### Quick Check

1. Which isolation level or levels protect against phantom rows?
2. Which isolation level or levels do not acquire shared locks?
3. Where are old versions of rows in snapshot isolation stored?
4. Which is the default isolation level?

#### Quick Check Answers

1. The serializable and snapshot isolation levels protect against phantom rows.
2. Snapshot, read committed snapshot, and the read uncommitted isolation level do not acquire shared locks.
3. Old versions of rows in snapshot isolation are stored in the tempdb system database.
4. The read committed isolation level is the default isolation level.

### Quick Check

1. What is the difference between the READPAST and READUNCOMMITTED table locking hints?
2. Which transaction isolation level cannot be specified as a table locking hint?
3. What is the advantage of locking larger resources, such as tables, instead of rows?
4. What is the main advantage of locking smaller resources, such as rows, instead of tables or pages?

#### Quick Check Answers

1. Both the READPAST and READUNCOMMITTED table locking hints will prevent SELECT (and also UPDATE/DELETE for READPAST) statements from being blocked by resources locked exclusively by other transactions. The difference is that READUNCOMMITTED will return the dirty values for locked resources, while READPAST will simply skip them. (That is, it will not return them at all).
2. The snapshot isolation level cannot be specified as a table locking hint.
3. The advantage of locking larger resources is that it will reduce the work required by the SQL Server lock manager to allocate locks (because far fewer locks are allocated), and it will also reduce the memory used to maintain locks.
4. The main advantage of locking smaller resources is that it greatly reduces the risk of blocking and deadlocks.

### Quick Check

1. Which join type will return matching rows from both the right and left tables?
2. How would you retrieve data from a data source other than SQL Server?
3. What new operator for SQL Server 2005 can be used to create cross-table reports?
4. What does the APPLY operator enable you to accomplish?
5. What operator(s), excluding a table join, can be used to combine and limit result sets?
6. What function can be used to return the first non-null values from more than one expression?
7. What is the difference between a table-valued function and a scalar function?
8. Which predicate can be used to search a column for words or phrases near to the search word?

#### Quick Check Answers

1. An INNER join, which is the default join type if one is not specified, is used to return data that matches the join condition from both the right and left tables.
2. If your data source is an OLE DB data source, then you can create a linked server. The linked server can then be referenced using a four-part name inside of a standard Transact-SQL statement.
3. The PIVOT operator enables you to generate an output table. It can be used to replace the need to utilize CASE statements and aggregate functions to accomplish the same result.
4. When used in the FROM clause of a SELECT statement, the APPLY operator can be used to apply a table-valued function to each row in an outer table. An OUTER APPLY will return all rows that include NULL values, and the CROSS APPLY operator will return rows from the outer table that provides a result set.
5. The EXCEPT and INTERSECT operators can be used to combine and limit result sets. The EXCEPT operator returns distinct values from the left side. The INTERSECT operator returns distinct values from the left and right sides.
6. The COALESCE function can be used to return the first non-null value from more than one expression. Alternatively, the ISNULL function only accepts two arguments and can be used to replace NULL values with a replacement value.
7. A table-valued function is a user-defined function that returns a table, whereas a scalar function will return a single value, such as a string or an integer data type.
8. CONTAINS and CONTAINSTABLE can use a proximity term and the NEAR keyword to return a word that resides close to the other one.

### Quick Check

1. What type of view would you create if you needed to pre-aggregate data coming from multiple remote database servers?
2. What is the storage cost of defining a standard view?
3. What is the storage cost of defining an indexed view?

#### Quick Check Answers

1. Either a standard view or a partitioned view would work for pre-aggregating data from multiple remote database servers. Indexed views cannot be created when data is coming from remote tables.
2. There is no storage cost with standard views. Standard views store only the T-SQL query. This T-SQL query is executed every time the view is called, so the most up-to-date data is retrieved.
3. Indexed views materialize the results of the query by creating an index structure. As covered in Chapter 4, the size of the index depends on the type of index and the columns chosen to be part of the index.

### Quick Check

1. What happens if a parameter that is not defined as an output parameter is called with the OUTPUT modifier?
2. What happens if a parameter that is defined as an output parameter is not called with the OUTPUT modifier?
3. Consider the following scenario. Mark owns the SalesOrderHeaders table in the database. He does not grant SELECT access to anybody. John creates the GetSales-Headers stored procedure that needs to read from the SalesOrderHeaders table. Mary needs to execute the GetSalesHeaders stored procedure. What is the correct setting for the EXECUTE AS clause that lets all the users perform their required tasks?

#### Quick Check Answers

1. If a parameter that is not defined as an output parameter is called with the OUTPUT modifier, the database issues an error message.
2. If a parameter that is defined as an output parameter is not called with the OUTPUT modifier, there is no error message, and the procedure is called. However, the modified value of the parameter is not copied back into the outside caller stack frame.
3. The correct setting is EXECUTE AS OWNER because only Mark has SELECT access on the table. Under this scenario, anybody can execute the stored procedure without requiring specific permissions for the SalesOrderHeaders table.

### Quick Check

1. What type of UDF is required to encapsulate logic to execute as a CHECK constraint definition?
2. List two facts that make UDFs much more agile than stored procedures.
3. What is the main difference between an inline UDF and a multistatement UDF?

#### Quick Check Answers

1. In this context, SQL Server 2005 supports scalar UDFs only. Usually, the returned value from the function is used to validate a CHECK condition to evaluate whether it’s an allowed value.
2. There are many possible reasons UDFs can be more agile than stored procedures; for example, UDFs can be used in different contexts and integrated with the SELECT, INSERT, UPDATE, and DELETE syntax. In addition, table-valued UDFs permit the creation of parameterized result sets.
3. An inline UDF contains a single T-SQL block that must return a value to the caller. In a multistatement UDF, there could be several T-SQL blocks working together to generate a single scalar answer or result set.

**Question**

How to get length of Text, NText and Image columns in SQL Server without any manipulation of data. don't use cast and convert function.

**Answer**

Go for DATALENGTH ( expression ) Function.

DATALENGTH :Returns the number of bytes used to represent any expression.

SELECT length = DATALENGTH(Name), Name

FROM Production.Product

ORDER BY Name;

#### Question

What are the ways to code efficient transactions?

#### Answer

Some ways and guidelines to code efficient transactions:

1. Do not ask for an input from a user during a transaction.
2. Get all input needed for a transaction before starting the transaction.
3. Transaction should be atomic
4. Transactions should be as short and small as possible.
5. Rollback a transaction if a user intervenes and re-starts the transaction.
6. Transaction should involve a small amount of data as it needs to lock the number of rows involved.
7. Avoid transactions while browsing through data.

#### Question

Which database will affect if we install service pack in SQL Server?

#### Answer

Resource Database

#### Question

What is MSX / TSX in SQL Agent ?

#### Answer

Master Server (MSX)

The master server (MSX) is the host server where jobs, job steps, and schedules are created. Additionally, job results will flow from the target server(s) to the master server. You can view results from all job on the master server.

Target Server (TSX)

The target server (TSX) consists of one or more servers that are configured to accept jobs from a master server, and to report the results when those jobs are run back to the master server (MSX). The target servers will occasionally connect to the MSX server to download jobs, and updates to jobs.

select substring('nirav',1,4) -- nira

select Substring('nirav',0,4) --nir

select Substring('nirav',-2,4) --n

select Substring('nirav',4,-2) --Invalid length parameter passed to the substring function.

#### Question

What is dedicated administrator connection(DAC)?

#### Answer

SQL Server provides a special diagnostic connection for administrators when standard connections to the server are not possible. This diagnostic connection allows an administrator to access SQL Server to execute diagnostic queries and troubleshoot problems even when SQL Server is not responding to standard connection requests.

This dedicated administrator connection (DAC) supports encryption and other security features of SQL Server. The DAC only allows changing the user context to another admin user.

What is a Job in sql Server?

#### Answer

A job is a specified series of operations performed sequentially by SQL Server Agent. A job can perform a wide range of activities, including running Transact-SQL scripts, command-line applications, Microsoft ActiveX scripts, Integration Services packages, Analysis Services commands and queries, or Replication tasks. Jobs can run repetitive tasks or those that can be scheduled, and they can automatically notify users of job status by generating alerts, thereby greatly simplifying SQL Server administration.

#### Question

How can I define a DEFAULT value in a timestamp and IDENTITY column?

#### Answer

DEFAULT definitions cannot be applied to timestamp columns, or columns with an IDENTITY property

#### A`Question

One of my favorite SSIS questions: Is it possible to use a lookup transform when the source are both flat files, and we do not have staging tables to dump these data, in SSIS 2008?

#### Answer

YES. It is possible, make use of cache transform, and then in look up task use this Cache connection instead of OLEDB Connection.

And the next question would be ..... Why do we then have Merge Join?

Why can't a sparse column be eligible for Primary key?

#### Answer

As in MSDN -

A sparse column cannot be part of a clustered index or a unique primary key index. However, both persisted and nonpersisted computed columns that are defined on sparse columns can be part of a clustered key. Sparse columns require more storage space for nonnull values than the space required for identical data that is not marked SPARSE A sparse column must be nullable and cannot have the ROWGUIDCOL or IDENTITY properties.

#### Question

In what way an identity field differentiates the delete and truncate command?

#### Answer

MSDN says With TRUNCATE, If the table contains an identity column, the counter for that column is reset to the seed value defined for the column. If no seed was defined, the default value 1 is used. To retain the identity counter, use DELETE instead.

#### Question

Which Key Constraints enforces Enitity Integrity ,Referential Integrity and Domain Integrity?

#### Answer

Entity Integrity : Primary Key/Unique Key Constraints Referential Integrity: Foreign Key Domain Integrity: Check Constraint, NOT NULL

#### Question

How can we find the maximum Alphanumeric value in the primary key?

#### Answer

Select 'prefix' + convert(varchar(20), max(convert(int, substring(AlphNumField, 4, 100))) + 0) from TableName

#### Question

How do you find all the triggers made on a particular table?

#### Answer

We can use the following command to find out all the triggers made on a particular table

**SP\_helptrigger 'Table Name'**