SQL Database Concepts Job Interview Questions And Answers

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SQL Database Concepts Interview Questions And Answers Guide.

Question - 1:

What is buffer cash and log Cache in sql server?

Ans:

Buffer Cache: Buffer cache is a memory pool in which data pages are read. It performance of the buffer cache is indicated as follows: 95% indicates that pages that were found in the memory are 95% of time. Another 5% is needed for physical disk access. If the value falls below 90%, it is the indication of more physical memory requirement on the server.

Log Caches: Log cache is a memory pool used to read and write the log pages. A set of cache pages are available in each log cache. The synchronization is reduced between log and data buffers by managing log caches separately from the buffer cache.

View All Answers

Question - 2:

Do you know what is a Trace frag? Where do we use it?

Ans:

Temporary setting of specific server characteristics is done by trace tags. DBCC TRACEON is the command to set the trace flags. Once activated, trace flag will be in effect until the server is restarted. Trace frags are frequently used for diagnosing performance issues.

For example, the trace flag 3205 is used for disabling hard compression for tape drives, when an instance of SQL Server starts.

View All Answers

Question - 3:

Explain difference between cross join and Full outer join?

Ans:

Cross Join :

No join conditions are specified.

Results in pairs of rows.

Results in Cartesian product of two tables.

Full Outer Join:

A combination of both left and right outer joins.

Results in every row from both of the tables , at least once.

Assigns NULL for unmatched fields.

View All Answers

Question - 4:

Do you know how to send email from database?

Ans:

SQL Server has a feature for sending mail. Stored procedures can also be used for sending mail on demand. With SQL Server 2005, MAPI client is not needed for sending mails.

The following is the process for sending emails from database.

- Make sure that the SQL Server Mail account is configured correctly and enable Database Mail.

- Write a script to send an e-mail. The following is the script.

USE [YourDB]

EXEC msdb.dbo.sp_send_dbmail

@recipients = 'xyz@xyz.com; xyz@xyz.com;abc@edf.com'

@body = ' A warm wish for your future endeavor',

@subject = 'This mail was sent using Database Mail' ;

GO

View All Answers

Question - 5:

Do you know how to make remote connection in database?

Ans:

The following is the process to make a remote connection in database:
Use SQL Server Surface Area Configuration Tool for enabling the remote connection in database.
Click on Surface Area Configuration for Services and Connections.
Click on SQLEXPRESS/Database Engine/RemoteConnections
Select the radio button: Local and Remote Connections and select 'Using TCP/IP only' under Local and Remote Connections.
Click on OK button / Apply button

View All Answers

Question - 6:

Explain how to use Linked Server?

Ans:

MS SQL Server supports the connection to different OLE DB on an ad hoc basis. This persistent connection is referred as Linked Server.
The following are the steps to use Linked Server for any OLE DB. I refer this to use an MS-Excel workbook.
Open SQL Server Management Studio in SQL Server 2005
Expand Server Objects in Object Explorer.
Right-click on Linked Servers. Click on New Linked Server.
Select General page in the left pane and
i. Type any name for the linked server in the first text box
ii. Select the Other Data Source option.
iii. Click on Microsoft Jet 4.0 OLE DB Provider from the Provider list.
iv. Type the Excel as the name of the OLE DB data source.
v. Type the full path and file name of the Excel file in Data Source box.
vi. Type the Excel version no. (7.0, 8.0 etc) in the Provider String. Use Excel 8.0 for Excel 2000, Excel 2002 or Excel 97.
vii. To create a linked server click on OK.

View All Answers

Question - 7:

Do you know concepts and capabilities of SQL Server?

Ans:

Microsoft SQL server is a relational database management system. It uses MS- SQL as the query language. SQL Server offers a high level of security, reliability and scalability depending on the business needs. The server offers a wide data storage, full text query search, buffer management, logging and transaction, fast data retrieval etc. it offers a variety of replication services to avoid loosing data. It offers SQL Server Reporting Services for data gathered from the database.

View All Answers

Question - 8:

Tell me what is the order in which the SQL query is executed?

Ans:

The following is the order of executing SQL query:
The query goes to the shared pool that has information like parse tree and execution plan for the corresponding statement.
Then validates the SQL statement and validates the source(table).
Acquire locks.
Checks all the privileges.
Execute the query.
Fetch the values for SELECT statement
Displays the fetched values.
To sum up, the sequence is:
SELECT ....
FROM ....
WHERE ....
GROUP BY ....
HAVING ....

View All Answers

Question - 9:

How to store pdf file in sql server?

Ans:

Create a column as type 'blob' in a table. Read the content of the file and save in 'blob' type column in a table.
Or store them in a folder and establish the pointer to link them in the database.

View All Answers

Question - 10:

Tell me what is the STUFF and how does it differ from the REPLACE function?

Ans:

Both STUFF and REPLACE are used to replace characters in a string.
select replace('abcdef','ab','xx') results in xxcdef
select replace('defdefdef','def','abc') results in abcabcabc
We cannot replace a specific occurrence of "def" using REPLACE.
select stuff('defdefdef',4, 3,'abc') results in defabcdef

where 4 is the character to begin replace from and 3 is the number of characters to replace.

View All Answers

Question - 11:

What is BCP?

Ans:

It is used to copy huge amount of data from tables and views.
It does not copy the structures same as source to destination.

View All Answers

Question - 12:

Explain what are the different index configurations a table can have?

Ans:

No indexes
A clustered index
A clustered index and many nonclustered indexes
A nonclustered index
Many nonclustered indexes

View All Answers

Question - 13:

Tell me what is de-normalization and what are some of the examples of it?

Ans:

De-normalization is used to optimize the readability and performance of the database by adding redundant data. It covers the inefficiencies in the relational database software. De-normalization logical data design tend to improve the query responses by creating rules in the database which are called as constraints.
Examples include the following:
- Materialized views for implementation purpose such as:
- Storing the count of "many" objects in one-to-many relationship
- Linking attribute of one relation with other relations
- To improve the performance and scalability of web applications

View All Answers

Question - 14:

Tell me what is normalization? Explain different forms of normalization?

Ans:

Normalization is a process of organizing the data to minimize the redundancy in the relational database management system (RDBMS). The use of normalization in database is to decompose the relations with anomalies to produce well structured and smaller relations. There are 6 forms of normalization which are as follows:-
- 1NF represents a relation with no repeating groups
- 2NF represents no non-prime attribute in the table
- 3NF defines that every non-prime attribute is non-transitively dependent on every candidate key
- 4NF defines that every non-trival multi-valued dependency in table is dependent on superkey.
- 5NF defines that every non-trival join dependency in table is implied by superkey in table.
- 6NF defines that a table features no non-trival join dependency.

View All Answers

Question - 15:

Tell me what is the difference between Locking and multi-versioning?

Ans:

Locking is a means of not allowing any other transaction to take place when one is already in progress. In this the data is locked and there won't be any modification taking place till the transaction either gets successful or it fails. The lock has to be put up before the processing of the data whereas
Multi-versioning is an alternate to locking to control the concurrency. It provides easy way to view and modify the data. It allows two users to view and read the data till the transaction is in progress.

View All Answers

Question - 16:

Do you know what are ACID properties?

Ans:

ACID is used in database and it includes the following properties such as atomicity, consistency, isolation and durability. These properties allow easy, reliable and secure database transaction. Example: Transfer of money from one bank account to another. It is used to manage the concurrency in the database table.

View All Answers

Question - 17:

Explain candidate key, alternate key, and composite key?

Ans:

- Candidate Key is a key which provides the uniqueness of the column(s). It identifies each row of a table as unique. It can become the primary key of the table as well. Every tabular relationship will have atleast one candidate key.

- Alternate Key is a type of candidate key which is formed when there are more than one candidate key and one of them is a primary key then other keys will act as an alternate keys. Unique keys also termed as alternate keys which prevent incorrect data from entering the table.
- Composite Key is a special type of candidate key as it is formed by combining two or more columns. This gives assurance of uniqueness of data when the columns are joined together.

View All Answers

Question - 18:

Do you know what is bit data type and whats the information that can be stored inside a bit column?

Ans:

- Bit data type is the smallest type used in a language. It is used to store the boolean information of the form 1 (true) or 0 (false). The former versions of SQL server doesn't support NULL type in this but recent version such as SQL server 7.0 onwards it supports NULL state as well.

View All Answers

Question - 19:

What is the difference between a primary key and a unique key?

Ans:

- Primary key is a combination of columns which uniquely specify a row whereas a unique key is related to the superkey and can uniquely identify each row in the table.
- Primary can only be one in each table as it is one of the special cases of the unique key whereas a unique key can be many.
- Primary key enforces the NOT NULL constraint whereas unique key doesn't. Due to this values in the unique key columns may or may not be NULL.

View All Answers

Question - 20:

Explain what is RAID and what are different types of RAID levels?

Ans:

RAID stands for Redundant array of independent disks which was earlier called as Redundant array of inexpensive disks. It is a storage technology that has one logical unit consisting of multiple disk drive components. It increases the performance by replicating and dividing the data through many levels between multiple physical drives. There are 12 Raid Levels which are as follows:
- Level 0: it is a 'striped' disk array (provides data stripping) without fault tolerance.
- Level 1: It is used in system for "mirroring" and "duplexing" purpose.
- Level 2: in this error correction takes place
- Level 3: it provides byte level stripping also called as "bit-interleaved parity"
- Level 4: is used as "dedicated parity drive" and it provides block level striping
- Level 5: is "block interleaved distributed parity"
- Level 6: is "independent data disks with double parity.
- Level 0+1: is "a mirror of stripes" and used for replication and sharing of data among disks
- Level 10: is "a stripe of mirrors". Multiple mirrors are created and then stripes over it.
- Level 7: It adds caching to Level 3 or 4.
- Level 50: implemented as striped array with fault tolerance
- RAID S: it is proprietary striped parity RAID system

View All Answers

Question - 21:

Do you know what is Lock Escalation?

Ans:

Lock escalation is the process of reducing the overhead of the system by converting many fine grain locks into fewer coarse grain locks. Lock escalation threshold is determined dynamically by SQL server. It doesn't require any configuration hassles as SQL Server choose to keep lock on both row and column for the page query.

View All Answers

Question - 22:

List down some advantages of SQL Stored procedure?

Ans:

By using stored procedures we can reuse the code.
Stored procedure helps in reducing network traffic and latency.
Stored procedures provide better security to your data.
Stored procedure is cached in SQL Server's memory. So it helps to reduce the server overhead. It also enhances application performance.
Stored procedures help us in the encapsulation of the code. The code of the stored procedure can be changed without affecting application.

View All Answers

Question - 23:

Explain what is the difference between a Local and a Global temporary table?

Ans:

Temporary tables are used to allow short term use of data in SQL Server. They are of 2 types:
Local
Only available to the current Db connection for current user and are cleared when connection is closed.
Multiple users can't share a local temporary table.
Global
Available to any connection once created. They are cleared when the last connection is closed.
Can be shared by multiple user sessions.

Question - 24:

Explain what are the basic functions for master, msdb, model, tempdb databases?

Ans:

The Master database contains catalog and data for all databases of the SQL Server instance and it holds the engine together. Because SQL Server cannot start if the master database is not working.
The msdb database contains data of database backups, SQL Agent, DTS packages, SQL Server jobs, and log shipping.
The tempdb contains temporary objects like global and local temporary tables and stored procedures.
The model is a template database which is used for creating a new user database.

Question - 25:

Explain what is Log Shipping?

Ans:

Log shipping enables high availability of database. It the process of shipping the transaction log to another server. It copies the replica of the database. Both the databases are in synch. In case of failure of primary server or database, the secondary server can be used. In this process, another server called as monitor that tracks the history and status of backup and restore operations.

Question - 26:

Do you know what is a WITH(NOLOCK)?

Ans:

WITH(NOLOCK) is used to unlock the data which is locked by the transaction that is not yet committed. This command is used before SELECT statement.
When the transaction is committed or rolled back then there is no need to use NOLOCK function because the data is already released by the committed transaction.
Syntax: WITH(NOLOCK)
Example:
SELECT * FROM EmpDetails WITH(NOLOCK)
WITH(NOLCOK) is similar as READ UNCOMMITTED

Question - 27:

Explain what is use of DBCC Commands?

Ans:

DBCC (Database consistency checker) act as Database console commands for SQL Server to check database consistency. They are grouped as: Maintenance: Maintenance tasks on Db, filegroup, index etc. Commands include DBCC CLEANTABLE, DBCC INDEXDEFRAG, DBCC DBREINDEX, DBCC SHRINKDATABASE, DBCC DROPCLEANBUFFERS, DBCC SHRINKFILE, DBCC FREEPROCCACHE, and DBCC UPDATEUSAGE.
Miscellaneous: Tasks such as enabling tracing, removing dll from memory. Commands include DBCC dllname, DBCC HELP, DBCC FREESESSIONCACHE, DBCC TRACEOFF, DBCC FREESYSTEMCACHE, and DBCC TRACEON. Informational: Tasks which gather and display various types of information. Commands include DBCC INPUTBUFFER, DBCC SHOWCONTIG, DBCC OPENTRAN, DBCC SQLPERF, DBCC OUTPUTBUFFER, DBCC TRACESTATUS, DBCC PROCCACHE, DBCC USEROPTIONS, and DBCC SHOW_STATISTICS.
Validation: Operations for validating on Db, index, table etc. Commands include DBCC CHECKALLOC, DBCC CHECKFILEGROUP, DBCC CHECKCATALOG, DBCC CHECKIDENT, DBCC CHECKCONSTRAINTS, DBCC CHECKTABLE, and DBCC CHECKDB.

Question - 28:

Tell me what is a Linked Server?

Ans:

When we want to query on remote database server along with the local database server then we can add the remote SQL server to local SQL server in a same group using the concept called Linked Server.
We can query on both servers using T-SQL.
We can use stored Procedure sp_addlinkedserver, sp_addlinkedsrvlogin to add new Linked Server.
By using Linked Server we can SQL statement in clean and easy way to retrieve, join and combine remote data with local data.

Question - 29:

Explain what is the difference between UNION and UNION ALL?

Ans:

UNION selects only distinct values whereas UNION ALL selects all values and not just distinct ones.
UNION: SELECT column_names FROM table_name1
UNION
SELECT column_names FROM table_name2
UNION All: SELECT column_names FROM table_name1
UNION ALL
SELECT column_names FROM table_name2

Question - 30:

Can you explain what are COMMIT and ROLLBACK in SQL?

Ans:

COMMIT statement is used to end the current transaction and once the COMMIT statement is excecuted the transaction will be permanent and undone.
Syntax: COMMIT;
Example:
BEGIN
UPDATE EmpDetails SET EmpName = 'Arpit' where Dept = 'Developer'
COMMIT;
END;
ROLLBACK statement is used to end the current transaction and undone the changes which was made by that transaction.
Syntax: ROLLBACK [TO] Savepoint_name;
Example
BEGIN
Statement1;
SAVEPOINT mysavepoint;
BEGIN
Statement2;
EXCEPTION
WHEN OTHERS THEN
ROLLBACK TO mysavepoint;
Statement5;
END;
END;

View All Answers

Question - 31:

Tell me what is the significance of NULL value and why should we avoid permitting null values?

Ans:

NULL value means that no entry has been made into the column. It states that the corresponding value is either unknown or undefined. It is different from zero or "".
They should be avoided to avoid the complexity in select & update queries and also because columns which have constraints like primary or foreign key constraints cannot contain a NULL value.

View All Answers

Question - 32:

Do you know what are ACID properties of Transaction?

Ans:

Following are the ACID properties for Database.
Atomicity - Transactions may be set of SQL statements. If any of statement fails then the entire transaction fails. The transaction follows all or nothing rule.
Consistency - This property says that the transaction should be always in consistent state. If any transaction is going to effect the database's consistent state then the transaction could be rolled back.
Isolation - This property says that one transaction can not retrive the data that has been modified by any other transaction until its completed.
Durability - When any transaction is committed then it must be persisted. In the case of failure only committed transaction will be recovered and uncommitted transaction will be rolled back.

View All Answers

Question - 33:

Please explain GO Command in SQL Server?

Ans:

GO command indicates the end of the SQL statements. It is used when there are multiple statements to be executed but sent as a batch.
Example:
SELECT * FROM table1 INNER JOIN table2 ON table1.c1 = table2.c1 WHERE table1.c1 > 10 ORDER BY table1.c1
GO

View All Answers

Question - 34:

Do you know what is difference between stored procedure and user defined function?

Ans:

It is not possible to change the table data with the use of User defined functions but you can do it by using stored procedure.
The execution of User defined function will be stopped if any error occurred in it. But in the case of Stored procedure when an error occurs the execution will ignore the error and jumps to the next statement.
We can use User defined function in XML FOR clause but we can use stored procedure in XML FOR clause.
It is not possible to make permanent changes to server environment whereas stored procedure can change some of the server environment.
User defined functions do not return output parameters while stored procedure can return output parameters.

View All Answers

Question - 35:

Explain what are the restrictions while creating batches in SQL Server?

Ans:

CREATE DEFAULT, CREATE PROCEDURE, CREATE RULE, CREATE TRIGGER, and CREATE VIEW statements cannot be combined with other statements in a batch.

A batch can't contain altered command and then the new columns referenced command of the same table.
The EXECUTE keyword is not required, when an EXECUTE statement is the first statement in a batch

Question - 36:

Explain what are Magic tables in SQL Server?

Ans:

-In SQL Server there are two system tables "Inserted" and "Deleted" called Magic tables.
-These are not the physical tables but the virtual tables generally used with the triggers to retrieve the inserted, deleted or updated rows.
-When a record is inserted in the table that record will be there on INSERTED Magic table.
-When a record is updated in the table that existing record will be there on DELETED Magic table and modified data will be there in INSERTED Magic table.
-When a record is deleted from that table that record will be there on DELETED Magic table.

Question - 37:

Do you know what are the steps to process a single SELECT statement?

Ans:

SQL Server uses the following steps to process a single SELECT statement:
1. The parser breaks SELECT statement into logical units, such as keywords, expressions, operators, and identifiers.
2. A query tree is built.
3. The query optimizer then determines the best steps that can return fastest result while consuming the fewest resources.
4. The relational engine begins executing the execution plan, requesting the storage engine to pass up data.
5. The relational engine processes the data returned from the storage engine into the result set format and returns the result set to the client.

Question - 38:

How to search for a string in all stored procedure in SQL Server?

Ans:

-Suppose we have a EmpDetails table in our database and there are certain number of stored procedures in database. We want to know in which stored procedure(s) table EmpDetails is used.
-We can use following query
SELECT
sys.objects.name, sys.objects.type, sys.objects.type_desc,
sys.objects.schema_id, sys.syscomments.text
FROM sys.objects
INNER JOIN sys.syscomments ON sys.objects.object_id = sys.syscomments.id
where sys.syscomments.text like '%EmpDetails%'
And type ='P'

Question - 39:

Explain what are the Authentication Modes in SQL Server?

Ans:

SQL Server supports two security (authentication) modes:
Windows Authentication and Mixed mode
Windows Authentication mode connects to an instance of SQL Server through a Windows NT 4.0 or Windows 2000 user account.
Mixed mode (Windows Authentication and SQL Server Authentication) connect to an instance of SQL Server by using either Windows Authentication or SQL Server Authentication.
Users who connect through a Windows NT or 2000 user account can make use of trusted connections in either Windows Authentication mode or mixed mode.

Question - 40:

Do you know what is REPLACE and STUFF function in SQL Server?

Ans:

STUFF: This function is used to replace the part of string with some another string.
Syntax:
STUFF (String1, Position, Length, String2)
String1 - String to be overwritten
Position - Starting Position for overwriting
Length - Length of replacement string
String2- String to overwrite
Example:
SELECT STUFF('Arpit',2,2,'mi')
Output: Amit
REPLACE: This function is used to replace all the occurrences of particular string by another string.
Syntax:
REPLACE(String1, String2, String3)
Example:
SELECT REPLACE('Arpit Jain','i','m')
Output: Arpmt Jamn
If you want to replace the first occurrence of "I", Replace wouldn't work, because it always replaces ALL occurrences of the string.

Question - 41:

Do you know what is XPath?

Ans:

XPath is a language defined by the W3C, used to select nodes from XML documents. SQL Server 2000 supports XPath language that helps to retrieve data from XML documents. To do so, SQL server uses a mapping schema to define an XML based view of the data in one or more SQL Server tables and views. The mapping schema is then used to retrieve data.

Question - 42:

What is Merge Replication?

Ans:

Merge replication replicate data from multiple sources into a single central database.
The initial load will be same as in snapshot replication but later it allows change of data both on subscriber and publisher, later when they come on-line it detects and combines them and updates accordingly.

Question - 43:

What is Transactional Replication?

Ans:

In transactional replication data will be same as in snapshot replication, but later only the transactions are synchronized instead of replicating the whole database.
We can specify the refresh of database either continuously or on periodic basis.

Question - 44:

What is Snapshot Replication?

Ans:

In Snapshot Replication snapshot of one database is transferred to another database.
In this replication data can be refreshed periodically and all data will be copied to another database every time the table is refreshed.

Question - 45:

Do you know what are different types of replication in SQL Server?

Ans:

There are three types of replication in SQL SERVER
1. Snapshot Replication.
2. Transactional Replication
3. Merge Replication

Question - 46:

Do you know Data Definition Language, Data Control Language and Data Manipulation Language?

Ans:

Data Definition Language (DDL):- are the SQL statements that define the database structure.
Example:
a. CREATE
b. ALTER
c. DROP
d. TRUNCATE
e. COMMENT
f. RENAME
Data Manipulation Language (DML):- statements are used for manipulate or edit data.
Example:
a. SELECT - retrieve data from the a database
b. INSERT - insert data into a table
c. UPDATE - updates existing data within a table
d. DELETE
e. MERGE
f. CALL
g. EXPLAIN PLAN
h. LOCK TABLE
Data Control Language (DCL):-statements to take care of the security and authorization.
Examples:
a. GRANT
b. REVOKE

Question - 47:

Tell me what is Fill factor?

Ans:

The 'fill factor' option indicate how full SQL Server will create each index page.
When the index page doesn't have free space for inserting a new row, SQL Server will create new index page and transfer some rows from the previous index page to the new index page. This process is called page split.
If we want to reduce the number of page splits then we can use Fill factor option. Using Fill factor SQL will reserve some space on each index page.
The fill factor is a value from 1 through 100 that indicates the percentage of the index page to be left empty. The default value for fill factor is 0.
If the table contains the data which is not changed frequently then we can set the fill factor option to 100. When the table's data is modified frequently, we can set the fill factor option to 80% or as we want.

View All Answers

Question - 48:

Explain what is the purpose of SQL Profiler in SQL server?

Ans:

SQL Profiler captures SQL Server events from a server. The events are saved in a trace file that can be used to analyze and diagnose problem.
The different purposes of using SQL Profiler are:
It is used to find the cause of the problem by stepping through problem queries.
It is very useful to analyze the cause of slow running queries.
It can be used to tune workload of the SQL server.
It also stores security-related actions that can be reviewed by a security administrator.
SQL Profiler also supports auditing the actions performed on instances of SQL Server.

View All Answers

Question - 49:

Do you know what is Normalization of database? What are its benefits?

Ans:

-Normalization is set of rules that are to be applied while designing the database tables which are to be connected with each other by relationships. This set of rules is called Normalization.
-Benefits of normalizing the database are
1. No need to restructure existing tables for new data.
2. Reducing repetitive entries.
3. Reducing required storage space
4. Increased speed and flexibility of queries.

View All Answers

Question - 50:

Tell me the phases a transaction has to undergo?

Ans:

The several phases a transaction has to go through are listed here. Database is in a consistent state when the transaction is about to start.
1. The transaction starts processing explicitly with the BEGIN TRANSACTION statement.
2. Record is written to the log when the transaction generates the first log record for data modification.
3. Modification starts one table at time. Here database is in inconsistent state.
4. When all of the modifications have completed successfully and the database is once again consistent, the application commits the transaction.
5. If some error it undoes (or rolls back) all of the data modifications. This process returns the database to the point of consistency it was at before the transaction started.

View All Answers

Question - 51:

Do you know what is Similarity and Difference between Truncate and Delete in SQL?

Ans:

Similarity
-These both command will only delete data of the specified table, they cannot remove the whole table data structure.
Difference
-TRUNCATE is a DDL (data definition language) command whereas DELETE is a DML (data manipulation language) command.
-We can't execute a trigger in case of TRUNCATE whereas with DELETE command, we can execute a trigger.
-TRUNCATE is faster than DELETE, because when you use DELETE to delete the data, at that time it store the whole data in rollback space from where you can get the data back after deletion. In case of TRUNCATE, it will not store data in rollback space and will directly delete it. You can't get the deleted data back when you use TRUNCATE.
-We can use any condition in WHERE clause using DELETE but you can't do it with TRUNCATE.
-If table is referenced by any foreign key constraints then TRUNCATE will not work.

View All Answers

Question - 52:

Can you explain Full-Text Query in SQL Server?

Ans:

SQL Server supports searches on character string columns using Full-Text Query. This query uses full-text catalogs and indexes to perform activities which are managed by the Microsoft search service. The full-text catalogs and indexes are not stored in a SQL Server database and they can't be backed up and restored by using the Transact-SQL BACKUP and RESTORE statements. The full-text catalogs must be resynchronized separately after a recovery or restore operation.

Question - 53:

Tell me what is SQL Profiler?

Ans:

-SQL Server provides a graphical tool which helps system administrators to monitor T-SQL statements of Database Engine.
-SQL Profiler can capture and store data related to every event to a file or a table.
-SQL Server Profiler can be used
1. To create a trace
2. To store the trace results in a table.
3. To watch the trace results when the trace runs
4. To replay the trace results
5. To start, stop, pause, and modify the trace results

Question - 54:

Explain the rules for designing Files and File groups in SQL Server?

Ans:

A file or file group can only be used by one database. For example, the files abc.mdf and abc.ndf contains data and objects for abc database, cannot be used by any other database.
A file can be a member of only one file group.
Data and transaction log information cannot be part of the same file or file group.
Transaction log files can't be part of a file group.

Question - 55:

Tell me what is log shipping?

Ans:

-SQL has introduced Log Shipping feature to synchronize the Distributed Database Server. Synchronize the database by copying Transaction logs, Backing up, Restoring data. SQL Server Job Agents is used to make these processes automatic.
-In the case of failure the Log Shipping will not transfer the server. That means it will not redirect your application to other server. This has to be done manually.
-Log shipping synchronizes the database only. The main functions of Log Shipping are as follows:
1. To Back up the transaction log of the primary database
2. To Copy the transaction log backup to every secondary server
3. To Restore the transaction log backup on the secondary database

Question - 56:

Can you explain what is SQL Server English Query?

Ans:

SQL Server English Query helps to build applications that can accept query in questions form (in English). The application passes the questions string to the English query engine. English Query then returns to the application a SQL statement or a Multi-Dimensional Expression (MDX) query that will return the answer to the user's question.

Question - 57:

Tell me what are cursors and when they are useful?

Ans:

-When we execute any SQL operations, SQL Server opens a work area in memory which is called Cursor.
-When it is required to perform the row by row operations which are not possible with the set-based operations then Cursor is used.
-There are two of cursors
1. Implicate Cursor
SQL Server automatically manages cursors for all data manipulation statements. These cursors are called implicit cursors.
2. Explicit Cursor
When the programmer wants to perform the row by row operations for the result set containing more than one row, then he explicitly declare a cursor with a name.
They are managed by OPEN, FETCH and CLOSE.
%FOUND, %NOFOUND, %ROWCOUNT and %ISOPEN attributes are used in both types of cursors.

Question - 58:

Explain the XML support SQL server extends?

Ans:

SQL Server (server-side) supports 3 major elements:
a. Creation of XML fragments: This is done from the relational data using FOR XML to the select query.
b. Ability to shred xml data to be stored in the database.
c. Finally, storing the xml data.
Client-side XML support in SQL Server is in the form of SQLXML. It can be described in terms of
    XML Views: providing bidirectional mapping between XML schemas and relational tables.
    Creation of XML Templates: allows creation of dynamic sections in XML.

Question - 59:

Do you know what is RANK function?

Ans:

-RANK is one of the Ranking functions which are used to give rank to each row in the result set of a SELECT statement.
-For using this function first specify the function name, followed by the empty parentheses.
-Then specify the OVER function. For this function, you have to pass an ORDER BY clause as an argument. The clause specifies the column(s) that you are going to rank.
For Example
SELECT RANK() OVER(ORDER BY Salary DESC) AS [RowNumber], EmpName, Salary, [Month], [Year] FROM EmpSalary
-In the result you will see that the highest salary got the first rand and the lowest salary got the last rank.
Here the rows with equal salaries will get same ranks.
-Remember that the rank depends on the row's position in the result set, not on the sequential number of the row.

Question - 60:

Tell me in brief how SQL server enhances scalability of the database system?

Ans:

SQL Server has efficient ways to enhance scalability of the database system. SQL Server 2000 automatically adjusts the granularity of locking for each table used by a query. Parallel Execution Plans is in placed automatically. This split the processing of a SQL statement into pieces that can be run on a different CPU, thus allowing the complete result set to build faster.

Question - 61:

Explain what are Sparse columns?

Ans:

Sparse column is a type of column which is used to optimize storage for null values.
When a column there is big number of null then by defining that column as spars column we can save a large amount of disk space.
The drawback of sparse column is that it requires more space for the non null values. When we define a column as sparse it requires additional 4 Byte for not null values.
For example, a DATETIME column in a non-sparse column required 8 bytes of storage whereas if we define that column as a sparse column then it will require 12 bytes.
It is not possible to set ROWGUIDCOL and IDENTITY properties in sparse column.

Question - 62:

Do you know what are the ways available in SQL Server to execute SQL statements?

Ans:

SQL Server uses different ways to execute SQL statements which are listed below.
Single SQL statement processing
Batch processing
Stored procedure and trigger execution
Execution plan caching and reuse
Parallel query processing

Question - 63:

Do you know what is OPENXML in SQL Server?

Ans:

-OPENXML provides an easy way to use an XML document as a data-source for your procedures.
-OPENXML data can be manipulated the same way we deal with database tables by treating xml tags in the form of columns and the value in the form of rows.
-By using OPENXML Data can be inserted or updated very quickly without multiple trips to the database.
-Example:
DECLARE @count int
DECLARE @xml varchar(5000)
SET @xml ='<Employees>
<Employee id="1">
<Name>DEF</Name>
<Employee >1234</ Employee >
</Employee >
<Employee id="2">
<Name>ABC</Name>
<PhoneNo>2211</PhoneNo>
</Employee >
</Employees>'
EXEC sp_xml_preparedocument @count OUTPUT, @xml
SELECT *
FROM OPENXML (@count, Employees/Employee')
WITH (id Varchar(10), Name varchar(100) 'Name' , PhoneNo Varchar(50) 'PhoneNo')
EXEC sp_xml_removedocument @index

It will give following result.
1 DEF 1234
2 ABC 2211

<u>View All Answers</u>

Question - 64:

What is failover clustering overview?

Ans:

Failover clustering is mainly used for data availability. Typically in a failover cluster, there are two machines. One machine provides the basic services and the second is available to run the service when the primary system fails. The primary system is monitored periodically to check if it works. This monitoring may be performed by the failover computer or an independent system also called as cluster controller. In an event of failure of primary computer, the failover system takes control.

<u>View All Answers</u>

Question - 65:

Explain what is Scheduled job and how to create it?

Ans:

-If we want to execute any procedural code automatically on specific time either once or repeatedly then we can create a Scheduled job for that code.
-Following are the steps to create a Scheduled Job.
1. Connect to your database of SQL server in SQL Server Management Studio.
2. On the SQL Server Agent. There you will find a Jobs folder. Right click on jobs and choose Add New.
3. A New Job window will appear. Give a related name for the job.
4. Click next on the "Steps" in the left menu. A SQL job can have multiple steps either in the form of SQL statement or a stored procedure call.
5. Click on the "Schedules" in the left menu. A SQL job can contain one or more schedules. A schedule is basically the time at which sql job will run itself. You can specify recurring schedules also.
-Using scheduled job you can also create alert and notifications.

<u>View All Answers</u>

Question - 66:

Explain about SQL Server Login?

Ans:

SQL server login is used to connect to SQL server. This used when login in through the windows login credentials is not existent. This is possible when SQL Server is configured to operate in Mixed Mode. SQL server login is typically needed when applications are connected to external vendors or for users who don't have any windows NT/2000 account.

<u>View All Answers</u>

Question - 67:

What is Triggers in MS SQL Server?

Ans:

-In SQL the Trigger is the procedural code that executed when you INSERT, DELETE or UPDATE data in the table.
-Triggers are useful when you want to perform any automatic actions such as cascading changes through related tables, enforcing column restrictions, comparing the results of data modifications and maintaining the referential integrity of data across a database.
-For example, to prevent the user to delete the any Employee from EmpDetails table, following trigger can be created.
create trigger del_emp
on EmpDetails
for delete
as
begin
rollback transaction
print "You cannot delete any Employee!"
end
-When someone will delete a row from the EmpDetails table, the del_emp trigger cancels the deletion, rolls back the transaction, and prints a message "You cannot delete any Employee!"

<u>View All Answers</u>

Question - 68:

Tell me about BuiltinAdministrator?

Ans:

The built in Administrator Account is basically used during some setup to join some machine in the domain. The built in administrator should be disabled immediately thereafter. For any disaster recovery, the account will be automatically enabled. It should not be used for normal operations.

<u>View All Answers</u>

Question - 69:

Explain what is ROW_NUMBER function?

Ans:

RANK is one of the Ranking functions which are used to give rank to each row in the result set of a SELECT statement.
For using this function first specify the function name, followed by the empty parentheses.
Then specify the OVER function. For this function, you have to pass an ORDER BY clause as an argument. The clause specifies the column(s) that you are going to rank.

For Example
SELECT ROW_NUMBER() OVER(ORDER BY Salary DESC) AS [RowNumber], EmpName, Salary, [Month], [Year] FROM EmpSalary
In the result you will see that the highest salary got the first rand and the lowest salary got the last rank. Here the rows with equal salaries will not get same ranks.

View All Answers

Question - 70:

Explain what is Public Role in SQL Server?

Ans:

Every database has a public role which holds all the default permissions for the users in a database. This role cannot be dropped and cannot have roles or groups assigned. For security reasons, permissions granted to public role should be minimized..

View All Answers

Question - 71:

Do you know what is difference between Index Seek vs. Index Scan?

Ans:

Index Seek and Index Scan are operation for query tuning in execution plans.
Table Scan scans every record of the table. So the cost of proportional is the number of rows of that table.
The Index Scan is preferred only when the table is small.
Index Seek only touches the rows which qualify and the pages that contain that qualifying rows, so the cost of proportional is the number of qualifying rows and pages instead of the number of rows in the table.
Index seek is preferred for highly sensitive queries.

View All Answers

Question - 72:

Explain what is lock escalation?

Ans:

Lock escalation from SQL Server 7.0 onwards, is dynamically managed by SQL Server. It is the process of converting a lot of low level locks into higher level locks..

View All Answers

Question - 73:

Tell me what is use of EXCEPT clause? How it differs from NOT IN clause?

Ans:

-When we combine two queries using EXCEPT clause, it will returns distinct rows from the first SELECT statement that are not returned by the second one.
-EXCEPT clause works the same way as the UNION operator of SQL and MINUS clause in Oracle.
-The syntax of EXCEPT clause is as follow
SELECT column1 [, column2]
FROM table1 [, table2]
[WHERE condition]
EXCEPT
SELECT column1 [, column2]
FROM table1 [, table2]
[WHERE condition]
-The difference between EXCEPT and NOT IN clause is EXCEPT operator returns all distinct rows from the rows returned by first select statement which does not exist in the rows returned by second select statement. On the other hand "NOT IN" will return all rows from returned by first select statement which does not exist in the rows returned by second select statement.

View All Answers

Question - 74:

Tell me what is difference between clustered and non clustered index?

Ans:

A table can have only one Clustered Index at a time which is generally created on primary key and can have more than one non clustered indexes (maximum up to 999)
The leaf level of clustered index is actual data pages of the table. Whereas in case of non-clustered index the leaf level is a pointer to the data.
Non-clustered index is faster than clustered index because when we use DML statement on clustered index, performance issues may occurred since it has to update the index every time a DML statement is executed.
Syntax of creative clustered / non clustered index is as follow
CREATE [CLUSTERED | NON CLUSTERED] INDEX index_name
ON <object> (column [ASC | DESC] [,...n])

View All Answers

Question - 75:

Do you know what is blocking?

Ans:

Blocking happens when one connection from an application holds a lock and a second connection requires a conflicting lock type. This forces the second connection to wait, blocked on the first..

View All Answers

Question - 76:

What is a bit datatype?

Ans:

Bit datatype is used to store boolean information like 1 or 0 (true or false).

View All Answers

Question - 77:

Explain what is CTE (Common Table Expression)?

Ans:

When a complex SQL statement has number of joins then it can be made easier by using Common Table Expression.
  Consider the following SQL statement.
SELECT * FROM (
SELECT emp.EmpName,dept.Department,emp.Gender FROM Employee emp
left join Department dept on emp.DeptID = dept.DeptID) E
WHERE E.Gender = 'Male'
ORDER BY T.EmpName
The syntax of CTE is as follow
- The CTE Name (followed by WITH keyword)
- The Column List (Optional)
- The Query (Appears within parentheses after the AS keyword)
If we write the above messy query using CTE it would be like
With E(EmpName, Department, Gender)
AS
(
SELECT emp.EmpName,dept.Department,emp.Gender FROM Employee emp
left join Department dept on emp.DeptID = dept.DeptID
)
SELECT * FROM E
WHERE E.Gender = 'Male'
ORDER BY E.EmpName
This way the query can be made more readable and easy to understand.

View All Answers

Question - 78:

Do you know what is user defined datatypes and when you should go for them?

Ans:

User defined data types are based on system data types. They should be used when multiple tables need to store the same type of data in a column and you need to
ensure that all these columns are exactly the same including length, and nullability.
Parameters for user defined datatype:
Name
System data type on which user defined data type is based upon.
Nullability
For example, a user-defined data type called post_code could be created based on char system data type.

View All Answers

Question - 79:

Tell me what is difference between View and Materialized view?

Ans:

View result set doesn't save anywhere on disk and executes the query definition whenever they are called, while materialized view are disk based and its result set
table is updated periodically.
Materialized view is similar to regular views but the output of select query has been saved to a table.
View shows the latest data all the time while the materialized view only shows the fresh data after its result table is updated either by setting a schedule or based on
the change in the underlying tables.
The performance of the view depends on how good the selected statement the view has. If the select statement has too many joins then it the view will perform
poorly.
While in the case of materialized view, we are querying a table, which may also be indexed, that increase its performance.

View All Answers

Question - 80:

Do you know what is SQL service broker?

Ans:

Service Broker allows internal and external processes to send and receive guaranteed, asynchronous messaging. Messages can also be sent to remote servers hosting
databases as well. The concept of queues is used by the broker to put a message in a queue and continue with other applications asynchronously. This enables client
applications to process messages at their leisure without blocking the broker. Service Broker uses the concepts of message ordering, coordination, multithreading and
receiver management to solve some major message queuing problems. It allows for loosely coupled services, for database applications.

View All Answers

Question - 81:

Explain what is DBCC?

Ans:

DBCC stands for Database Consistency Checker.

These commands are used to check the consistency of the database like validation tasks, maintenance and status checks.
For example -
1. DBCC CHECKALLOC - It is used to check that all pages are correctly allocated in database.
2. DBCC CHECKDB - It is used to check that
3. DBCC SQLPERF - It generates a report for the current usage of
4. DBCC SQLFILEGROUP - It used to check all the tables file group for any design.

View All Answers

Question - 82:

Explain what is Analysis service repository?

Ans:

Each server running analysis service has a repository to store objects of the computer running Analysis Services an Analysis service repository stores the information about the cubes, dimensions and other objects of the analysis server. By default the repository is an .mdb database on the server computer where the analysis service is installed..

View All Answers

Question - 83:

Do you know what is SQL Injection?

Ans:

SQL Injection is an attack in which attacker take the advantage of insecure application over internet by running the SQL command against the database and to steal information from it that too using GUI of the website.
    This attack can happen with the applications in which SQL queries are generated in the code.
    The attacker tries to inject their own SQL into the statement that the application will use to query the database.
    For example suppose the below query string is used for a search feature in a website and a user may have the inserted "Arpit" as the keyword to search. If in the code behind the keyword is directly used into the SQL statement, it will be like.
String sql = "Select EmpName, City from EmployeeMaster where EmpName like '%" + txtSearch.Text + "%'";
But the attacker might enter the keyword like
' UNION SELECT name, type, id from sysobjects;--
This way attacker can get details of all the objects of the application database and using that attacker can steal further information.

View All Answers

Question - 84:

Explain features and concepts of Analysis Services?

Ans:

Analysis Services is a middle tier server for analytical processing, OLAP, and Data mining. It manages multidimensional cubes of data and provides access to heaps of information including aggregation of data One can create data mining models from data sources and use it for Business Intelligence also including reporting features.
Some of the key features are:
    Ease of use with a lot of wizards and designers.
    Flexible data model creation and management
    Scalable architecture to handle OLAP
    Provides integration of administration tools, data sources, security, caching, and reporting etc.
    Provides extensive support for custom applications

View All Answers

Question - 85:

Do you know what is a linked server in SQL Server?

Ans:

A linked server allows remote access. Using this, we can issue distributed queries, update, commands, and transactions across different data sources.
A linked server has an OLE DB provider and data source.

View All Answers

Question - 86:

Tell me the use of keyword WITH ENCRYPTION. Create a Store Procedure with Encryption?

Ans:

It is a way to convert the original text of the stored procedure into encrypted form. The stored procedure gets obfuscated and the output of this is not visible to
CREATE PROCEDURE Abc
WITH ENCRYPTION
AS
<< SELECT statement>>
GO

View All Answers

Question - 87:

How SSRS maintain security?

Ans:

Reporting services maintain role based security. When a user logs into reporting services, a Report Manager (whose duty is to maintain security of Reporting Services) first checks the identity of user and then determine what rights he have to perform on report.
Report Manager manages the security at 2 levels -

1. System-level - Administer the report server globally
2. Item-level - Security at report and dataset level
System-level roles are:-
1. System Administrator - can manage report server and report manager security
2. Site User - view basic information like report properties and schedules.
Item-level roles - User can use any of predefined item-level roles or create their own roles by using combination of predefined item-level roles.
Pre-defined Item-level roles are:-
1. Browser - can navigate to report and run them.
2. My Reports - these users' rights is restricted to reports present in their MyReports folder. However, they can create, view and manage reports in their folder.
3. Publisher - As name suggest, publisher user has rights to publish reports to Reporting Server database.
4. Content Manager - has all permission at item-level.

View All Answers

Question - 88:

Tell me can we use custom code in SSRS?

Ans:

Yes, we can. SSRS allows developer to add custom code in your report. You can write the code directly into embedded VB.Net and call it using property expression or you can write a custom class library and refer it in report server. The advantage of first method is that it is simple and easy to use but disadvantage is that it is available for that report only. While the second method has advantage of being available for multiple reports but it has much of configuration overhead.
To write custom code, right click on Report Designer outside report body and select Properties and go to Code tab and you can write custom code here.
To add custom class library, right click on Report Designer outside report body and select Properties and go to Reference tab and add the reference by browsing to the assembly of your class library. Note that you need to create class library and then compile it before referencing it in your SSRS report.

View All Answers

Question - 89:

Can you explain what is the use of custom fields in report?

Ans:

Custom fields can be defined as alias column of the report since the operation is performed on report server rather than on database server. The custom field is very useful for the data manipulation like adding some fields whose value can be calculated based on expression, text e.g. instead of CName fetched from database, I want the dataset to display Customer Name etc.
We can add custom fields as right click on dataset, select add in Dataset window. The New field dialog box will open, we can add name of custom field and also mention whether it is database field or calculated one. If it is calculated, then we can mention the computation in this window.

View All Answers

Question - 90:

Explain how to integrate the SSRS reports in application?

Ans:

There are 3 ways in which you can integrate reports into your application:-
1. Navigating to URL i.e. https:\servername
eportservername
eportname - This is simplest and most popular way. A separate login might be required since we are directly calling the report from report server. Address of report server gets expose to user.
2. Using IFrame, Browser control or Report Viewer Control - In this approach, we embed the URL of report server in our application, hence address of reportserver is not exposed. No separate window opens. A user does not come to know that he has moved to different server.
3. Programmatically sending a web request using SOAP to report server.

View All Answers

Question - 91:

Do you know what are various aggregate functions that are available?

Ans:

The following are various aggregate functions available:-
1. SUM
2. AVG
3. COUNT
4. COUNTDISTINCT
5. MAX
6. MIN
7. STDEV
8. STDEVP
9. VAR
10. VARP
By default, SUM is the aggregate function used for numeric data type.

View All Answers

Question - 92:

Can you explain what are various ways to enhance the SSRS report?

Ans:

There are various ways in which you can enhance your report:
1. Display your data in graphic format using Chart Region.
2. Use sorting.
3. If couple of reports are related, you can make them interactive using connect them using bookmark link, hyper link or drill through report link.

4. Adding sub-report. Sub-report is a stand-alone report which can be link to another report based on its content using parameter.
5. Add custom fields. Custom fields provide with same functionality as alias columns provide in SQL server query. It is the timing of the operation that differs from the alias columns. The calculation is performed on dataset by report server.
6. Using expression.
7. Using custom code. SSRS allows including custom code written in VB.Net. 8. Add document map (navigational links to report item once report is rendered) to report.

View All Answers

Question - 93:

Can you explain various data region available in SSRS with their use?

Ans:

Data regions are report items used to display data from a single dataset. You can perform grouping, sorting and various aggregate functions on data in data region. In SSRS 2005, there were 4 data regions:-
1. Table
2. Matrix
3. List
4. Chart
While in SSRS 2008, there are one additional data region namely Gauge.
Let's explain each one of them:
1. Table - Table Data region has fixed tabular structure i.e. fixed number of columns. It is useful for displaying data grouped by row. You can have maximum of 1 report item per cell. The size of table depends on number of rows dataset fetches i.e., if number of rows returned by dataset is more; it can expand to multiple pages.
2. Matrix - A matrix data region display data in pivot table format, hence also popularly known as pivot table or crosstab report. It has minimum of one row group and one column group. The size of matrix data region depends on columns and rows fetched.
3. List - A list data region is free layout. It is useful for complex reporting resign. The list can be used to display multiple table and matrix. Each getting data from different dataset.
4. Chart - This data region is for displays the data graphically i.e., in form of chart. A various chart types are available in SSRS 2008 namely line, pie chart, columns etc.
5. Gauge - This can be used in a table or matrix to show the relative value of a field in a range of values in the data region. You can also add a gauge to the design surface to show a single relative value.

View All Answers

Question - 94:

Can you explain different types of Locks in SQL Server?

Ans:

There are 3 kinds of locks in SQL Server
i.) Shared locks - they are used for operations which do not allow any change or update of data. For e.g. SELECT.
ii.) Update locks - they are used when SQL Server wants to modify a page. The update page lock is then promoted to an exclusive page lock before actually making the changes.
iii.) Exclusive locks - they are used for the data modification operations. For e.g. UPDATE, INSERT, or DELETE.

View All Answers

Question - 95:

Please differentiate between a Local and a Global temporary table?

Ans:

- A local temporary table exists only for the duration of a connection or, if defined inside a compound statement, for the duration of the compound statement.
- Global temporary tables (created with a double "##") are visible to all sessions.
- Global temporary tables are dropped when the session that created it ends, and all other sessions have stopped referencing it.

View All Answers

Question - 96:

What is ETL - Extraction, Transformation, and Loading?

Ans:

- It is the process of copying and cleaning data from heterogeneous sources.
- It is an important part of development projects for data warehousing and business intelligence.

View All Answers

Question - 97:

What are SQL Dirty pages?

Ans:

These are the buffer pages that contain modifications which have not been written to disk.

View All Answers

Question - 98:

Explain ACID?

Ans:

- ACID (Atomicity Consistency Isolation Durability) is a quality sought after in a reliable database. Here's the relevance of each quality:
- Atomicity is an all-or-none proposition.
- Consistency - it guarantees that your database is never left by a transaction in a half-finished state.
- Isolation - it keeps transactions separated from each other until they're finished.

- Durability - it ensures that the database keeps a track of pending changes in a way that the server can recover from an abnormal termination.
View All Answers

Question - 99:

What is SQL Stored Procedure?

Ans:

- It is a set of T-SQL statements combined together to perform a single task formed by combining many small tasks.
- When you actually run a Stored procedure, a set of statements is run.

View All Answers

Question - 100:

What is SQL COLLATION?

Ans:

Collation is a type of sort order. There are mainly three types of sort orders, namely:
i.) Dictionary case sensitive
ii.)Dictionary - case insensitive
iii.)Binary.

View All Answers

Question - 101:

Do you know what are the properties of the Relational tables?

Ans:

Relational tables have six properties:
1. Values are atomic.
2. Column values are of the same kind.
3. Each row is unique.
4. The sequence of columns is insignificant.
5. The sequence of rows is insignificant.
6. Each column must have a unique name.

View All Answers

Question - 102:

Please differentiate between DELETE and TRUNCATE?

Ans:

- Truncate can not be rolled back while Delete can be.
- Truncate keeps the lock on table while Delete keeps the lock on each row.
- Truncate resets the counter of the Identity column while Delete doesn't do so.
- Trigger is not fired in Truncate while it happens in Delete.

View All Answers

Question - 103:

Suppose you want to implement the following relationships while designing tables. How would you do it?
a.) One-to-one
b.) One-to-many
c.) Many-to-many

Ans:

a.) One-to-One relationship - can be implemented as a single table and rarely as two tables with primary and foreign key relationships.
b.) One-to-Many relationships - by splitting the data into two tables with primary key and foreign key relationships.
c.) Many-to-Many - by using a junction table with the keys from both the tables forming the composite primary key of the junction table.

View All Answers

Question - 104:

Tell me what are the advantages of using Stored Procedures?

Ans:

- They help in reducing the network traffic and latency which in turn boosts application performance.
- They help in promoting code reuse.
- They provide better security to data.
- It is possible to encapsulate the logic using stored procedures. This allows to change stored procedure code without affecting clients.
- It is possible to reuse stored procedure execution plans, which are cached in SQL Server's memory. This reduces server overhead.

View All Answers

Question - 105:

Can you please differentiate between a primary key and a unique key?

Ans:

- By default, clustered index on the column are created by the primary key whereas nonclustered index are created by unique key.
- Primary key doesn't allow NULLs, but unique key allows one NULL.

Question - 106:

Explain what is the function of SQL Server Agent Windows service?

Ans:

- It is a Windows service which handles the tasks scheduled within the SQL Server environment. These tasks are also called as job and are stored with in SQL server. The jobs may run through a trigger, a predefined schedule or on demand.
- This service is very useful in determining why a particular job did not run as intended.

Question - 107:

Tell me what do you understand by a view? What does the WITH CHECK OPTION clause for a view do?

Ans:

- A view is a virtual table that consists of fields from one or more real tables.
- It is usually used to join multiple tables and get the data.
- The WITH CHECK OPTION for a view prevents any modification to the data that does not confirm to the WHERE clause of the view definition.
- This allows the data belonging to the view to be updated through the view.

Question - 108:

Tell me When is the UPDATE_STATISTICS command used?

Ans:

- When the processing of large data is done, this command is used.
- Whenever large number of deletions, modification or copy takes place into the tables, the indexes need to be updated to take care of these changes. UPDATE_STATISTICS performs this job.

Question - 109:

Tell me what do you mean by an execution plan? Why is it used? How would you view it?

Ans:

a.) An execution plan can be called as a road map that graphically or textually shows the data retrieval methods which have been chosen by the SQL Server query optimizer, for a stored procedure or ad- hoc query.
b.) It is used because it is a very useful tool for a developer to understand the performance characteristics of a query or stored procedure.
c.) There exists an option called "Show Execution Plan" in Query Analyzer. If this option is turned on, it will display query execution plan in separate window when the query is run again.

Question - 110:

Do you know what is recursion? Is it possible for a stored procedure to call itself or recursive stored procedure? How many levels of SP nesting is possible?

Ans:

Recursion is method of problem solving where the solution is arrived at by repetitively applying the logic and solution to the subsets of the problem.
Transact-SQL supports recursion. So, yes it is possible for a stored procedure to call itself.
Stored procedures and managed code references can be nested up to 32 levels.

Question - 111:

Explain Comment on Transactions?

Ans:

- Using transactions we can group all SQL commands into a single unit.
- The transaction begins with some task and finishes only when all tasks within it are over.
- The transaction gets over successfully only when all commands in it are successfully over. Even if one command fails, the whole transaction fails.
- The BEGIN TRANSACTION, ROLLBACK TRANSACTION, and COMMIT TRANSACTION statements are used to work with transactions.
- A group of tasks starts with the begin statement.
- In case of any problem, the rollback command is executed to abort the transaction.
- If all the tasks run successfully, all commands are executed through commit statement.

Question - 112:

Do you know query execution plan?

Ans:

- The optimizer available in SQL Server optimizes the code to be effectively executed.
- A query execution plan shows how this optimizer would run the query.
- Query execution plan can be viewed by :
- Using the Show Execution Plan option available in Query Analyzer,
- Displaying Estimated Execution Plan on the query dropdown menu,
- Use the SET SHOWPLAN_TEXT ON command before running a query and capturing the execution plan event in a SQL Server Profiler trace.

Question - 113:

Explain Differentiate between a HAVING CLAUSE and a WHERE CLAUSE?

Ans:

HAVING CLAUSE
- HAVING CLAUSE is used only with the SELECT statement.
- It is generally used in a GROUP BY clause in a query.
- If GROUP BY is not used, HAVING works like a WHERE clause.
WHERE Clause
- It is applied to each row before they become a part of the GROUP BY function in a query.

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