

Student Number

Student Name

Date

CS5483 Lecture review question 4:

Compare database with data warehouse with respect to performance, user friendliness, capacity planning and data manipulation language operations?

Answer to Lecture review Question 4

Area for comparison	Database	Data Warehouse
Performance	Performance can be increased by indexing, query optimization and database denormalization, particularly in concurrency control in database updates	Performance is based on star schema design by use of denormalization tables and indexing. Overall the performance issue is more critical in data warehousing for ad hoc decision support system.
User Friendliness	Use SQL and other 4GL to access database with lots of update for online transaction processing used by clerk, DBA and computer professional.	Use SQL and/or OLAP commands to browse data cube for information retrieval with lots of scan, which is used by management and must be very easy.
Capacity planning	The size of database depends on business processing requirements. The database size should be in 100MB to GB.	The size of data warehouse aims for data growth for at least a few years, and should be much larger than database. The size of data cube should be 100GB to TB.
Data manipulation Language Operations	The operation of database is in real time access and update, consisting of backup and recovery, usually last for not than a few hours daily, which aims for high performance and high availability.	The operations of data warehousing is for read only long term information requirements, ad hoc decision support system, which generates reports and load new data into the data cube for many hours each day, and aims for high flexibility, and fast response time.