

LINQ and EF

Name: _____ Mail Id : _____

Date: _____

Total Marks : 30

Duration : 45 min

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Part A: LINQ

1. What does LINQ stand for?

- a) Language Inquisition
- b) Logical Inquisition
- c) Language Integrated Query
- d) Linguistic Intelligence Query

2. Which LINQ operator is used to filter data based on a specified condition?

- a) Select
- b) GroupBy
- c) Where
- d) OrderBy

3. What does the following express evaluate to?

```
string[] colors = {"green","brown","blue","red"};  
colors.Max(c => c.Length);
```

- a. 5
- b. green
- c. brown
- d. compile-time error
- e. Exception thrown

4. What does this express evaluate to?

```
string[] colors = {"green","brown","blue","red"};  
colors.OrderBy(c => c.Length).Single();
```

- a. 3
- b. red
- c. Compile-time error
- d. Exception thrown

5. What's the output from the following?

```
string[] colors = {"green","brown","blue","red"};
var query = from c in colors
where c.Length == colors.Max(cc => cc.Length)
select c;
```

```
foreach(var element in query)
    Console.WriteLine(element);
```

- a. green followed by brown
- b. 5 followed by 5
- c. Compile-time error
- d. Exception is thrown

6. What is deferred execution in LINQ?

- a) The process of executing a query immediately when it's defined.
- b) The process of delaying query execution until the query result is actually enumerated.
- c) The process of executing a query without any condition.
- d) The process of executing a query asynchronously.

7. Which LINQ operator is used to project each element of a sequence into a new form?

- a) Where
- b) GroupBy
- c) Select
- d) Aggregate

8. Which method is used to combine two sequences in LINQ?

- a) Join
- b) Concat
- c) Intersect
- d) Merge

9. In LINQ, what does "IQueryable" represent?

- a) An interface that supports querying over a collection.
- b) A type that represents a collection of data that can be queried.
- c) A method for executing immediate queries on a database.
- d) A class for asynchronous querying over network resources.

10. Which LINQ operator is used to perform grouping of elements based on a key?

- a) GroupBy
- b) Group
- c) PartitionBy

d) CategorizeBy

11. Which LINQ operator is used to sort elements in ascending or descending order?

- a) SortBy
- b) OrderBy
- c) ArrangeBy
- d) SequenceBy

12. What is the purpose of the "Distinct" operator in LINQ?

- a) It filters out null values from a sequence.
- b) It removes duplicate elements from a sequence.
- c) It groups elements based on a specified key.
- d) It performs a cross-join operation between two sequences.

13. C# 3.0 offers which new keyword that allows us to declare a local variable without having to specify its type explicitly

- a. dim
- b. variable
- c. var
- d. local

14. Which feature of C# 3.0 allow us to add methods to a type after it has been defined.

- a. Static Methods
- b. Lambda Expressions
- c. Extension Methods
- d. Anonymous Methods

15. In order to transform our static method to an extension method, all we have to do is add the this keyword to the first parameter.

- a. True
- b. False

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Part B: Entity Framework

16. What is Entity Framework Core?

- a) A text editor
- b) A programming language
- c) An Object-Relational Mapping (ORM) framework
- d) A web server

17. In Entity Framework Core, what is a DbContext?

- a) A class that represents the database schema
- b) A class that handles database connections and operations
- c) A class that defines the user interface
- d) A class that defines authentication and authorization rules

18. Which command is used to create migrations in Entity Framework Core using PM console?

- a) PM> update-database
- b) PM> create-migration create
- c) PM> add-migration add
- d) PM> enable-migration

19. Using Code First model, how can you mark a field/property as the primary key if it does not follow the code first convention?

- a. [PrimaryKey]
- b. [Key]
- c. [EFKey]
- d. [DBKey]

20. How do you mark a property as required?

- a. [Required]
- b. [NotNull]
- c. [Mandatory]
- d. none of the above

21. How can you enable explicit loading of related entities in Entity Framework Core?

- a) By using the AsNoTracking() method
- b) By setting the LazyLoadingEnabled property to false
- c) By using the Include() method with navigation properties
- d) Explicit loading is not supported in Entity Framework Core

22. What is "Lazy Loading" in Entity Framework Core?

- a) Loading related entities only when explicitly requested
- b) Loading all entities eagerly as soon as the DbContext is created
- c) Loading only a subset of columns from the database
- d) Loading entities in a deferred manner using raw SQL queries

23. Which of the following is NOT TRUE about the Entity Framework?

- a) It automatically generates the classes from the model and updates these classes dynamically when the model is changed.
- b) It takes care of database connectivity.
- c) It provides query syntax for querying the model.
- d) It does not provide any mechanism to track changes to the model's objects.

24. With Entity Framework, the queried data is returned as rows and columns or data table records.

- a. true
- b. false

25. In Entity Framework Core, what is the purpose of the "Fluent API"?

- a) To write SQL queries directly
- b) To configure entity relationships and constraints
- c) To define user interface layouts
- d) To manage database transactions

26. How can you execute raw SQL queries in Entity Framework Core?

- a) Using the ExecuteSqlCommand() method
- b) Using the RawQuery() method
- c) Using the Query() method
- d) Entity Framework Core does not support raw SQL queries

27. In Entity Framework Core, what is "Shadow Property"?

- a) A property that stores sensitive information
- b) A property without a corresponding database column
- c) A property used for encryption of data
- d) A property used for complex calculations

28. How can you implement a many-to-many relationship in Entity Framework Core?

- a) By creating a junction table and mapping two one-to-many relationships
- b) By using a stored procedure to manage the relationship
- c) Entity Framework Core does not support many-to-many relationships
- d) By using the Include() method with navigation properties

29. What is "Change Tracking" in Entity Framework Core?

- a) Keeping track of data modifications using version control
- b) Tracking changes to entities and automatically generating SQL statements
- c) Tracking changes to the database schema during migrations
- d) Tracking user interactions in the application

30. How can you execute stored procedures using Entity Framework Core?

- a) By using the FromSqlRaw() method
- b) By directly calling the stored procedure using SQL commands
- c) Entity Framework Core does not support execution of stored procedures
- d) By using the ExecuteStoredProcedure() extension method

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