This assessment is designed to test your SQL as well as C# abilities. There is no right or wrong solution we want to see how you go about solving a business problem.

To complete this assessment, you will need:

* Visual Studio
* SQL Server
* Microsoft Northwind Sample Database

The output of the assessment should be a Git repository with the source code, SQL install scripts and a doc explaining how to install and configure the various components created in the steps. If you do make any assumptions or have any comments you are welcome to include those in a text file.

**Please send us the necessary info within 5 working days.**

**Step 1 – Stored Procedure**

Write a SQL Stored Procedure (pr\_GetOrderSummary) to return a summary of orders from the data in the Northwind database. You may NOT use Dymanic SQL to solve the problem.

The results should be able to be filtered by specifying parameters:

* Date of the Order (@StartDate and @EndDate)
* Nullable Parameter to filter for a specific Employee (@EmployeeID)
* Nullable Parameter to filter for a specific Customer (@CustomerID)

The columns to be returned are:

* EmployeeFullName (TitleOfCourtesy + FirstName + LastName)
* Shipper CompanyName
* Customer CompanyName
* NumberOfOders
* Date
* TotalFreightCost
* NumberOfDifferentProducts
* TotalOrderValue

The results should be grouped by:

* Order Day (i.e. grouped by day)
* Employee
* Customer
* Shipper

**Some helpful tests:**

exec pr\_GetOrderSummary @StartDate='1 Jan 1996', @EndDate='31 Aug 1996', @EmployeeID=NULL , @CustomerID=NULL

exec pr\_GetOrderSummary @StartDate='1 Jan 1996', @EndDate='31 Aug 1996', @EmployeeID=5 , @CustomerID=NULL

exec pr\_GetOrderSummary @StartDate='1 Jan 1996', @EndDate='31 Aug 1996', @EmployeeID=NULL , @CustomerID='VINET'

exec pr\_GetOrderSummary @StartDate='1 Jan 1996', @EndDate='31 Aug 1996', @EmployeeID=5 , @CustomerID='VINET'

**Step 2 – Web API**

1. Create a C# REST API based around the game of roulette. Simple functions will need to be created, for example:

* PlaceBet
* Spin
* Payout
* ShowPreviousSpins

1. Save the PlaceBet data to a SQLite DB.

A picture containing text, roulette

Description automatically generated

**Important Notes:**

1. The requests should not be thread blocking
2. The response to the requests needs to be a JSON body
3. Implementation should follow the SOLID principals.
4. Implementations should be covered by Unit Tests
5. Implement global exception handling.
6. Your implementation should cover at least one Design Pattern.
7. You are not necessarily expected to complete the entire assessment, rather to demonstrate your approach to coding an API/stored procedure, the structure of code, etc

We recommend that you use .net5 and Dapper but feel free to use any libraries that you are comfortable with as you are not restricted to these technologies.