

ANSWERS TO CSHARP TEST FOR BEEYE COMPANY

1i) When variables with String type are declared, they are given default String value of null, thereby making variable `location` have value of null. The ternary operation:

```
Console.WriteLine(location == null ? "location is null" : location);
```

will return `"location is null"` since variable `location` is null.

ii) When variables with DateTime type are declared, they are given default Datetime value of Date: 01-Jan-01 and Time: 12:00:00 AM, thereby making variable `time` have default DateTime value. The ternary operation:

```
Console.WriteLine(time == null ? "time is null" : time.ToString());
```

will return `"01-Jan-01 12:00:00 AM"` since variable `time` is not null.

2) This function will return the average value of even number in an array:

```
static double GetAverageOfEvenNumbers(int[] array)
{
    var evenNumberCounter = 0;
    var evenNumbersTotal = 0.00;
    foreach (var item in array)
    {
        if (item % 2 == 0)
        {
            evenNumbersTotal += item;
            evenNumberCounter++;
        }
    }

    return evenNumbersTotal / evenNumberCounter;
}
```

3) `static void ExecutePingForUrls(string[] urls)`

```
{
    try
    {
        var roundTripsQueries = urls
            .AsParallel()
            .WithDegreeOfParallelism(42)
            .Select(url => Ping(url));
    }
    catch (Exception ex)
    {
        Console.WriteLine("Something went wrong", ex);
    }
}
```

4) The difference in the two code snippet is that in Left Hand Side, variable q is of type IQueryable which is just a query;

```
var q = from e in com.Employees
        where e.Name == "Baptiste"
        select e;
```

While on the Right Hand Side, variable q is of type List

```
var q = (from e in com.Employees
        where e.Name == "Baptiste"
        select e).ToList();
```

5) Entity Framework query for selecting list of employees born in June 1991 is as follows:

```
var listOfEmployeesBornInJune1991 = (from e in com.Employees
        where e.Birthday.Year == 1991 && e.Birthday.Month == 6
        select e).ToList();
```

6) Entity framework Query written in (5) above is translated to the SQL query written below:

```
SELECT [e].[Id], [e].[Name], [e].[Birthday] FROM [Employees] AS [e]
WHERE (DATEPART(year, [e].[ Birthday])) = 1991) AND (DATEPART(month, [e].[
Birthday])) = 6)
```

OGUDU VICTOR