

S2.9: IMPLEMENTATION AND MAINTENANCE

TASK 1

For today's lab your main task is finishing off your 3 Week Mini Project. Don't forget to document everything in a word document so that it is easy to look back when revising for the exam.

Here is a recap of the work:

You should treat this as an item of work that could be added to a personal portfolio to show to a prospective employer. Over the three weeks you will design and build a database of your own choice from scratch. You can choose any real-world scenario you like, but it should have a certain level of complexity (minimum of 4 tables). If you are struggling to come up with anything here are some ideas:

- A music streaming application
 - A video sharing application
 - An online marketplace application
 - A railway reservation system
 - A hospital management system
 - An online job portal
 - A hotel booking system
 - A second-hand vinyl record store
 - An online food delivery service
 - A taxi service
 - A dating application
1. Once you have chosen your idea you should create an initial un-normalised list of attributes. Remember to include everything you will need to store information about in your database.
 2. The next step is to normalise your list of attributes following the stages from 1NF to 3NF, creating ERD's, as you have done in the labs for the past few weeks.
 3. When you have a normalised design, create a data dictionary for each of the tables. Making sure to specify each attributes data type and size, and any sensible validation that could be used. You can use the table that was included in the Data Integrity lab.
 4. Create the table scripts specifying some of your validation to each table. Specifying the primary and foreign keys is the minimum validation, in addition to this you should apply other types of validation for each of your tables.
 5. Run each of your scripts in Oracle Apex to create the database. Remember that the order you create the tables is important. You can't create a table that references another table before the other table has been created.

6. Now add some sample data to each table. The more you add the better. You can write the SQL INSERT scripts to do this. However, the easiest way is via the form entry in Apex. Again, remember the order that data is entered is important.
7. Finally, write a few queries to demonstrate your database. The more complex these queries are, the better they will demonstrate your SQL expertise!

TASK 2

If you manage to get task 1 completed, well done!

Now try some of these questions style questions on this week's topic:

1. What factors should be considered in choosing a pilot site for installation of a new system using a single location approach?
2. How might maintenance be different for an information system developed using an agile approach than one developed using the SDLC (waterfall)? Why?
3. What options are available for installing a new system for DigIT Museum? What would help decide which option is the best for this project?
4. List and explain what happens during the seven major activities of implementation and operation.

Use references throughout to strengthen your arguments and justify your choices.