Q 1) Difference Between Static class and singleton class

* Singleton Objects stored on heap while static class stored in stack.
* Singleton Objects can have constructor while Static Class cannot.
* Singleton Objects can dispose but not static class.
* Singleton Objects can clone but not with static class.

Q 2) Deferred and Immediate in LINQ

Deferred/Lazy Operators

Query is not executed at the point of its declaration. Query is executed at the point of its declaration.

Projection Operator – Select, Select Many

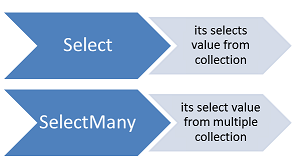
Immediate/Greedy Operators

Restriction Operator – Where Paging Operator – Take, Skip

Aggregate Functions – Count, Average, Min, Max, Sum

Element Operators – First, Last, SingleToList, ToArray, ToDictionary

Q 3) Select and Select Many in LINQ



Select many is like [cross join operation in SQL](http://msdn.microsoft.com/en-us/library/ms190690%28v=sql.105%29.aspx) where it takes the cross product.  
For example if we have

Set A={a,b,c}

Set B={x,y}

Select many can be used to get the following set

{ (x,a) , (x,b) , (x,c) , (y,a) , (y,b) , (y,c) }

Note that here we take the all the possible combinations that can be made from the elements of set A and set B.

Here is a LINQ example you can try

List<string> animals = new List<string>() { "cat", "dog", "donkey" };

List<int> number = new List<int>() { 10, 20 };

var mix = number.SelectMany(num => animals, (n, a) => new { n, a });

the mix will have following elements in flat structure like

{(10,cat), (10,dog), (10,donkey), (20,cat), (20,dog), (20,donkey)}

Q 4) Lazy loading and Eager loading

https://www.c-sharpcorner.com/article/what-is-deferred-lazy-loading-and-eager-loading/

Q 5) How to display foreign key relationship in LINQ

https://www.entityframeworktutorial.net/entity-relationships.aspx

Q 6) What do means Lambda expression

Lambda expressions in C# are used like anonymous functions, with the difference that in Lambda expressions you don’t need to specify the type of the value

that you input thus making it more flexible to use.

The ‘=>’ is the lambda operator which is used in all lambda expressions.

Q 7) How to call parallel method in C# using thread

Parallel.Invoke(() => DoSomeWork(), () => DoSomeOtherWork());

Q 8) Task and Thread

<https://www.c-sharpcorner.com/article/task-and-thread-in-c-sharp/>

Q 9) Sleep and Delay

Use Thread.Sleep when you want to block the current thread.

Use Task.Delay when you want a logical delay without blocking the current thread.

Thread.abort()

Task.cancel()

Q 10) isolation level in sql server

SET TRANSACTION ISOLATION LEVEL

READ UNCOMMITTED

BEGIN TRANSACTION MyTransaction

BEGIN TRY

UPDATE Account SET Debit=100 WHERE Name='John Cena'

UPDATE ContactInformation SET Mobile='1234567890' WHERE Name='The Rock'

COMMIT TRANSACTION MyTransaction

PRINT 'TRANSACTION SUCCESS'

END TRY

BEGIN CATCH

ROLLBACK TRANSACTION MyTransaction

PRINT 'TRANSACTION FAILED'

END CATCH

Q 11) Factory and Abstract Factory Pattern

Q 12) Func and Action in delegate

Q 13) benefits of anyomous function

Q 14) Benefits of Delegate