**Assignment 5: Polymorphism, Interfaces, Virtual and Override Methods, Stacks, and Queues**

**Objective:  
In this assignment, you will apply the concepts of polymorphism, interfaces, virtual and override methods, stacks, and queues to create a race simulation program in C#.**

**Instructions:**

1. **Create a Superclass or Interface:**
   * **Define a Vehicle superclass with the following properties and methods:**
     + **Name (string)**
     + **Color (string)**
     + **Speed (int)**
     + **A method named Move() to simulate the vehicle's movement.**
2. **Create Derived Classes:**
   * **Implement four classes that inherit from the Vehicle superclass. These classes should represent different types of vehicles: Car, Bicycle, Motorbike, and Truck.**
   * **Override the Move() method in each derived class to define specific movement behavior as needed.**
   * **The Bicycle, Car, and Motorbike classes should have an additional property Acceleration (int):**
     + **Bicycle: Acceleration is negative (simulating deceleration).**
     + **Car: Positive acceleration, less than 10.**
     + **Motorbike: Positive acceleration, between 10 and 15.**
3. **Simulate a Race:**
   * **Create a queue or stack that holds instances of these vehicle objects.**
   * **Instantiate one object of each vehicle type and place them in the queue or stack.**
   * **Each vehicle object should have a name, color, and speed.**
   * **The Car, Motorbike, and Bicycle objects should also have acceleration.**
   * **Use a progress bar to represent the movement of each vehicle:**
     + **The progress bar’s color should match the vehicle’s color.**
     + **The progress bar’s label should be set to the vehicle’s name.**
     + **The progress bar’s progress should increase according to the vehicle's speed.**
     + **For vehicles with acceleration, the progress bar's value should change according to the formula: value += speed + ½ \* acceleration.**
     + **For vehicles without acceleration, the progress bar's value should change according to the formula: value += speed.**
4. **Start and Reset the Race:**
   * **Add a button to the form that, when clicked, starts the race. The vehicles will move based on their speed and acceleration, and the first vehicle to reach the end of the progress bar wins the race.**
   * **Add a reset button that, when clicked, will reset all progress bars and allow the race to be started again.**
5. **Submission:**
   * **Submit the complete C# project, including all source files and a brief explanation of your implementation.**

**Evaluation Criteria:**

* **Correct implementation of the classes.**
* **Appropriate overriding of the Move() method in each class.**
* **Smooth and realistic movement of each vehicle.**
* **Correct functionality and error-free execution of the program.**
* **Proper use of WinForms to display the race.**
* **Attention to SWAG (Style, Aesthetics, and General Appeal)**