

report

by Gio Aguilar

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Assignment: Database Development Case Study

Report

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Abstract

A summary report that discusses and presents the solutions to SQL Database queries to retrieve and display relative information about the A and E department. Queries presented below will be executed frequently and is important for the A and E department.

1. Performance Tuning

The most valuable information related to the given scenario is information about clients. In this case of an A&E department, the clients are the patients that will be attending the department. Information about patients such as their name, age, condition, and prescribed medication is important and must be accurate. Queries such as the select statement can provide and display relevant information about patients, therefore giving staff a clear insight for what to provide for the patient [1].

The UPDATE statement will be frequently used as new patients are admitted into the department, the data will change. This is because different patients will have different data values. Data will constantly being updated as the A&E department admits new patients weekly. Also, a patient could be sent home, or a patient may be prescribed new medication. This makes the UPDATE statement a frequently used statement for this scenario.

Secondary indexes

The columns in the database that will be marked as a secondary index will be medication, triage doctor, shift_id and a_id (admissions id). These columns were chosen to be indexed as these columns serve importance to a regular day at an A&E department. For example, every shift there must be at least one triage doctor so it is important to find out which triage doctor will be on shift. Also, another example, there will be admissions administered in every shift, so it is important to retrieve the information related to admissions quickly.

2. Distributed Database Solution

1. Horizontal

For horizontal fragmentation, doses from medication have been split apart to compare the difference in dosage level.

2. Vertical

A suitable column from the database for vertical fragmentation is the name of the medication and the nurse that will prescribe the medication to the patient. Creating a table with two columns to only display the nurse's id and the name of the medication will make the display results clearer. Information such as the dosage and intervals does not serve importance because the only columns that serve interest for this table will be the nurse's id and the name of the medication.

References

[1] sqlshack, "Learn SQL: SELECT statement", *sqlshack.com*. Jan. 13, 2020 [Online] Available: <https://www.sqlshack.com/learn-sql-select-statement/#:~:text=The%20SELECT%20statement%20is%20probably,stuff%20in%20the%20upcoming%20articles>. [Date Accessed Jan. 06, 2023].

FINAL GRADE

46/100

GENERAL COMMENTS

Instructor

Hi Gio,

You got 46% which is a good enough to pass the course work however there are lots of area that needs improvement as listed below:

1.
I would recommend you to start attempting your questions as soon as its released. By this way you would be able to manage time that will help you to attempt all the sections.
2.
Ensure that the report is detailed and specific. Always include the screen dumps as your practical work.
3. Some of the key sections like ERD and Rollback & commit were not attempted. The steps showing the normalization process upto the 3NF could have been a good justification for the created tables.
4.
Please go through the learning materials that are available in the Moodle pertaining to these concepts for a better understanding.
5.
Referencing and Citations are vital in report writing. I would recommend you to cite atleast a minimal number of credible references such as Books, Journals and conference proceedings that are relevant to the tasks.

I hope you will find these comments useful.

Should you have any
questions let me know

All the Best

Regards

Divya

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