

## Practical exercise 1 - Type Constructors in Oracle9i

### 1. Type and Table Creation

Create the following types

- Institute\_List\_Type as a table of string values
- Faculty\_Type with an id, name, and an institute list
- Address\_Type with attributes country, town, and street
- Telephone\_List\_Type as an array of up to 3 of string values
- Student\_Type with attributes matrnr, name, and address, and a foreign key to the students faculty

using the `CREATE TYPE <typename> (...)` syntax. The create two tables

- Faculties
- Students

using the `CREATE TABLE <tablename> OF <typename>` syntax and according primary key constraints.

### 2. Data Insertion

Create two records for faculty objects

- Computer science with institutes
  - Information systems
  - Distributed systems
  - Software engineering
  - Computer graphics
- Economics
  - Political economics
  - Business economics
  - Marketing

and for each faculty two students living in Magdeburg, Berlin, Potsdam, and Braunschweig, respectively. All of the students have a home phone number, at least two of them in addition have a cell phone number.

### 3. Querying

Formulate the following queries:

- At which faculties do students living in Magdeburg study?
- What are the phone numbers of student Henry Kowalski?
- The marketing institute is part of which faculty?