**Procedure CDP05 – Databases** *(version 2.0)*

# Entity Relationship Diagram (10 points)

You should draw a detailed Entity Relationship Diagram (ERD) that identifies the entities required by your application and how they relate to one another. This should be discussed with other members of the team, including the Business Analyst.

The ERD notation taught at the University should be used. See notes from relevant modules.

## Database design tools

For a higher mark you should use the tools learned on previous database modules for this task (e.g. SQL\*Plus, Oracle Data Modeller). Screenshots should be provided as evidence and attached to your self-appraisal form.

Paper-based designs would be an acceptable alternative, but would not grant as many points.

## What to submit

* A **screenshot** of the ERD (e.g. jpg, png etc.). Please do **not** submit the original project file (SQL\*Plus etc.) as your tutor might not have the appropriate software to open it.

## Scale

The following scale should be used as a guideline when evaluating this objective:

|  |  |
| --- | --- |
| All **entities** correctly identified and represented | 2 points |
| All **fields** correctly identified and represented | 2 points |
| All **relationships** correctly identified and represented | 2 points |
| Modeller tool **was used** to draw the ERD | 4 points |
| *Total* | *10 points* |

# DDL Scripts (10 points)

Once the ERD is approved by the team you should implement the database using a suitable Database Management System (MySQL, Oracle etc). DDL scripts (i.e. CREATE statements) should be submitted as evidence, and should highlight:

* Names of tables and fields
* The data type of each field (number, string, date etc.)
* Constraints (primary keys, foreign keys, null, checks etc.)

## Database design tools

For a higher mark you should use the tools learned on previous database modules for this task (e.g. SQL\*Plus, Oracle Data Modeller). Screenshots should be provided as evidence and attached to your self-appraisal form.

Paper-based designs would be an acceptable alternative, but would not grant as many points.

## What to submit

* A document (e.g. Word, plain text file) containing all your CREATE TABLE SQL statements.
* Evidence that the SQL was generated from the ERD (e.g. screenshot of the process)

## Scale

The following scale should be used as a guideline when evaluating this objective:

|  |  |
| --- | --- |
| CREATE statements provided for all tables present on the ERD | 2 points |
| A suitable data type is specified for each field | 2 points |
| Suitable constraints are in place, including **primary keys and foreign keys** | 2 points |
| Modeller tool was used to generate the above | 4 points |
| *Total* | *10 points* |

# Performance and Security considerations (10 points)

You should write a short report (max 3 sides of A4) detailing:

* Performance enhancing measures that you have undertaken in order to ensure that the database runs as efficiently as possible (e.g. indexes, design). You should perform some research to underpin your work.
* The security measures that you have implemented in order to secure the database (e.g. users, views, encryption). You should perform some research to underpin your work.

## What to submit

* A written report (e.g. Word document)

## Scale

The following scale should be used as a guideline when evaluating this objective:

|  |  |
| --- | --- |
| 10 points | A detailed account of the points listed above, showing a good understanding of the subject matter.  **References have been used** to underpin the work. |
| 8 points | A detailed account of the points listed above, showing a good understanding of the subject matter.  **References have not been used** to underpin the work. |
| 5 points | A partial account of the points listed above, but not all aspects are covered.  A good understanding is shown. |
| 2 points | A partial account of the points listed above, with very little understanding shown. |
| 0 point | No work submitted towards this objective |