Coding Problem

# Preparation

The developers reviewing your solution with you will be calling on Skype (desired) or Google Hangouts (back up).  During the call, you will be sharing your screen while walking through your solution, so please ensure that you are able to do so using both Skype ***and*** Google Hangouts.

**Prior to the code review, upload your solution to GitHub or other git hosting service and, if not public, be prepared to share your repository with the reviewers at the start of your code review session.**

# Problem Description

Write a program that takes in an event type of either “Register” or “Diagnose” and prints the output specified in the rules below. Choose either the Windows or Web application path below according to your preference.

# Rules

#### Event type = “Register”

Print the numbers from one to one hundred except in the following cases:

* For multiples of three print “Register” instead of the number
* For the multiples of five print “Patient” instead of the number
* For numbers which are multiples of both three and five print “Register Patient” instead of the number

#### Event type = “Diagnose”

Print the numbers from one to one hundred except in the following cases:

* For multiples of two print “Diagnose” instead of the number
* For the multiples of seven print “Patient” instead of the number
* For numbers which are multiples of both two and seven print “Diagnose Patient” instead of the number

# Directions if You Prefer Windows Programming

Implement your solution as a WinForms or WPF application in C# using .NET 3.5 or newer.  (No console applications!)  
Focus on the following criteria when developing your solution:

* Write your code so that it is easy for one of your peers to add a new event type.
* Use of Object Oriented Principles, such as interfaces and common design patterns.
* Submission of a compiling and fully working solution.
* Correct implementation of business rules.

# Directions if You Prefer Web Programming

Implement your solution as a Microsoft MVC web application in C# using .NET 3.5 or newer.   
Focus on the following criteria when developing your solution:

* Write your code so that it is easy for one of your peers to add a new event type.
* Use of Object Oriented Principles, such as interfaces and common design patterns
* Submission of a compiling and fully working solution.
* Correct implementation of business rules

***or***

Implement your solution as a JavaScript MV\* (Angular preferred) web application.   
Focus on the following criteria when developing your solution:

* Write your code so that it is easy for one of your peers to add a new event type.
* Use of Object Oriented Principles, such as interfaces and common design patterns.
* Submission of a working and fully testable solution (a visual studio solution is preferred).
* Correct implementation of business rules.

# If You Want to Impress

#### Extra Credit Options (Windows and MVC)

If you wish to impress, adding flexibility to your program is an option:

* Use of unit tests (nunit, mstest, or similar framework) is nice.
* Event types could be built into their own DLLs and loaded dynamically from the applications configuration file.
* Anything you can think of to make an interesting and useful design addition to the program, just create a document outlining the design addition and why you chose to implement it and submit it with your program.

#### Extra Credit Options (JavaScript MV\*)

If you wish to impress, adding flexibility to your program is an option:

* Use of unit tests (nunit, mstest, or similar framework) for the windows and MVC program, or use of unit and end to end tests for the JavaScript MV\* framework (karma) is nice.
* Event types could be built into their own child directives off of a main directive providing the event type services
* Anything you can think of to make an interesting and useful design addition to the program, just create a document outlining the design addition and why you chose to implement it and submit it with your program.