**Course Name: .Net 6 Core Entity Framework: How-To Guide For Professionals**

*NOTE: Mark the correct answers with Yellow highlight*

**Chapter Number 6 – Advanced Framework Concepts**

1. What is the best way to create and access database views, and why?

a. Create the views in the database and then map a class to the view in the same way you map to database tables.

Reason – Incorrect; you should include the definition of the view within a migration so that the framework can determine if it needs to be created and provide the correct syntax to create or drop it.

b. Create the required view in the database and a stored procedure to access it and handles query parameters.

Reason – Incorrect; you do not need stored procedures as a proxy to access sql views.

c. Embed the definition of the view within the Up phase of a migration; drop the view in the Down phase of the migration. Use subsequent migrations to refine or fix invalid sql view statements.

Reason – Incorrect; this does not ensure your sql statement is valid since it is embedded as a string and then applied to the database via the migration process.

d. Use SSMS to validate and verify the ‘Create’ and ‘Drop’ of the view, and then generate an empty migration and place the verified sql statements as strings into the Up / Down methods and invoke the migration. You can then we can create a class which maps to the view and its member elements to class properties (as we do for tables).

Reason – Correct; validating sql view definitions before attempting to encapsulated their definition in a migration will speed development (no trial and error within migrations), enable the creation and dropping of the view automatically when the entity framework creates synchronization scripts. From that point, it is just like a table where we create the supporting class and member properties that map to the view columns.

2. How can you reverse engineer an existing database into mapped classes and their associated properties?

a. By using a special migration command, the ***Scaffold-Migration*** package manager command to generate a migration that contains the schema definition and generates the mapped classes.

Reason – Incorrect; there is no such migration command.

b. By employing the ***Scaffold-DbContext*** package manager command to access the database schema at design time to generate classes with properties that map to database entities.

Reason – Correct; Scaffolding is the mechanism used to reverse engineer database schema entities into models (classes and their properties).

c. You must create class definitions for all existing database entities, then create an empty migration to contain custom crafted mappings using the Fluent API and the Up / Down methods of the empty migration.

Reason – Incorrect; entities are created and destroyed when a migration script executes – migrations are not used to map to existing entities.

d. You cannot reverse engineer existing databases in .net core entity framework.

Reason – Incorrect; databases can be designed and build independent of the application code, where scaffolding is used to keep the class mappings in synch with the database structures. In this scenario, migrations are not used.

3. The Repository Pattern …

a. performs as the intermediary between domain model layers (business concepts) and the data mapping to persistent storage.

Reason – Correct – Client object declaratively build queries and send them to the repository for answers, encapsulating the set of objects stored in the database and provide operation to perform on them.

b. Is used by the .net entity framework to generate migrations; it defines sql statements used to create and drop database entities they map too.

Reason – Incorrect; it is a design pattern, a concept that you can choose to employ to improve data access through a consistent set of data access logic.

c. Is used to cache database instances in-memory for improved retrieval performance.

Reason – Incorrect; it is not related to caching of data.

d. Is the structure of data tables and views, and their relationships (also known as the Schema).

Reason – Incorrect; it is a software coding design concept, and has nothing to do with database desgin.

4. The Unit-Of-Work Pattern …

a. Encapsulate atomic database operations and perform intermediary updates to keep database in sync with application state changes.

Reason – Incorrect; it is a design pattern, a concept that you can choose to employ in your code.

b. Is used by the .net entity framework to generate migrations; it defines sql statements used to create and drop database entities they map too.

Reason – Incorrect; it is a design pattern, a concept that you can choose to employ to improve data manipulation through database transactions.

c. is used to perform one or more operations to one or more database entities as a single transaction, where all changes must be completed successfully or no changes are done at all.

Reason – Correct; it is intended to map to sql database transactions, where changes are done within an atomic operation or none are completed (all or nothing).

d. Is used within the migration generated logic to keep changes to database structures in synch with mapped classes.

Reason – Incorrect; it has nothing to do with migrations.

5. What is pagination and how to achieve it?

a. using the Page() method on the IQueryable interface, it is used to only return the rows of data that can be readily consumed by the application.

Reason – Incorrect; there is no Page() method – it is achieved through the combination of Skip() and Take() methods.

b. using Skip() and Take() methods to return only the data that can be viewed at one time by the end-user interface (application form) without incurring the overhead of accessing and return rows of data that are not immediately used.

Reason – Correct – using these methods, only the rows that satisfy a single page of results are returned and processed by each layer of the application.

c. using the Take() method on retrieved result to only display a subset of the rows of data to the end-user (application).

Reason – Incorrect; Skip() must also be used to move the reference point of the first row returned.

d. it is the presentation of subsets of returned data, and it is achieved by loading all the results into memory and moving a “reference window” through the complete dataset.

Reason – Incorrect; while technically true, this is a very poor implementation since the entire dataset is loaded into memory which may never be accessed and could potentially crash the application (due to memory constraints).