Tutorial 6: Stored Procedures and PL/SQL

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Introduction

In this exercise, we will have a look at stored procedures in Oracle. As there are no tutorials this week due to Anzac day, we will just have a short look into these topics. You should be able to solve the following exercise either within the School or back home (assuming that you have internet access). You only need access to our courses web site. There, you will find both the online documentation for Oracle PL/SQL, as well as access to our course’s Oracle database via iSQL*Plus (its web front-end we used so far).

Question 1: Oracle Stored Procedure

Log into our course database with the web front-end iSQL*Plus and answer the following two questions:

a) Write a stored procedure `addAccident()` which adds a new accident to the database. The procedure should take the report number, the registration number of the car involved, the location string, and the date and the damage amount of the accident as parameters, and insert corresponding tuples into both the `accident` and the `involved` relations. Assume that the involved driver is actually the owner of the car.

b) Add at least one new accident into your database by calling your stored procedure `addAccident()`.

Tip 1: The general syntax for creating a new stored procedure with Oracle differs from the SQL1999 standard. It is as follows:

```
CREATE OR REPLACE PROCEDURE name ( param1, ..., paramN )
AS
BEGIN
  ... SQL-DML statements and PL/SQL code ...
END;
```

where `name` is the name of the stored procedure and `paramX` is a parameter declaration of the form `parametername IN SQL-domain-type`
Tip 2: In case of an error, Oracle just answers with Warning: Procedure created with compilation errors. To see more details on this compilation error, add the following two lines after your procedure code (the first line is just a '/'):

```
/
SHOW ERRORS;
```

Tip 3: Start with creating a new empty stored procedure which takes the correct parameters but just adds the first tuple into accident. If this works, think about how to add the second tuple into involved where you have to query two values from the database. Actually, you can solve this exercise without using PL/SQL at all but just with a sequence of SQL commands. The solution is very similar to the solution of question 4 of the previous tutorial.