

DnA Project Phase 4 Report

There are 8 top level commands, each for one requirement. Each of these top level commands has atleast 2 sub commands.

`insert` - Commands to insert new data into the database

New citizen

Inserts a new entry in the `Citizen` table, prompts for all the required details.

New patient

Used to record a new patient, prompting for all the required details. This command modifies 3 tables.

New loan

Used to record a loan, prompting for all the required details. There are 4 kinds of entities that a loan can go to, and in our model we have made the distinction by using 4 different tables. However this command modifies only one table at a time.

Create bank account

Used to create a new bank account, prompting for all the required details. Modifies only one table.

Record crime

Used to record a crime, prompting for all the required details. Modifies 4 tables.

`update` - Commands to update existing rows in a table

Update citizen income

Command used to update an citizens income if it changes. Prompts for citizen id, and new income.

Update neighbourhood representative

Command used to update the representative of a neighbourhood. Prompts for pincode, and the citizen id of the representative.

`delete` - Commands used to delete data from tables

Clear citizen

Used to delete a citizen record. Before running this, the operator must make sure the citizen has been discharged from hospitals, cleared loans, etc.

Clear patient

Used to delete a patient record when the patient is discharged.

Clear loan

Used when a loan is cleared off.

Remove bank account

Used when a bank account has to be closed down.

Resolve crime

Used when a crime is resolved.

`selection` - Used to select rows of interest

Get people below an income

Prompts for an income level, and returns the ids and names of every citizen below this level.

Get law enforcers

Gets ids and names of every citizen who works in an LEA.

projection - Used to select columns of interest

Get a projection of diseases

Lists all diseases the current patients are suffering from.

Get a projection of crimes

List all charges that are currently a part of some crime report.

aggregate - Aggregate functions used to get statistics of interest

Get number of victims of a disease

Prompts for a disease and prints the number of people suffering from it.

Get average tax per person

Calculates average income tax paid by all people of the city.

Get LEA with highest budget

Prints all details of the LEA that currently has the highest budget.

search - Utilites to search for data of interest

Get all citizens in an apartment by search

Prompts for an apartment names, returns all records matching that apartment name.

Search for parks by neighbourhood

Returns the details of all neighborhoods having a particular landmark detail (park).

analysis - Some utilites that give out analysis by considering the relations between multiple entities

Get crime rate by neighbourhood

Prints the neighbourhood details (along with the representative name) and the number of crimes happening in that neighbourhood.

Get hospital count by neighbourhood

Prints the neighbourhood details (along with the representative name) and the number of hospitals for each neighbourhood.