COMP9315 21T1   # Assignment 1   DBMS Implementation
Testing Resources

Last updated: **Tuesday 9th March 11:05pm**
Most recent changes are shown in red;
older changes are shown in brown.

Setup:

```
$ ssh grieg
$ source /srvr/$USER/env
$ mkdir -p /srvr/$USER/testing/
$ cd /srvr/$USER/testing/
$ cp -P /web/cs9315/21T1/assignments/ass1/testing/tests .
$ cp -P /web/cs9315/21T1/assignments/ass1/testing/run_test.py .
$ cp -P /web/cs9315/21T1/assignments/ass1/testing/Makefile .
$ cp -P /web/cs9315/21T1/assignments/ass1/testing/intset.drop.sql .
```

The above `cp` command will:

- Copy a link to a directory `tests/` containing test definitions
- Copy a link to a python script `run_test.py` for running the tests in `tests/`
- Copy a makefile `Makefile` for building your *intset* type
- Copy a SQL file `intset.drop.sql` for removing your *intset* type

You can look at the tests in `tests/*/` and copy-paste them into a `psql` session if you want to perform individual tests.
Or you can run the comprehensive set of tests using the Python script as described below.
Each directory contains an `manifest.json` file giving more details about the files in that directory.

Next, you should copy or move your `intset.c` and `intset.source` files into the new testing directory.

```
$ cd /srvr/$USER/testing/
$ cp ../postgresql-12.5/src/tutorial/intset.c .
$ cp ../postgresql-12.5/src/tutorial/intset.source .
# This is the probable location of your intset files.
# If they are somewhere else copy them from that location instead.
```

From this point on, you can do your assignment development in the `testing/` directory.
The provided `Makefile` will do the same job as the one in the `postgresql-12.5/src/tutorial/` directory.
(Remember to modify the `Makefile` if you have added extra `.c` files)

Don't forget to run the command:

```
$ source /srvr/$USER/env
```

Every time you want to do a development/debugging session on your `IntSet` data type.
This includes before running `make` or `run_test.py`.

Autotesting:

You can now run the tests:

```
# If you haven't already done so:
$ ssh grieg
$ cd /srvr/$USER/testing/
$ source /srvr/$USER/env
# The run all tests in the tests/ directory:
$ ./run_test.py # Lots of output
# Run all tests in the tests/ directory but only show ones that are failing:
$ ./run_test.py TRUE # You only want to see debug information
# Internal logs from postgresql are placed in pg.log
# External logs from the testing script are placed in test.log
```

Notes:

- `intset.source` should do the bare minimum needed to create the `IntSet` type as specified.
- `intset.source` should not try to create any tables, insert any data, or drop the `IntSet` type.
- Everything done in `intset.source` should be undo-able with "DROP TYPE IntSet CASCADE".
- Passing these tests doesn't guarantee you marks, but does mean you are on the right track.
- Do your own tests, especially to make sure that queries are completed in a reasonable time and you are storing data in a reasonable amount of space.
- If you understand the format of the files in `tests/` you can add tests there, otherwise run them manually.

Home Testing:

Hopefully to follow soon.
Once any bugs have been squashed.

Bugs:

Please report any issues ASAP on the Webcms3 comments for this page.

Have fun, *jas* and *dylan*