**SET09107: Coursework**

Template

**Name:**

**Matriculation Number**:

**Task 1**: Draw an ER diagram corresponding to the relational database schema and the scenario. (**5 marks**)

Insert your ER diagram

**Task 2**: Re-designthe database to capture more of the semantics of the application making use of object-relational features as extensively as possible while still retaining the semantics of the application. Provide a **critical** discussion on the rationale for your object-relational design justifying the design you adopted with reasons. The discussion should include alternative possible object-relational representations you considered and why they were rejected (only include those if you think they demonstrate a deeper understanding of the problem involved). (**40 marks**)

Describe your re-design, plus discussions required by task 2

**Task 3**: Implement the database according to your design at task 2 and populate the tables with test data, 20 rows at least for each table. The data you inserted should be sufficient to demonstrate your object-relational design decisions and unambiguously answer the queries below. All SQL statements for creating and populating the database should be included. (**10 marks**)

No descriptions are required here. However, two separate sql files are required:

* DBCreating.sql – creating types and tables, plus any relevant scripts for the database
* DBPopulating.sql ---- inserting data into tables

**Task 4**: Provide SQL statements and answers (outputs) to the following queries on the database you re-designed and implemented. Comments are expected. Output should be formatted. Data/information displayed should be in values, not in types, e.g., John Smith, not NAME('John', 'Smith').

Add sql scripts (statements) followed by answers (outputs) for each question.

For example:

Question a

SELECT xxxxxxxx

FROM xxxxxxxx

WHERE xxxxxxxx

/\* Output \*/

First name last name

Jon Smith

Antons Paterson

Or you can use a screenshot of the output here.

Also, a separate sql file including sql scripts for all questions you have done is needed:

* answersToTask4.sql

**Task 5**.: Critically discuss the advantages and disadvantages of the object-relational model against the relational model, based on the designs and implementations for the proposed bank database. (**8 marks**)

Your discussion.

**Task 6**. Write a sequence of drop statements so that if executed one after the other all of the tables and types implemented for the coursework will be removed. (**2 marks**)

No descriptions are required here. However, one separate sql file is required:

* droppingTypesTables.sql – dropping all types and tables created in task 3.

**Note**: a zip file including this report, and separate sql files should be submitted.