

## Prac Exercise 05

### Modifying a PostgreSQL Client Program

#### Aims

This simple exercise aims to get you to:

- become more familiar with the PostgreSQL source code
- practice the edit-make-install-test cycle for modifying PostgreSQL

You ought to get it done by the end of Week 7.

#### Exercise

The `psql` client in earlier versions of PostgreSQL used to have a much friendlier introductory message than the current version. Nowadays, all that greets you when you start an interactive `psql` session is:

```
$ psql mydb
psql (11.3)
Type "help" for help.

mydb=#
```

Your task for this lab is simply to make the introductory message more friendly. You must change the code for `psql` so that it now behaves as follows:

```
$ psql mydb
Welcome to the PostgreSQL 11.3 version of psql
Type "help" for help.

mydb=#
```

You should display this behaviour *only* when the user successfully connects to a database. All other invocations of `psql` should appear the same as before.

Simple, eh? It would be if you were familiar with the PostgreSQL code-base. However, you'll need to work a few things out to accomplish this:

- where is the source code for `psql`?
- where is the code that prints the introductory message?
- how do I re-install the `psql` client once I've changed it?
- what kind of testing should I do to make sure I haven't broken something else?

Here are a few small hints to get you started. Since this is an exploratory lab, the idea is for you to work it out for yourself.

- the source code for clients lives under `postgresql-11.3/src/bin`
- change into the directory where the `psql` source code is located
- find the source code file containing the `main` function (use `grep`)
- look for the string containing the help message
- you only need to change a single line of code
- run `make` and `make install` from within that directory
- since you're recompiling a client, there's no need to stop the server when you re-make `psql`

Some things not to do:

- don't run `make` from the top-level `postgresql-11.3` directory  
(it's too slow and reinstalls a whole bunch of stuff that hasn't actually changed; sloppy `Makefile`, I'd say)
- don't spend more than an hour on this exercise ... unless you start to find the source code exciting

## **End of Prac**

Let me know via the forums, or come to a consultation if you have any problems with this exercise ... *jas*