

## FIT9132 Introduction to Databases

### Assignment 2 - Creating, Populating and Manipulating Databases

**Full brief available Week 12 Monday 5 PM**

<b>Purpose</b>	<p>Students will be asked to implement, via SQL, a small database in the Oracle RDBMS from a provided logical model case study, followed by inserting appropriate data into the created tables. Once populated, the database will perform specified DML commands and make specified changes to the database structure via SQL. Students will then use SQL and NoSQL to write queries to produce the specified output. This task covers learning outcomes:</p> <ol style="list-style-type: none"> <li>1. Apply the theories of the relational database model.</li> <li>3. Implement a relational database based on a sound database design.</li> <li>4. Manage data that meets user requirements, including queries and transactions.</li> <li>5. Contrast the differences between non-relational database models and the relational database model.</li> </ol>
<b>Your task</b>	<p>This is an open-book, <b>individual task</b>. The final output for this task will be a set of tables and data implemented in the Oracle RDBMS. In addition, students will create a set of relational (Oracle) and non-relational (MongoDB) queries that meet the user requirements.</p>
<b>Value</b>	<p><b>40%</b> of your total marks for the unit</p>
<b>Due Date</b>	<p>Wednesday, <b>30th October 2024, 4:30 PM</b> <b>(note: staff support is unavailable after business hours)</b></p>
<b>Submission</b>	<ul style="list-style-type: none"> <li>● Via Moodle Assignment Submission</li> <li>● FIT GitLab check-ins will be used to assess the history of development</li> </ul>
<b>Assessment Criteria</b>	<ul style="list-style-type: none"> <li>● Application of relational database principles.</li> <li>● Handling of transactions and the setting of appropriate transaction boundaries.</li> <li>● Application of SQL statements and constructs to create and alter tables, including the required constraints and column comments, populate tables, modify existing data in tables, and modify the "live" database structure to meet the expressed requirements (including appropriate use of constraints).</li> <li>● Application of relational algebra operations to produce outputs that meet user requirements</li> <li>● Application of SQL select statements to produce outputs that meet user requirements.</li> <li>● Mapping of relational database data into a non-relational database data structure.</li> <li>● Application of MongoDB operations to produce outputs that meet user requirements.</li> </ul>
<b>Late Penalties</b>	<ul style="list-style-type: none"> <li>● 5% of the marks available for the task (-5 marks) deduction per calendar day or part thereof for up to one week</li> <li>● Submissions over 7 calendar days after the due date will receive a mark of zero (0), and no assessment feedback will be provided.</li> </ul>
<b>Support Resources</b>	<p>See Moodle Assessment page</p>



**Feedback**

Feedback will be provided on student work via:

- general cohort performance
- specific student feedback ten working days post-submission
- a sample solution