ASSIGNMENT 1-PART2: CREATE A DATABASE SOLUTION LO 1,2

NGĀ AROMATAWAI | ASSESSMENT DETAILS

DATA VALIDATION AND DATA INSERTION

For data to be valid and accurate you should consider the following factors

- Vehicles are allocated to the different outlets of Xcellent Rental.
- Vehicles at all outlets must have similar details.
- Additional payments are made at time of vehicle collection and sometimes upon return of a vehicle. This mainly applies to the date of the additional payment and the date of the rental.
- Rental prices are the same for vehicles of the same year, make and model.

Although we can enforce business rules, the complexity and scope of assessment will increase. To keep within scope, data validity is left to you to ensure correctness. It is important that data is correct and accurate to perform the querying part of the assessment. In addition, the following applies to data insertion:

1. At least 20 vehicles - include vehicles that are a mixture of similar makes, models and years. Vehicles should be allocated to at least three different outlets (one of which should be the Hamilton outlet). **[10 Marks]**

2. At least 15 client that have booked vehicles. Ten of these clients should have completed the rental process – which means, they have returned the vehicles to a location of their choice. The collection outlet and returned outlet should be the same for five of the clients. Five clients should be repeat customers i.e. they have made at least three bookings each. **[25 Marks]**

3. 5 agents of which 2 are managers (Rob and John) and one of the managers is supervising 2 agents. **[5 Marks]**

4. 10 payments, of which 3 of those payments have been made by the same client more than once for the same rental. **[5 Marks]**

5. Three clients should have made additional payment for fuel surcharges. **[5 Marks]**

6. Three clients should have made additional payments for vehicles returned in an undesirable state. **[5 Marks]**

QUERYING AND REPORTING

Rob Stark has requested the following reports (queries). Please use CSV format for the queries.

7. Show a list of all vehicles that are owned by Xcellent Rental. Display the *Registration, Make, Model, Year, Rental price and Current assigned outlet*. **[5 Marks]**

8. Find the agent that have made a booking. Display appropriate headings and make sure that there are no repeated data. **[5 Marks]**

9. Find the MAX, MIN, and AVG daily rental price for the vehicles at Xcellent Rental. Display with headings "Max Rate", "Min Rate", and "Average Rate". **[5 Marks]**

10. Find the number of Rental at each outlet including the MAX, MIN, and AVG daily rental prices. **[5 Marks]**

11. Find all vehicles that has been booked but not yet collected including the name of the clients. **[5 Marks]**

12. Find vehicles that have been collected but not returned including the name of the clients. **[5 Marks]**

13. Show a list of vehicles that have been rented for over 10 days. Display the *Rental Number,* the *Registration, Clients Name, agent Code, and Days rented*. **[5 Marks]**

14. Display all the payments that have been made in descending order of amount. Include the *Payment Number, Client Name, Date* and *Amount* in the display. **[5 Marks]**

15. Display the number of payments and total payments that have been made by a client for a rental. Include the *Rental Number, Clients Name, Number of Payments* and the *Total Amount* paid on the rental. **Order by ascending** *Rental Number*. Use appropriate heading displays. HINT Use GROUP BY to assist with the query. **[5 Marks]**

TASKS TO COMPLETE

Your task is to develop a database solution for Xcellent Rental Hamilton using SQL Developer. The Moodle website include several examples to help you develop the solution. A following list of tasks should becompleted:

	TASK	CHECK
1	Download the necessary resources from the Moodle Website	
2	Familiarise yourself with the due date, deliverables and what is required	
3	Refer to and analyse the section *The System–How* Xcellent Rental *Hamilton Operates*	
4	Insert data into the database according to the section *Data Validation and Data Insertion*	
5	Perform the queries as outlined in the section *Querying and Reporting*	
6	Submit your assignment as instructed	

WHAT TO SUBMIT

Submit the following files (using windows zip) to the submission folder. Label the zip file your name and ID:

1. DML Scripts
2. Query Scripts

TIPS AND IMPLEMENTATION GUIDELINES

This project encourages you to make reasonable choices. There is no 'one way' to implement this solution. Furthermore, it is important that you have a long-term plan to develop and test components step bystep. In the following, one approach to develop this application is presented which includes tips and guidelines.

1. The best start is to understand the requirements and the **big picture**. Read this document a few times and identify the components and the required skills to implement this application. It is a good idea to have a high-level design and a plan to implement this project.
2. Get familiar with using the software and how to generate solutions
3. Itis important to know how to use Oracle Data Modeller to create DDL scripts, how to modify the scripts, and then run them in SQL Developer. Go to Moodle and complete the relevant activities which are very close to what you need for this project. Pay attention to how these examples show you how to develop the solution.
4. When the physical database has been created you will need to insert data into the relevant tables. Start by inserting data into Parent Tables, then insert data into child tables understanding that you need to use existing primary key values from parent tables. Get familiar with INSERT SELECT to help with extracting values from existing parent tables and INSERT UPDATE to update values in associated tables.
5. You will need to query your databases to be familiar with what data has been stored in your database.
6. Because there is more than 'one way' to implement a solution it is very easy for tutors to spot academic miss-conduct. Database solutions are unique and therefore when database structures are the same it is due to students copying each other. Do not copy or collaborate with others.

MARKING CRITERIA

	DESCRIPTION	MARKS
1	Data Validation and Data Insertion	55
2	Querying and Reporting	45
	Total	**100**