C# exercise

This exercise is about the controller logic, **not about the UI**.

If an UI is used, it should only be for functional testing.

Microwave oven controller: a simple microwave oven, it has:

- A heater – Can be turned on or off
- A door – Can be opened and closed by user
- A start button – Can be pressed by the user
- An interior light

User stories:

- When I open the door the interior light is on.
- When I close the door the interior light turns off.
- When I open door the heater stops if running.
- When I press start button when door is open nothing happens.
- When I press start button when door is closed the heater runs for 1 minute.
- When I press start button when door is closed and already heating the remaining time increases with 1 minute.

Any additional requirements that may be missed can be assumed by you.

The hardware of the unit is controlled using this interface:

```
/// <summary>
/// Interface to the Microwave oven hardware
/// </summary>
public interface IMicrowaveOven
{
    /// <summary>
    /// Turns on the Microwave heater element
    /// </summary>
    void TurnOnHeater();

    /// <summary>
    /// Turns off the Microwave heater element
    /// </summary>
    void TurnOffHeater();

    /// <summary>
    /// Indicates if the door to the Microwave oven is open or closed
    /// </summary>
    bool DoorOpen { get; }

    /// <summary>
    /// Signal if the Door is opened or closed,
    /// </summary>
    event Action<bool> DoorOpenChanged;

    /// <summary>
    /// Signals that the Start button is pressed
    /// </summary>
    event EventHandler StartButtonPressed;
}
```