

Assignment 1

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*

