

Name: **Session:**
Programming II
Lab Exercise 3/11/2021

Space Invaders

In this lab exercise, you will build a classic video game; Space Invaders. Start by creating a Form that looks like this:



1. After your interface is created, add the following global variables to your code:
`int value;`
`string score;`
`int lives;`
2. Set the following timer1 properties:
`Enabled = True`
`Interval = 300`
3. Add the following to the Form1_Load event:
`value = 0;`
`score = "Score: " + value.ToString();`
`lives = 10;`

4. Add the following code to the timer1_Tick event:

```
PictureBox1.Top += 20;
PictureBox2.Top += 20;
PictureBox3.Top += 20;
PictureBox4.Top += 20;
PictureBox5.Top += 20;
checkLanded();
updateScore();
if (lives < 0)
{
    timer1.Enabled = false;
    lblOver.Text = "Game\n" + "Over";
}
```

5. Write the checkLanded() and updateScore() functions.

```
public void checkLanded()
{
    if (PictureBox1.Top >= 344)
    {
        value -= 5;
        PictureBox1.Top = 0;
        score = "Score: " + value.ToString();
        lives--;
    }

    if (PictureBox2.Top >= 344)
    {
        value -= 5;
        PictureBox2.Top = 0;
        score = "Score: " + value.ToString();
        lives--;
    }

    if (PictureBox3.Top >= 344)
    {
        value -= 5;
        PictureBox3.Top = 0;
        score = "Score: " + value.ToString();
        lives--;
    }
}
```

```

        if (PictureBox4.Top >= 344)
        {
            value -= 5;
            PictureBox4.Top = 0;
            score = "Score: " + value.ToString();
            lives--;
        }

        if (PictureBox5.Top >= 344)
        {
            value -= 5;
            PictureBox5.Top = 0;
            score = "Score: " + value.ToString();
            lives--;
        }
    }

    public void updateScore()
    {
        lblScore.Text = score;
    }

```

6. Now write the PictureBox click event handlers as such

```

private void PictureBox1_Click(object sender, EventArgs e)
{
    PictureBox1.Top = 0;
    value += 1;
    score = "Score: " + value.ToString();
}

```

This example is for PictureBox1. You will have to add similar code to PictureBox1_Click, PictureBox2_Click, PictureBox3_Click, PictureBox4_Click, and PictureBox5_Click.

7. Once you have your game working, add Start, Stop, and Reset buttons.
8. Add a ProgressBar (value 0 to 100) control to keep track of your health and caused your game to end when you get to a 0 value on the progress bar. Each landing should cost the player 10 points on their progress bar.

When you have completed your game, submit a screen shot of your running game and attach to this sheet and turn in.