

=====Assignment5=====

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Que1= What are the main types of Execution Plans that you can generate for a T-SQL query and what is the difference between these two types?

Ans1= There are two types of execution plans:

Estimated execution plan: Estimated plans provide an estimation of the work that SQL server is expected to perform to get the data.

Actual execution plan: Actual execution plans are generated after the Transact-SQL queries or the batches are executed. Because of this, an actual execution plan contains runtime information, such as the actual resource usage metrics and any runtime warnings.

Que2= What is Database Testing and its Types.

Ans2= Database Testing: Database testing is a process used to ensure the accuracy and completeness of data in a database. Database testing is a critical part of any software testing process.

The purpose of database testing is to ensure that the database is able to store and retrieve data accurately.

Database testing is done by the testers to check if the data in the database is correct and can be accessed by the users.

Types of database Testing:

1. Functional Database Testing: Functional database testing is a process of verifying the functionality of the database by testing the data that is stored in it. This type of testing can be used to test the functionality of a database system as a whole or to test the functionality of individual components within the system.

(a)White box testing: It is a process of testing the database by looking at the internal structure of the database. White box testing can be used to verify the correctness of the data, integrity of the data, and consistency of the data.

(b)Black box testing: It is a process of testing the database without looking at the internal structure of the database. This type of testing is also known as behavioral testing. Black box testing can be used to verify the functionality of the database.

2. Non-Functional Database Testing:

(a)Stress Testing: Stress testing is a type of performance testing that is conducted to evaluate the response of a system when it is exposed to workloads that exceed normal operational capacity.

(b)Security testing: Security testing is a type of testing that is used to assess the security of a software application. The goal of security testing is to identify security vulnerabilities in the application so that they can be fixed before the application is deployed.

3. Structural Database Testing: Structural database testing is a process of testing the database structure for accuracy and completeness. It is a process of verifying the accuracy and completeness of data in a database.

(a)Schema testing: It's the process of verifying that the database schema is correct.

(b)Stored procedures testing: It's the process of testing the stored procedures that are used to access and manipulate data in the database.

Que3= What is ETL and Datawarehousing.

Ans3= ETL: ETL stands for Extract Transform Load.

ETL tools enable data integration strategies by allowing companies to gather data from multiple data sources and consolidate it into a single, centralized location.

ETL tools also makes it possible to migrate data between a variety of sources, destinations, and analysis tools.

Extract, Transform, Load (ETL), a data integration process in which transformation takes place on an intermediate server before it is loaded into the target.

Datawarehousing: A Data Warehousing (DW) is process for collecting and managing data from varied sources to provide meaningful use.

It is a process of transforming data into information and making it available to users in a timely manner to make a difference.

the data warehouse is not a product but an environment. It is an architectural construct of an information system which provides users with current and historical decision support information which is difficult to access or present in the traditional operational data store.

Que4= Difference between OLAP and OLTP.

Ans4= Online Analytical Processing (OLAP): Online Analytical Processing consists of a type of software tools that are used for data analysis for business decisions. OLAP provides an environment to get insights from the database retrieved from multiple database systems at one time.

1. It is well-known as an online database query management system.
2. Consists of historical data from various Databases.
3. In an OLAP database, tables are not normalized.
4. It serves the purpose to extract information for analysis and decision-making.

Online transaction processing (OLTP): Online transaction processing provides transaction-oriented applications in a 3-tier architecture. OLTP administers the day-to-day transactions of an organization.

1. It is well-known as an online database modifying system.
2. Consists of only of operational current data.
3. In an OLTP database, tables are normalized (3NF).
4. It serves the purpose to Insert, Update, and Delete information from the database.