**Engineering projects database exercise (EngProjects\_csv.py)**

Exercise from “Coursera Python Data Science Intro” course, and “Coursera Python  
Using databases” Course: Tables, SQL and a csv data file. The program is written in Python 2.7.

All are posted on <https://github.com/ElizabethMarais/Python-programming>.

The output is seen in EngProjects\_csv\_output.docx.

The program, EngProjects\_csv.py, obtains data from the following **csv** data files

1. EngProjInvoices\_info.csv
2. EngProjClients\_info.csv
3. EngProj\_info.csv

For each file, it opens it, read the data, write it into the correct table which have the following fields:

1. **Invoices**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Acc\_no** | **Invoice\_No** | **Proj\_no** | **Proj\_name** | **Client** | **Client\_Id** | **Date\_inv** | **Amount** |

1. **Clients**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Client\_Id** | **name** | **address** | **VAT\_no** | **Contact\_person** | **Email\_address** |

Client\_Id is INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT UNIQUE

1. **ProjInfo**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ProjNo** | **ProjectName** | **Client\_Id** | **Contract\_Amount** | **ProfFee** |

Notes:

One client can have different projects.

Usually more than one invoice is sent out per project.

A SQLite database file is created during this process: EngProj\_csvdb.sqlite

It produces the following outputs

1. OUTPUT 1: PRINT rows in Invoices table , amounts decimal (real/float))(first 6)
2. OUTPUT 2: PRINT rows in Clients table (first 6).
3. OUTPUT 3: PRINT rows in Projects info table.

COMBINED SQL STATEMENTS USED:

1. OUTPUT 4: Print all projects associated with a certain client.
2. OUTPUT 5: Print some information from Invoice table, add Client VAT no. extracted from
3. OUTPUT 6: User is asked to enter the client, print rows showing the **Client**, its address, its projects and the associated Invoices.
4. OUTPUT 7: User is asked to enter the project number, print rows of that project, information and its associated Invoices.