent of the restriction (text)



When solving the following exercises, save the queries and the report with the names given in brackets. Pay attention to the queries containing exactly the required fields, do not display unnecessary fields.

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2. Display the place and the time of traffic restrictions at Miskolc using a query. Display fields *roadnumber*, *frompoint*, *topoint*, *fromwhen* and *towhen*. (**2miskolc**)
  3. Display the settlement of each traffic restriction and the number of days affected by the restriction in descending order according to the latter using a query. (**3accordingtotime**)
  4. List the names of the settlements where junction constructions were performed. Display the name of each settlement only once in the list. (**4junction**)
  5. In the numbering of the road network lower-level roads are indicated by four-digit numbers. Create a query that gives the number of restrictions where the road number has four digits. (**5four**)
  6. Create a query that gives the average length of the road sections affected by the different extent restrictions. The list should display the name of the extent and the average length, but the ones with “**complete closure**” should be omitted. (**6average**)
  7. Create a report that contains the settlements of the traffic restrictions, the names of the restrictions and their starting and ending dates grouped according to road number and within that according to the names of the settlements. You can create a query for the solution of the exercise if required. Pay attention to the values being visible in each column of the created report. (**7roadreport**)

<b>20 marks</b>
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