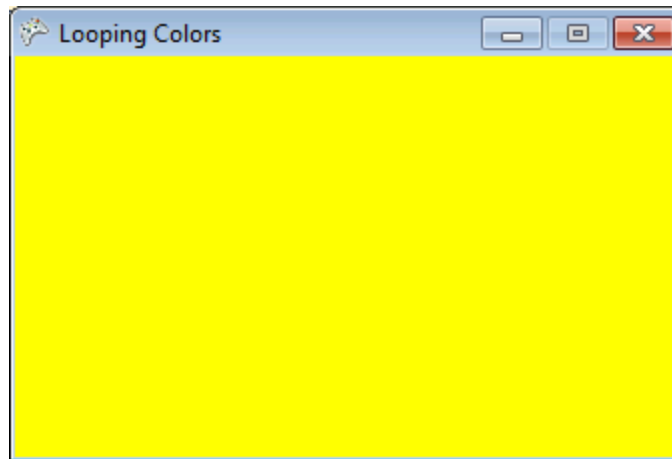


Chapter Two Activity (Looping Colors)

In this activity, the student will create a new game project that will cause the game screen to change colors every second. This program will teach the student how to update a game window at a specific interval.

Game Screen

The game screen should show a solid color that changes once a second. Students may choose the specific colors.



Code Required to Complete this Activity

The student will begin by adding two new variables at the top of the **LoopingColor** class definition. Students will choose the variable names, so they do not need to match our examples below:

```
public class LoopingColor : Microsoft.Xna.Framework.Game
{
    // declare an array of colors
    private Color[] backgroundColors;

    // declare an integer index into the array
    int currentColor;
```

Next, in the **Initialize()** method, the student will set the frequency of the **Update()** call to one second:

```
protected override void Initialize()
{
    this.TargetElapsedTime = TimeSpan.FromSeconds(1.0f);
}
```

Also in the **Initialize()** method, the student will fill out the array of background colors with any **Colors** of their choosing and initialize their current color index variable to 0:

```
// initialize an array of length 5 with a variety of colors
backgroundColors = new Color[5]
    {Color.Red, Color.Blue, Color.Yellow, Color.Violet, Color.PapayaWhip};

// set the current color index to 0
currentColor = 0;
```

The student will then add some code to the **Update()** method to change the current color index:

```
protected override void Update(GameTime gameTime)
{
    // move on to the next color
    currentColor++;

    // if the index is past the end of the array
    if (currentColor >= backgroundColors.Length)
    {
        currentColor = 0; // reset back to the beginning of the array!
    }
}
```

Finally, the student will change one line in the **Draw()** method to the following:

```
protected override void Draw(GameTime gameTime)
{
    GraphicsDevice.Clear(backgroundColors[currentColor]);
}
```

When run, the program should cycle through the array of colors once per second, showing that color as a solid background in the program window.

The completed project for this activity is located in the “Activity Solutions\Looping Colors” folder underneath the Solution Files installation directory.