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☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

A database contains a table named Customer. The structure of the Customer table is as shown in the following table.

Column Name	Data Type	Description
customer_id	int	Clustered primary key
customer_name	nvarchar(80)	Full name
address	nvarchar(1,000)	Address details
country_id	int	ID of home country

The solution uses the following stored procedure to return customer details.

```
CREATE PROC GetCustomersByCountry
    @CountryID int
AS
SELECT customer_id, customer_name
FROM Customer
WHERE country_id = @CountryID;
```

Users report that the stored procedure takes a long time to execute.

You need to optimize the performance of the stored procedure.

What should you do?

☐ A. Recreate the primary key as a nonclustered unique index and build a clustered index on the country_id column.

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address	nvarchar(1,000)	Address details
country_id	int	ID of home country

The solution uses the following stored procedure to return customer details.

```
CREATE PROC GetCustomersByCountry
    @CountryID int
AS
SELECT customer_id, customer_name
FROM Customer
WHERE country_id = @CountryID;
```

Users report that the stored procedure takes a long time to execute.

You need to optimize the performance of the stored procedure.

What should you do?

- ☐ A. Recreate the primary key as a nonclustered unique index and build a clustered index on the country_id column.
- ☐ B. Build a nonclustered index on the country_id column and use the INCLUDE clause to include the customer_name column.
- ☐ C. Build a nonclustered index only on the country_id column.
- ☐ D. Build a nonclustered index on the country_id, customer_name, and customer_id columns.

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☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

The database will contain a table named Claims. The Claims table will contain a large amount of data. You plan to partition the data into following categories:

- Open claims
- Claims closed before January 1, 2005
- Claims closed between January 1, 2005 and December 31, 2007
- Claims closed from January 1, 2008 till date

The **close_date** field in the Claims table is a date data type and is populated only if the claim has been closed.

You need to design a partition function to segregate records into the defined categories.

What should you do?

- ☐ A. Create a RANGE RIGHT partition function by using the values 20051231, 20071231, and 20080101.
- ☐ B. Create a RANGE RIGHT partition function by using the values 20051231, 20071231, and NULL.
- ☐ C. Create a RANGE LEFT partition function by using the values 20051231, 20071231, and 20080101.
- ☐ D. Create a RANGE LEFT partition function by using the values 20051231, 20071231, and NULL.

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☐ Mark for review or comment

Your company has four offices. Each office contains a server that runs SQL Server 2008.

All corporate data is stored in a central location.

You need to create a reporting solution. The solution must meet the following requirements:

- Minimize hardware costs
- Minimize administrative effort
- Minimize the time it takes to generate the reports
- Enable users to run reports locally, even if a WAN link fails

What should you do?

- ☐ A. Implement a geographically dispersed SQL Server 2008 cluster.
- ☐ B. Implement database mirroring.
- ☐ C. Implement log shipping.
- ☐ D. Create horizontally partitioned tables and a federated database.

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You have a table named Books that contains information about books. Books has the columns in the following table.

Column	Data type	Primary key	Indexed	Index type
BookId	int	Yes	Yes	nonclustered
Title	nvarchar(50)	No	No	-
ISBN	nvarchar(10)	No	No	-
Description	nvarchar(400)	No	No	-

You plan to create several queries that will filter on Title and ISBN. The queries will return values from Title, ISBN, and Description.

You need to recommend an indexing solution to meet the following requirements:

- Minimize the amount of time required to return the results of the planned queries
- Minimize the number of indexes

What should you recommend?

- ☐ A. Create a nonclustered index on each column.
- ☐ B. Create a clustered index on Title and ISBN and set the index fill factor to 75.

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BookId	int	Yes	Yes	nonclustered
Title	nvarchar(50)	No	No	-
ISBN	nvarchar(10)	No	No	-
Description	nvarchar(400)	No	No	-

You plan to create several queries that will filter on Title and ISBN. The queries will return values from Title, ISBN, and Description.

You need to recommend an indexing solution to meet the following requirements:

- Minimize the amount of time required to return the results of the planned queries
- Minimize the number of indexes

What should you recommend?

- ☐ A. Create a nonclustered index on each column.
- ☐ B. Create a clustered index on Title and ISBN and set the index fill factor to 75.
- ☐ C. Create a nonclustered index on Title and ISBN and include the Description column.
- ☐ D. Create a clustered index on Title, ISBN and Description as the key value.

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☐ Mark for review or comment

You are designing a database that will be used for reporting purposes. The database stores data using **spatial** data type.

You need to minimize the data storage requirements and improve the application response time.

What should you recommend?

- ☐ A. Use row compression.
- ☐ B. Use XML datatype.
- ☐ C. Use sparse columns.
- ☐ D. Use table partitioning.

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☐ Mark for review or comment

You have a server that runs SQL Server 2008 Standard. The server provides data storage for a third-party contact management application.

A service-level agreement for the application does not allow for modifications to be made to the application or to the database objects used by the application.

You need to recommend a strategy to mitigate performance issues. The strategy must minimize database growth.

What should you recommend?

- ☐ A. plan guides
- ☐ B. partitioned tables
- ☐ C. clustered indexes
- ☐ D. a scalable shared database

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☐ Mark for review or comment

You have a server that runs SQL Server 2008 Enterprise. The server contains a 300-GB database.

At the end of every month, several reports are generated from the database.

Users report that it takes a long time to access data from the database while the reports are being generated.

You need to recommend a solution to improve the data access time while the reports are being generated from the database. The solution must use a minimum amount of administrative effort.

What should you recommend?

- ☐ A. database snapshots
- ☐ B. a failover cluster
- ☐ C. database mirroring
- ☐ D. linked servers

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You are a database developer. You plan to design a database solution by using SQL Server 2008.

The database contains a table named Products.

The database has two stored procedures named **ModifyProduct** and **RetrieveProducts**. **ModifyProduct** updates a single row in the Products table. **RetrieveProducts** returns all rows from the Products table.

RetrieveProducts is used by a report. Users who run the report experience contention problems. You discover that **RetrieveProducts** is being blocked by **ModifyProduct**.

The report must not include rows that are currently being modified.

You need to ensure that the report is executed as quickly as possible.

Which locking hint should you use in **RetrieveProducts**?

- ☐ A. READUNCOMMITTED
- ☐ B. READPAST
- ☐ C. NOLOCK
- ☐ D. NOWAIT

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☐ Mark for review or comment

You need to recommend a solution that will enable two or more application sessions to share the same transaction and locks. The solution must enable the applications to work on the same data without creating lock conflicts.

What should you recommend?

- ☐ A. bound sessions
- ☐ B. savepoints
- ☐ C. nested transactions
- ☐ D. a stoplist

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Question 10 of 50

☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

A database contains a stored procedure that is created by using the following DDL code segment.

```
CREATE PROC SP1
AS
BEGIN TRY
    BEGIN TRANSACTION
    INSERT INTO Products ...
    UPDATE Sales ...
    COMMIT TRANSACTION
END TRY
BEGIN CATCH
    ROLLBACK TRANSACTION
END CATCH;
RETURN
```

You discover that the **UPDATE** statement occasionally throws an exception that causes the entire transaction to roll back.

You need to ensure that when the **UPDATE** statement causes an exception, SP1 performs the following tasks:

- The **INSERT** statement is committed.
- All data is in a consistent state.
- The Transaction count is equal to 0 after execution completes.

What should you do?

- ☐ A.
- Add a **SAVE TRANSACTION TR1** statement after the **INSERT** statement.
 - Add a TRY/CATCH block after the **SAVE TRANSACTION TR1** statement.
 - Place the **UPDATE** statement inside the new TRY block

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Question 11 of 50 ☐ Mark for review or comment

You have a table that contains 10 million rows.

You need to design a query that returns a 100,000-row sample dataset. The solution must minimize the query's execution time.

The sample may contain inconsistent data.

Which isolation level should you set to ON?

- ☐ A. READ COMMITTED
- ☐ B. READ COMMITTED SNAPSHOT
- ☐ C. REPEATABLE READ
- ☐ D. READ UNCOMMITTED

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Question 12 of 50 ☐ Mark for review or comment

You are a database developer. You design a database solution by using SQL Server 2008.

Your company has offices in Europe, Asia, North America, and Africa. The company data is updated for each region after business hours.

The queries used by reports on the database are blocked when the data is being updated. Occasionally, the data is updated simultaneously for the Africa and Europe regions.

You need to ensure maximum concurrency for the database by using minimum possible system resources.

Which isolation level should you use?

- ☐ A. READ COMMITTED
- ☐ B. REPEATABLE READ
- ☐ C. SERIALIZABLE
- ☐ D. SNAPSHOT

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Question 13 of 50 ☐ Mark for review or comment

A new data analytics application is being implemented in your organization.

Users will run a process that compares result sets before and after executing complex data modifications. The data will always be queried by using the same conditions.

Some tables updated by the processes will not need to be compared.

Your need to design a locking strategy for the process that meets the following requirements:

- Enables other processes or users to modify tables that are not being compared
- Prevents other processes from performing data manipulation language (DML) activity on the tables that are being compared

What should the strategy include?

- ☐ A. Use a transaction that uses the WITH (NOLOCK) hint.
- ☐ B. Use a transaction that uses the WITH (HOLDLOCK) hint.
- ☐ C. Set the transaction isolation level to READ UNCOMMITTED.
- ☐ D. Set the transaction isolation level to SERIALIZABLE.

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Question 14 of 50

☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

A frequently used query takes very long to execute.

You discover that the query frequently uses full-table scans instead of indexes. This causes other queries that modify the table to be blocked.

The indexing strategy on the underlying tables that the query uses can change.

You need to design a solution that performs the following tasks:

- Removes full-table scans
- Allows the query optimizer to select the appropriate index.

What should you do?

- ☐ A. Use the NOEXPAND table hint.
- ☐ B. Use the INDEX table hint.
- ☐ C. Use the INDEX(0) table hint.
- ☐ D. Use the FORCESEEK table hint.

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Question 15 of 50 ☐ Mark for review or comment

Your company is developing an application. The database platform for the application will be vendor-independent.

You need to ensure that the application automatically stores the current date and time data when a record is inserted or updated, regardless of the database platform.

What should you do?

- ☐ A. Create an INSERT trigger that uses the GETDATE() function.
- ☐ B. Use Entity Framework and DateTime.Now.
- ☐ C. Create a database column that has a default value of GETDATE().
- ☐ D. Use the datetime2 data type.

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Question 16 of 50 ☐ Mark for review or comment

A database contains two tables named Table1 and Table1_Details. Table1_Details contains details about the items in Table1.

You need to ensure that when an item is removed from Table1, all related items are removed from Table1_Details. You must achieve this goal by using the minimum amount of Transact-SQL code.

What should you do?

- ☐ A. Create a trigger on Table1_Details that fires on the **Delete** action.
- ☐ B. Create a foreign key relationship. Set **Cascade Delete** to **Set Null**.
- ☐ C. Create a stored procedure that deletes all related items from Table1_Details.
- ☐ D. Create a foreign key relationship. Set **Cascade Delete** to **Cascade**.

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Question 17 of 50 ☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

You have a Web site supported by a database that has the full-text search component installed. You plan to create a table named Courses that will have the following structure.

Column Name	Data Type
CourseID	Integer
CourseTitle	Varchar(500)
CourseDescription	Varchar(4000)
AuthorID	Integer

Users of the Web site will search for courses based on the CourseTitle field.

You need to construct a full-text query that ensures the following compliances when a user launches the search for a course:

- Rows are returned when the exact search phrase is found.
- Rows are in order of how well they match with the search phrase.

What should you specify in the full-text query?

- ☐ A. A FREETEXTTABLE function
- ☐ B. A FREETEXT predicate

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Question 17 of 50 ☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

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What should you specify in the full-text query?

- ☐ A. A FREETEXTTABLE function
- ☐ B. A FREETEXT predicate

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Column Name	Data Type
CourseID	Integer
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Users of the Web site will search for courses based on the CourseTitle field.

You need to construct a full-text query that ensures the following compliances when a user launches the search for a course:

- Rows are returned when the exact search phrase is found.
- Rows are in order of how well they match with the search phrase.

What should you specify in the full-text query?

- ☐ A. A FREETEXTTABLE function
- ☐ B. A FREETEXT predicate
- ☐ C. A CONTAINSTABLE function
- ☐ D. A CONTAINS predicate

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Question 18 of 50 ☐ Mark for review or comment

You need to design a database solution that meets the following requirements:

- Supports different types of databases
- Provides reliable messaging between databases
- Provides data workload distribution across several databases

Which SQL Server component should you use?

- ☐ A. Notification Services
- ☐ B. SQL Server Agent
- ☐ C. Service Broker
- ☐ D. SQL Mail

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Question 19 of 50 ☐ Mark for review or comment

You plan to create a Service Broker solution. The solution will transport data from one queue to another queue.

You need to identify which message type must be used to transport binary data. The solution must minimize the amount of data transported.

Which message type should you use?

- ☐ A. VALID_XML WITH SCHEMA COLLECTION
- ☐ B. WELL_FORMED_XML
- ☐ C. NONE
- ☐ D. EMPTY

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Question 20 of 50 ☐ Mark for review or comment

You plan to deploy a new application. The application will perform the following operations:

- Create a new database
- Back up the new database

You need to configure a login to support the deployment of the new application. The solution must ensure that the application uses the most restrictive permissions possible.

What should you do?

- ☐ A. Add the login to the dbcreator server role.
- ☐ B. Add the login to the diskadmin and serveradmin server roles. After the database is created, add a user to the db_backupoperator database role.
- ☐ C. Add the login to the diskadmin and securityadmin server roles. After the database is created, add a user to the db_backupoperator database role.
- ☐ D. Add the login to the sysadmin server role.

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Question 21 of 50 ☐ Mark for review or comment

You plan to implement a Web-based application that will save XML data to a column in a table.

You need to design a query that ensures that before saving the XML data to the table, the data contains valid elements. The solution must be developed by using the minimum amount of effort.

What should you include in the query?

- ☐ A. `sp_xml_preparedocument`
- ☐ B. `.exist()`
- ☐ C. `FOR XML PATH`
- ☐ D. `.query()`

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Question 22 of 50 ☐ Mark for review or comment

You are a database developer. You plan to create a database by using SQL Server 2008.

The database has a table named Employees. The table contains records of employees and their managers.

The table includes the EmployeeID and ManagerID fields. The EmployeeID values are unique. The value in the ManagerID field is the employee ID of the employee's manager.

A Web site requires XML formatted output of all managers and employees to be displayed as a tree diagram.

You need to produce the required output by querying the database without using system stored procedures.

What should you do?

- ☐ A. Create a table-valued function by using the **hierarchyid** data type.
- ☐ B. Create a scalar-valued function by using the **FOR XML PATH** clause and the **TYPE** directive.
- ☐ C. Create a table-valued function by using a common table expression (CTE).
- ☐ D. Create a scalar-valued function by using the **OPENXML()** function.

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Question 23 of 50 ☐ Mark for review or comment

You have a table that has an XML column named XMLOrderHeader.

You need to design a stored procedure that extracts the order header values and stores them in a table. The solution must meet the following requirements:

- Extract many values
- Minimize the development effort

What should the solution include?

- ☐ A. For each value, use an XPATH statement.
- ☐ B. Use a single XPATH statement.
- ☐ C. For each value, use the Exists() method.
- ☐ D. Use a single Exists() method.

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Question 24 of 50 ☐ Mark for review or comment

You have a table that contains an XML column named XMLData1. The column contains the following nodes:

- Title
- Description
- Author
- Weight
- NumPages

You need to design a stored procedure that will return only the title and description in a tabular result set. The solution must be developed by using minimum amount of effort.

How should you extract the information?

- ☐ A. Execute sp_preparedocument.
- ☐ B. Use XMLData1.Exists() in a select statement.
- ☐ C. Use XMLData1.Query() in a select statement.
- ☐ D. Use FOR XML PATH in a select statement.

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Question 25 of 50 ☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

A database will contain 10 tables that are used to generate reports. Data in the tables ranges from 50,000 to 100,000 records.

During a query execution that joins four tables, you discover the following problems:

- The size of the tempdb database grows considerably.
- The query execution time is excessive.

You need to identify the most likely cause for the problems by analyzing the execution plan.

What should you do?

- ☐ A. Look for **Hash Match** operators in the execution plan.
- ☐ B. Look for **Nested Loops** operators in the execution plan.
- ☐ C. Look for table scans in the execution plan.
- ☐ D. Look for **Merge Join** operators in the execution plan.

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☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

The database contains a large table that has 20 million rows. The table contains the following columns:

- CustomerNumber
- CompanyName
- ContactFirstName
- ContactLastName

The table currently has single-column nonclustered indexes on the CustomerNumber, CompanyName, and ContactFirstName columns.

An application uses data from this table. The user interface of the application allows the usage of any one filter from the following list of filters:

- CustomerNumber and CompanyName
- CompanyName
- ContactLastName
- ContactLastName and ContactFirstName

In all cases, the listed order of the columns is the order in which they will appear in the WHERE clause that is generated.

You need to design an indexing strategy for this table, so that the query optimizer can quickly perform an index seek when searching through the table data.

What should you recommend?

- ☐ A.
- Drop all existing indexes.
 - Create a new index on ContactLastName and ContactFirstName.
 - Create a multicolumn index on CustomerNumber and CompanyName.

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- CompanyName
- ContactLastName
- ContactLastName and ContactFirstName

In all cases, the listed order of the columns is the order in which they will appear in the WHERE clause that is generated.

You need to design an indexing strategy for this table, so that the query optimizer can quickly perform an index seek when searching through the table data.

What should you recommend?

- ☐ A.
 - Drop all existing indexes.
 - Create a new index on ContactLastName and ContactFirstName.
 - Create a multicolumn index on CustomerNumber and CompanyName.
- ☐ B.
 - Drop all existing indexes.
 - Create two multicolumn indexes, one on CustomerNumber and CompanyName and the other on ContactLastName and ContactFirstName.
- ☐ C.
 - Drop the indexes on CustomerNumber and ContactFirstName.
 - Create two multicolumn indexes, one on CustomerNumber and CompanyName and the other on ContactLastName and ContactFirstName.
- ☐ D.
 - Drop all existing indexes.
 - Create two multicolumn indexes, one on CompanyName and CustomerNumber and the other on ContactLastName and ContactFirstName.

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Question 27 of 50 ☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

The database application has a table named Transactions that contains millions of rows. The table has multiple columns that include transaction_id and transaction_date. There is a clustered index on the transaction_id column. There is a nonclustered index on the transaction_date column.

You discover that the following query takes a long time to execute.

```
SELECT transaction_id, transaction_date, transaction_notes
FROM transactions
WHERE transaction_type_id = 'FXO'
AND transaction_date between @start_date and @end_date
```

The summary of the execution plan is as shown in the following code segment.

```
--Filter(WHERE: ([transaction_type_id]='FXO'))
|--Nested Loops(Inner Join)
    |--Index Seek(OBJECT:([transactions]. [nc_transactions_transaction_date]))
    |--Clustered Index Seek(OBJECT:([transactions]. [PK_transactions_transaction_id]))
```

You need to ensure that the query retrieves data in minimum possible time.

What should you do?

- ☐ A. Create a nonclustered index on the transaction_date and transaction_type_id columns.
- ☐ B. Create a nonclustered index on the transaction_date column and include the transaction_type_id and transaction_notes columns.

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```
SELECT transaction_id, transaction_date, transaction_notes
FROM transactions
WHERE transaction_type_id = 'FXO'
AND transaction_date between @start_date and @end_date
```

The summary of the execution plan is as shown in the following code segment.

```
--Filter (WHERE: ([transaction_type_id]='FXO'))
|--Nested Loops (Inner Join)
    |--Index Seek (OBJECT: ([transactions]. [nc_transactions_transaction_date]))
    |--Clustered Index Seek (OBJECT: ([transactions]. [PK_transactions_transaction_id]))
```

You need to ensure that the query retrieves data in minimum possible time.

What should you do?

- ☐ A. Create a nonclustered index on the transaction_date and transaction_type_id columns.
- ☐ B. Create a nonclustered index on the transaction_date column and include the transaction_type_id and transaction_notes columns.
- ☐ C. Create a nonclustered index on the transaction_date and transaction_type_id columns and include the transaction_notes column.
- ☐ D. Create a nonclustered index on the transaction_type_id column.

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Question 28 of 50 ☐ Mark for review or comment

You need to design a stored procedure that contains a transaction. If an error condition causes the transaction to roll back, a temporary result set must be available to the query that follows the failed transaction.

Which temporary storage object should you use?

- ☐ A. a temporary table
- ☐ B. a table variable
- ☐ C. a common table expression (CTE)
- ☐ D. a derived table

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Question 29 of 50 ☐ Mark for review or comment

You have a database that has 20 tables.

The tables are not configured to have any referential integrity. All tables have primary keys. Each table contains over 5 million rows. Ten percent of the rows contain outdated information.

You need to design a maintenance process to delete all outdated rows. The solution must meet the following requirements:

- Minimize execution time
- Minimize development effort
- Minimize blocking other processes
- Prevent deletion failures from affecting the entire deletion process

What should the design include?

- ☐ A. a WHILE loop that contains a single DELETE statement
- ☐ B. multiple TRUNCATE TABLE statements
- ☐ C. a single transaction that contains multiple DELETE statements
- ☐ D. an IF statement that contains a single DELETE statement

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☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

The database includes a table that contains the following product inventory information:

- Department
- Class
- Item
- Quantity

You plan to write a query that produces the sum of quantity data broken into the following groups.

- Department
- Department and Class
- Department and Item
- Department, Class, and Item

You need to write the query by using the minimum possible number of Transact-SQL statements.

What should you recommend?

- ☐ A. Write a single query that contains a GROUP BY WITH ROLLUP clause.
- ☐ B. Write a single query that contains a GROUP BY GROUPING SETS clause.
- ☐ C. Write a single query that contains a GROUP BY clause.
- ☐ D. Write a single query that contains a GROUP BY WITH CUBE clause.

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☐ Mark for review or comment

The database includes a table that contains the following product inventory information:

- Department
- Class
- Item
- Quantity

You plan to write a query that produces the sum of quantity data broken into the following groups.

- Department
- Department and Class
- Department and Item
- Department, Class, and Item

You need to write the query by using the minimum possible number of Transact-SQL statements.

What should you recommend?

- ☐ A. Write a single query that contains a GROUP BY WITH ROLLUP clause.
- ☐ B. Write a single query that contains a GROUP BY GROUPING SETS clause.
- ☐ C. Write a single query that contains a GROUP BY clause.
- ☐ D. Write a single query that contains a GROUP BY WITH CUBE clause.

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Question 31 of 50

☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

A database contains a table named Person. The structure of the table is as shown in the following exhibit. (Click the **Exhibit** button.)

The table has the following indexes:

- A unique clustered index on the PersonID column named IX_Person_PersonID
- A nonclustered index on the FirstName and LastName columns named IX_Person_FirstName_LastName
- A nonclustered index on the PersonType column named IX_Person_PersonType that has FirstName and LastName as included columns

The table contains approximately 700,000 records. The approximate number of records for each PersonType is 3,000.

You execute the following query.

```
SELECT P.FirstName, P.LastName  
FROM Person P  
WHERE P.PersonType = 'DR'
```

You plan to analyze the performance of the query by using an execution plan.

You need to ascertain that the indexes are used optimally.

What should you do?

- ☐ A. Verify that a clustered index scan operation is performed on the IX_Person_PersonID index.
- ☐ B. Verify that an index seek operation is performed on the IX_Person_PersonType index, and a key lookup operation is

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☐ Mark for review or comment

- A nonclustered index on the PersonType column named IX_Person_PersonType that has FirstName and LastName as included columns

The table contains approximately 700,000 records. The approximate number of records for each PersonType is 3,000.

You execute the following query.

```
SELECT P.FirstName, P.LastName  
FROM Person P  
WHERE P.PersonType = 'DR'
```

You plan to analyze the performance of the query by using an execution plan.

You need to ascertain that the indexes are used optimally.

What should you do?

- ☐ A. Verify that a clustered index scan operation is performed on the IX_Person_PersonID index.
- ☐ B. Verify that an index seek operation is performed on the IX_Person_PersonType index, and a key lookup operation is performed on the IX_Person_PersonID index.
- ☐ C. Verify that an index seek operation is performed on the IX_Person_PersonType index.
- ☐ D. Verify that an index seek operation is performed on the IX_Person_PersonType index, and an index scan operation is performed on the IX_Person_FirstName_LastName index.

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Question 32 of 50 ☐ Mark for review or comment

You have a stored procedure that uses a cursor. The stored procedure updates several related tables.

You discover that the stored procedure runs slowly and uses a significant amount of resources on the database server.

You need to recommend changes to the stored procedure to meet the following requirements:

- Minimize execution time
- Minimize development effort
- Minimize server resource requirements

What should you recommend?

- ☐ A. Change the cursor to a client-side cursor.
- ☐ B. Rewrite the cursor by using recursive CLR stored procedure.
- ☐ C. Change the cursor to a dynamic cursor.
- ☐ D. Rewrite the cursor by using set-based operations.

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Question 33 of 50

☐ Mark for review or comment

You have a server that runs SQL Server 2008 Enterprise.
You have a query that contains SUM, AVG, and MAX functions.
You discover that the query takes a long time to execute.
You need to reduce the amount of time required to execute the query.
What should you do?

- ☐ A. Create a view in which each aggregate function is computed.
- ☐ B. Add computed columns that have persisted values to the table that contains the aggregate values on a per row basis.
- ☐ C. Create an indexed view in which each aggregate function is computed.
- ☐ D. Add computed columns to the table that contains the aggregate values on a per row basis.

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Question 34 of 50

☐ Mark for review or comment

You are designing a new database. The tables of the database will be replicated to multiple offices.

You need to design the tables to meet the following requirements:

- A row identifier must be set when a row is created
- The row identifier must be unique across the entire organization

What should you recommend?

- ☐ A. Add a column to all the tables that have a time data type. Configure the DEFAULT constraint to use the GETDATE() function.
- ☐ B. Add a column to all the tables that have the identity property.
- ☐ C. Add a column to all the tables that have a uniqueidentifier data type. Configure the DEFAULT constraint to use the NEWID() function.
- ☐ D. Add a column to all the tables that have the hierarchyid data type.

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Question 35 of 50

☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

A database contains two tables named Orders and OrderDetails. There is also a data warehouse containing a table named factSales. The factSales table has a de-normalized structure and contains columns from Orders and OrderDetails.

You plan to design a solution that will extract all data modifications from Orders and OrderDetails and load them into factSales.

You have the following requirements:

- The load operation is incremental and runs daily.
- The schema of the tables cannot be modified.
- The history of each modification is maintained for one month.

You need to implement the solution by using the least amount of coding and administrative effort.

What should you do?

- ☐ A. Use the SQL Server Change Data Capture feature.
- ☐ B. Use the SQL Server Change Tracking feature.
- ☐ C. Use Microsoft Sync Services.
- ☐ D. Partition the Orders and OrderDetails tables based on date.

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Question 36 of 50 ☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

The database contains a table that has two partitions. The first partition contains the current data, and the second partition contains historical data. There is a high frequency of data manipulation on the current data.

The testers report that they are frequently unsuccessful in querying the historical data only. You discover that locks are being escalated to the table-level lock.

You need to ensure that without modifying the **SELECT** statements, you enable users to query the historical data. You want to achieve this goal by using the minimum amount of administrative effort and minimally affecting other queries. What should you do?

- ☐ A. Set DEADLOCK_PRIORITY to HIGH.
- ☐ B. Set the Server Startup Parameters to include -T1211.
- ☐ C. Move the historical partition to a read-only filegroup.
- ☐ D. Use the ALTER TABLE ... SET (LOCK_ESCALATION = AUTO) command.

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Question 37 of 50 ☐ Mark for review or comment

You are a database solutions architect. Your company plans to develop a solution by using a SQL Server 2008 instance.

You design a new database that contains a table to store Microsoft Office documents.

You have the following business requirements:

- The documents are part of the database backup.
- The snapshots of the database are used.

You need to use an appropriate data type to store the documents.

Which data type should you use?

- ☐ A. **varchar(max)**
- ☐ B. **varbinary(max)** by using the **FILESTREAM** attribute
- ☐ C. **varbinary(max)**
- ☐ D. **nvarchar(max)**

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Question 38 of 50

☐ Mark for review or comment

You are designing a table to store date and time information for an application. The application will be used by users in Europe, Asia, and North America.

You need to add a column that stores the date and time information for all users. The column must contain information that can be used to identify the users' local time zone.

What should you include in the design?

- ☐ A. a getutcdate function
- ☐ B. a sysdatetimeoffset function
- ☐ C. a datetime2 data type
- ☐ D. a datetimeoffset data type

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Question 39 of 50

☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

The database will contain a table to stage data from an external source. The imported data will contain a field named **TransactionTime**. The **TransactionTime** field will use the *hh:mm:ss.[nnn]* format (such as 12:55:30.123).

You need to select the appropriate data type for the **TransactionTime** field. You need to achieve this goal by incurring the minimum amount of storage cost.

Which data type should you use?

- ☐ A. time
- ☐ B. smalldatetime
- ☐ C. datetime2
- ☐ D. time(1)

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Question 40 of 50

☐ Mark for review or comment

You need to design a table that will contain a monetary value. The value must support five digits to the right of the decimal point.

Which data type should you choose?

- ☐ A. money
- ☐ B. bigint
- ☐ C. decimal
- ☐ D. int

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Question 41 of 50 ☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

The database contains a table named SaverPlans that stores information about savings plans. The table contains a column named MinBalance that stores the minimum balance for a given plan.

You need to ensure that each new savings plan, for which the MinBalance value is unspecified, has a minimum balance of 1,000 U.S. dollars. You want to achieve this goal by using the minimum amount of cost.

What should you do?

- ☐ A. Use an INSERT trigger.
- ☐ B. Use the DEFAULT constraint.
- ☐ C. Use an UPDATE trigger.
- ☐ D. Use the CHECK constraint.

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Question 42 of 50 ☐ Mark for review or comment

You have a table that contains a string column. Most of the rows have the same value.

You need to create a multistep stored procedure that meets the following requirements:

- Accepts a text input parameter
- Provides optimal performance for all input values
- Has only one step using the input parameter as a predicate

What should you use?

- ☐ A. sp_recompile
- ☐ B. a RECOMPILE query hint
- ☐ C. WITH RECOMPILE
- ☐ D. sp_configure

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Question 43 of 50 ☐ Mark for review or comment

You are designing a table to store customer data. The table will contain a column to store the e-mail addresses of the customers.

You need to recommend a solution to store the e-mail addresses. The solution must meet the following requirements:

- E-mail addresses must contain the @ symbol
- E-mail addresses must be validated by using a regular expression
- E-mail addresses must contain a top-level domain of .com, .org, or .edu

What should you recommend?

- ☐ A. Create an e-mail profile for the Database Mail SQL Server component.
- ☐ B. Use a non-persisted computed column.
- ☐ C. Add a custom schema to the database.
- ☐ D. Use a CHECK constraint that uses a CLR function.

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Question 44 of 50 ☐ Mark for review or comment

You have a table that has 10 million rows. The table has a view that returns all of the rows.

You discover performance degradation when you run an unfiltered view.

You need to recommend a solution to replace the view. The solution must require that the returned data is filtered by a parameter.

What should you use?

- ☐ A. an indexed view
- ☐ B. a scalar function
- ☐ C. a table-valued function
- ☐ D. a table-valued type

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Question 45 of 50

☐ Mark for review or comment

You are developing a security policy for the SQL Server developers in your organization.

You need to create a security strategy to protect Transact-SQL applications from SQL injection attacks.

What should you include in the strategy?

- ☐ A. Require certificates for Service Broker communications.
- ☐ B. Parse input parameters to prevent the use of the following strings:
- ;
 - --
 - /*
 - */
- ☐ C. Parse input parameters to prevent the use of the following strings:
- &
 - @
 - //
 - ++

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Question 45 of 50

☐ Mark for review or comment

You need to create a security strategy to protect Transact-SQL applications from SQL injection attacks.

What should you include in the strategy?

- ☐ A. Require certificates for Service Broker communications.
- ☐ B. Parse input parameters to prevent the use of the following strings:
- ;
 - --
 - /*
 - */
- ☐ C. Parse input parameters to prevent the use of the following strings:
- &
 - @
 - //
 - ++
- ☐ D. Disable Service Broker.

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Question 46 of 50

☐ Mark for review or comment

You have a table named Sales that contains the data listed in the following table.

SalesPerson	TotalSales
SalesRep01	100.00
SalesRep02	100.00
SalesRep03	200.00
SalesRep04	200.00
SalesRep05	300.00
SalesRep06	300.00
SalesRep07	400.00
SalesRep08	400.00
SalesRep09	500.00
SalesRep10	500.00

You need design a query that retrieves a list that contains all sales people that have top three values from the TotalSales column.

Which query should you design?

- ☐ A.

```
select TOP 3
SalesPerson,
TotalSales
from Sales
order by TotalSales desc
```

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Question 46 of 50

☐ Mark for review or comment

You need design a query that retrieves a list that contains all sales people that have top three values from the TotalSales column.
Which query should you design?

- ☐ A.

```
select TOP 3
SalesPerson,
TotalSales
from Sales
order by TotalSales desc
```
- ☐ B.

```
select TOP 3 with ties
SalesPerson,
TotalSales
from Sales
order by SalesPerson desc
```
- ☐ C.

```
select TOP 3 with ties
SalesPerson,
TotalSales
from Sales
order by TotalSales desc
```
- ☐ D.

```
select TOP 3
SalesPerson,
TotalSales
from Sales
```

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Question 47 of 50

☐ Mark for review or comment

You are a SQL Server 2008 developer. You create an online transaction processing (OLTP) database by using SQL Server 2008 in an enterprise environment.

The database contains a table named SalesDetails. Each record in the table contains data in any one of the following pairs of nullable columns:

- InternetSalesTargets and InternetSales
- ResellerSalesTargets and ResellerSales
- ForeignSalesTargets and ForeignSales

The table also contains three NOT NULL key columns. A large number of records are inserted on a daily basis into the SalesDetails table.

Summary reports are generated from the SalesDetails table. Each report is based on aggregated data from any one of the pairs of nullable columns.

You need to design a view or views to meet the following requirements:

- The SalesDetails table cannot be directly modified.
- The performance of the reports is maximized.
- The amount of storage space for each report is minimized.

What should you do?

- ☐ A. Create an indexed view from the SalesDetails table that contains aggregated data of all the columns required by all the reports.
- ☐ B. Create multiple Report tables from the SalesDetails table so that each Report table contains aggregated data of only the columns required by the respective report. Create views on top of each of the Report tables.

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Question 47 of 50 ☐ Mark for review or comment

ForeignKeysTargets and ForeignKeys

The table also contains three NOT NULL key columns. A large number of records are inserted on a daily basis into the SalesDetails table.

Summary reports are generated from the SalesDetails table. Each report is based on aggregated data from any one of the pairs of nullable columns.

You need to design a view or views to meet the following requirements:

- The SalesDetails table cannot be directly modified.
- The performance of the reports is maximized.
- The amount of storage space for each report is minimized.

What should you do?

- ☐ A. Create an indexed view from the SalesDetails table that contains aggregated data of all the columns required by all the reports.
- ☐ B. Create multiple Report tables from the SalesDetails table so that each Report table contains aggregated data of only the columns required by the respective report. Create views on top of each of the Report tables.
- ☐ C. Create multiple indexed views from the SalesDetails table so that each view contains aggregated data of only the columns required by the respective report.
- ☐ D. Perform a quick transfer of aggregated new records to a staging table at the end of each month. Create an indexed view from the staging table that contains aggregated data of all the columns required by all the reports.

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Question 48 of 50 ☐ Mark for review or comment

You are a database developer. You develop solutions by using SQL Server 2008 in an enterprise environment.

You plan to create a stored procedure that queries a sales table and produces forecast data.

You do not have administrative permissions, and you are not the owner of the database. You have permissions to create stored procedures. Users will only have permissions to execute your stored procedures.

You need to ensure that users can execute the stored procedures.

What should you do?

- ☐ A. Set the **TRUSTWORTHY** property of the database to **ON**.
- ☐ B. Include a **SETUSER** statement before you query the sales table in each stored procedure.
- ☐ C. Include an EXECUTE AS CALLER clause when you create each stored procedure.
- ☐ D. Include an EXECUTE AS OWNER clause when you create each stored procedure.

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Question 49 of 50 ☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

There are two schemas named Sales and Marketing. You are the owner of the Sales schema and the Marketing schema is owned by a user named MarketingUser.

Users of the Marketing schema do not have permissions to access the Sales schema. You have permissions to create objects in all schemas in the database.

The Sales schema has a table named Customers.

You plan to create a stored procedure in the Marketing schema for the marketing team. The stored procedure will select data from the Customers table and will be owned by MarketingUser.

You need to ensure that the marketing team is able to execute the stored procedure.

What should you do?

- ☐ A. Create the procedure by using the **EXECUTE AS USER=MarketingUser** option.
- ☐ B. Create the procedure by using the **EXECUTE AS SELF** option.
- ☐ C. Create the procedure by using the **EXECUTE AS CALLER** option.
- ☐ D. Create the procedure by using the **EXECUTE AS OWNER** option.

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Question 50 of 50 ☐ Mark for review or comment

You are a database developer. You plan to design a database solution by using SQL Server 2008.

The database will contain a view. The view will contain a computed column that will be indexed. The computed column will use a user-defined scalar function. The function will perform complex mathematical manipulations using random generated **float** numeric values.

You need to identify the appropriate function to use to generate random values.

Which function should you use?

- ☐ A. a deterministic common language runtime (CLR) scalar-valued function
- ☐ B. a deterministic Transact-SQL table-valued function
- ☐ C. a nondeterministic Transact-SQL table-valued function to generate random values
- ☐ D. a nondeterministic common language runtime (CLR) scalar-valued function

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