Perform Administration by Using T-SQL (10-15%)

Some important T-SQL commands for the exam:

SHOWPLAN:

The SHOWPLAN command is used to look at the query execution plan.

- For more information on the GRANT command, you can visit the following URL: https://docs.microsoft.com/en-us/sql/t-sql/statements/grant-database-permissions-transact-sql?view=sql-server-ver15

GRANT VIEW DEFINITION TO:

The GRANT VIEW DEFINITION TO command is used to gives access to see the definition of an existing view.

- For more information on the GRANT command, you can visit the following URL: https://docs.microsoft.com/en-us/sql/t-sql/statements/grant-database-permissions-transact-sql?view=sql-server-ver15

GRANT VIEW DATABASE STATE TO:

This command is used to allow to view the state of a database.

- For more information on the GRANT VIEW DATABASE STATE TO command, you can visit the following URL: https://docs.microsoft.com/en-us/sql/t-sql/statements/grant-database-permissions-transact-sql?view=sql-server-ver15

GRANT SELECT TO:

The SELECT command is used to grant the permission to view the data within tables.

- For more information on the GRANT command, you can visit the following URL: https://docs.microsoft.com/en-us/sql/t-sql/statements/grant-database-permissions-transact-sql?view=sql-server-ver15

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BACKUP DATABASE:

Backs up a complete SQL Server database to create a database backup, or one or more files or filegroups of the database to create a file backup.

- For more information on the BACKUP DATABASE command, you can visit the following URLs: https://docs.microsoft.com/en-us/sql/t-sql/statements/backup-transact-sql?view=sql-server-ver15 https://techcommunity.microsoft.com/t5/azure-sql-blog/native-database-backup-in-azure-sql-managed-instance/ba-p/386154

RESTORE:

The RESTORE command is used to restore an entire -and partial database, files, pages, transaction log and revert a db to a point in time.

- For more information on the RESTORE command, you can visit the following URL: https://docs.microsoft.com/en-us/sql/t-sql/statements/restore-statements-transact-sql?view=sql-server-ver15

REPLACE:

The REPLACE option overrides several important safety checks that RESTORE normally performs.

- For more information on the REPLACE command and safety checks, you can visit the following URL: https://docs.microsoft.com/en-us/sql/t-sql/statements/restore-statements-transact-sql?view=sql-server-ver15#REPLACEoption

Some important DMVs for the exam:

Sys.database:

This view is used to get information about the database. It can't be used to get the empty space for each database file.

- For more information on the sys.database view, you can visit the following URL:

  https://docs.microsoft.com/en-us/sql/relational-databases/system-catalog-views/sys-databases-transact-sql

Sys.database_files:

This command can be used to get the amount of empty space for each database file.

- For more information on the sys.database view, you can visit the following URL:

https://docs.microsoft.com/en-us/sql/relational-databases/system-catalog-views/sys-database-files-transact-sql

Sys.database_mirroring:

This command is used to get information about the mirroring status of databases.

- For more information on the sys.database_mirroring view, you can visit the following URL:

  https://docs.microsoft.com/en-us/sql/relational-databases/system-catalog-views/sys-database-mirroring-transact-sql?view=sql-server-ver15

DBCC

DBCC CHECKDB:

Checks the logical and physical integrity of all the objects in the specified database.

- Some important arguments:
    - **REPAIR_FAST**: Maintains syntax for backward compatibility only. No repair actions are performed.
    - **REPAIR_ALLOW_DATA_LOSS**: Tries to repair all reported errors. These repairs can cause some data loss.
    - **NOINDEX**: Specifies that intensive checks of non-clustered indexes for user tables should not be performed. This decreases the overall execution time. NOINDEX does not affect system tables because integrity checks are always performed on system table indexes.
    - **PHYSICAL_ONLY**: Limits the checking to the integrity of the physical structure of the page and record headers and the allocation consistency of the database. This check is designed to provide a small overhead check of the physical consistency of the database, but it can also detect torn pages, checksum failures, and common hardware failures that can compromise a user's data.
- For more information on the T-SQL commands for DBCC CHECKDB, you can visit the following URL:

https://docs.microsoft.com/en-us/sql/t-sql/database-console-commands/dbcc-checkdb-transact-sql?view=sql-server-ver15