IDS Lecture 2: Basic Structured Query Language (SQL)

SQL Data Model

- Data is organised in *tables* (aka *relations*)

Tables (Relations) are a collection of *tuples* (aka *rows* or *records*)

SQL

Consists of two sublanguages,
Data Definition Language (DDL): operations on the schema
Data Manipulation Language (DML): operations on the instance

Getting to the UOE PSQL prompt

Better instructions on pizza:

1. `ssh s1869292@ssh.inf.ed.ac.uk`
2. `ssh student.login`
3. `ssh student.compute` (unnecessary?)
4. `psql -h pgteach`

PostgreSQL (pqsl)

- psql command are case insensitive

Changing the definition of a table

```
ALTER TABLE <name>
    RENAME TO <new_name>;
    RENAME <column> TO <new_column>;
    ADD <column> <type>;
    DROP <column>;
    ALTER <column>
        TYPE <type>;
    SET DEFAULT <value>;
    DROP DEFAULT;

TRUNCATE TABLE <name>;
DROP TABLE <name>;
```

Basic Queries

```
SELECT <list_of_attributes>
FROM <list_of_tables>
```

`WHERE` <condtion>

- when multiples tables are selected in 'FROM', the tables are concatenated (all rows with all rows/nested loop)