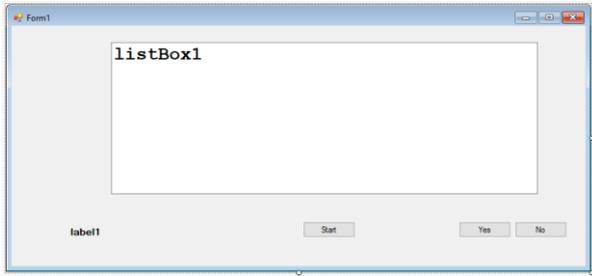The six tables

The design

The 1. table


```
 1   3   5   7   9  11  13  15
17  19  21  23  25  27  29  31
33  35  37  39  41  43  45  47
49  51  53  55  57  59  61  63
```

Is the number you are thinking on in this table ?   Start   Yes   No

The 2. table


```
 2   3   6   7  10  11  14  15
18  19  22  23  26  27  30  31
34  35  38  39  42  43  46  47
50  51  54  55  58  59  62  63
```

Is the number you are thinking on in this table ?   Start   Yes   No

The 3. table


```
 4   5   6   7  12  13  14  15
20  21  22  23  28  29  30  31
36  37  38  39  44  45  46  47
52  53  54  55  60  61  62  63
```

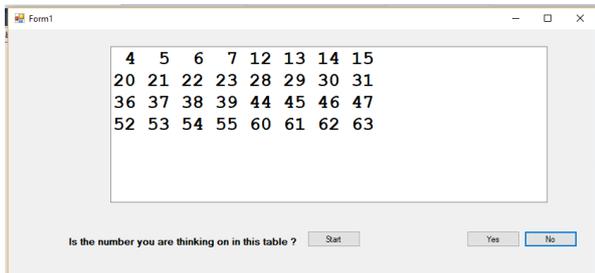Is the number you are thinking on in this table ?   Start   Yes   No
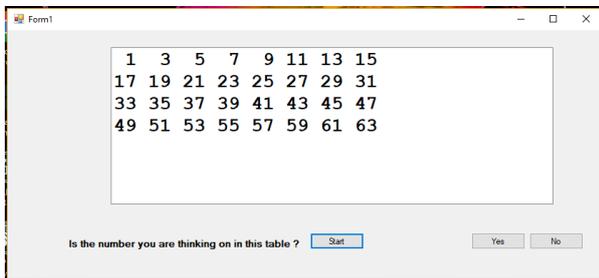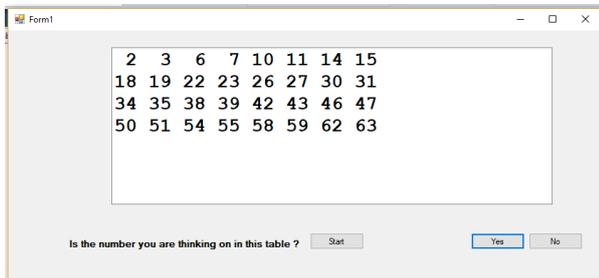
The 4. table

```
 8   9 10 11 12 13 14 15
24 25 26 27 28 29 30 31
40 41 42 43 44 45 46 47
56 57 58 59 60 61 62 63
```

Is the number you are thinking on in this table ?   [Start]   [Yes] [No]

The 5. table

```
16 17 18 19 20 21 22 23
24 25 26 27 28 29 30 31
48 49 50 51 52 53 54 55
56 57 58 59 60 61 62 63
```

Is the number you are thinking on in this table ?   [Start]   [Yes] [No]

The 6. table

```
32 33 34 35 36 37 38 39
40 41 42 43 44 45 46 47
48 49 50 51 52 53 54 55
56 57 58 59 60 61 62 63
```

Is the number you are thinking on in this table ?   [Start]   [Yes] [No]

The result

```
You were thinking of 41
```

Is the number you are thinking on in this table ?   [Start]   [Yes] [No]

```csharp
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;

namespace _2A_win_63numbers
{
    public partial class Form1 : Form
    {
        // Global variables
        int number; // number used to make the tables 1, 2, 4, 8, 16, 32
        int result = 0; // we add all the numbers where there was a yes

        public Form1() // the function that runs every time the program is started
        {
            InitializeComponent(); // building up the form
            label1.Text = "Please think of a number between 1 and 64"; //text
        }

        private void button1_Click(object sender, EventArgs e)
        {
            // the start button
            number = 1; //set the number to 1 for the first table
            result = 0; // reset the result
            label1.Text = "Is the number you are thinking on in this table ?";
            maketable(); // call the function to make a table

        }

        private void button2_Click(object sender, EventArgs e)
        {
            // yes
            result += number; // add the number to result
            number = number * 2; // get next number 2, 4, 8, 16, 32
            maketable(); // call the function to get the next table

        }

        private void button3_Click(object sender, EventArgs e)
        {
            // no
            number = number * 2; // get next number
            maketable(); // call the function to make the next table
        }
        private void maketable() // function to make a table
        {
            int count = 1; // used to count numbers in each line
            string str = ""; // string to create the line
            listBox1.Items.Clear(); // clear the listbox
            if (number == 64) // then game over
            {
                listBox1.Items.Add(""); // to show the result
                listBox1.Items.Add("");
                listBox1.Items.Add("");
                if(result==0)
```

```csharp
                    listBox1.Items.Add(" You are not old enough for this game");
                else
                    listBox1.Items.Add(" You were thinking of " + result.ToString());
            }
            else
            { // here we are making the next table
                for (int i = 1; i < 64; i++) //The loop 1 to 63
                {
                    if ((i & number) == number) // if bitwise and is true
                    {// Then print the current i
                        if (i < 10) // if i<10 add a space
                            str += " ";
                        str += i + " "; // add the number i and a space
                        count++; // increment count by one
                        if (count == 9) // if we have 8 numbers in row
                        {
                            count = 1; // reset the count
                            listBox1.Items.Add(str); //list the line
                            str = ""; // clear the str , ready for a new line
                        }
                    }
                }
            }
        }
    }
}
```