*Designing and Implementing a 2-Tiers Geometric Shapes Application*

You have to create a C# Windows application to implementing different types of shapes: circle, square, rectangle, cube, sphere, and cylinder and, so on.

For the needs of this test we will be limited to 2 types of geometric shapes: circle and rectangle.

The circle shape is identified by its name, color, 2 coordinates (xCoordinate and yCoordinate) and radius.

The rectangle shape is identified by its name, color, 2 coordinates (xCoordinate and yCoordinate), width and length.

Each shape should have a unique identifier.

We must be able to move a shape in the right side, in the left side, in the upward side, in the downward side.  
Each shape should implement the moving operations: move to the right, move to the left, move to up, and move to down

We must be able to find the area and the perimeter of each shape.  
Each type of shape should implement the area and perimeter computations operations.

Each class should have its private attributes, public properties get and set, overloaded constructors, and the overridden method that displays the object’s state.

You have to calculate the area and the circumference for each type of geometric shape.  
Computations are the following:   
 1- Circle: area = PI \* radius \* radius  
 circumference = 2 \* PI \* radius

2- Rectangle: area = width \* height  
 circumference = (width + height) \* 2

TO DO:

1. Create the necessary enumerations (enum data types)
2. Define an interface IShape2D with the necessary operations
3. Create the base class
4. Create the inherited classes
5. Create a user friendly test driven application:

Implement the class Shape tester where you have to :

- Create some shapes,

- Add the shapes into a collection

- Display all shapes  
 - Remove a specific shape from the collection

- Search for a specific shape by serial number