```
<Window x:Class="Oef14_21_22_23_Zoekmethoden.MainWindow"</pre>
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xam1"
        Title="Oef14.21-23 Duur zoekmethoden" Height="350" Width="525">
    <Grid>
        <TextBlock HorizontalAlignment="Left" Margin="40,40,0,0"
                   Text="Sleutel:" VerticalAlignment="Top"/>
        <TextBox HorizontalAlignment="Left" Height="23" Margin="104,39,0,0"
                 Name="keyTextBox" Text="Vak999999" VerticalAlignment="Top"
Width="120"/>
        <Button Content="Zoek 1" HorizontalAlignment="Left" Margin="273,43,0,0"</pre>
                VerticalAlignment="Top" Width="75"
                Name="zoek1Button" Click="zoek1Button_Click"/>
        <TextBlock HorizontalAlignment="Left" Margin="379,45,0,0"</pre>
                   Text="(dictionary)" VerticalAlignment="Top"/>
        <Button Content="Zoek 2" HorizontalAlignment="Left" Margin="273,81,0,0"</pre>
              VerticalAlignment="Top" Width="75"
              x:Name="zoek2Button" Click="zoek2Button_Click"/>
        <TextBlock HorizontalAlignment="Left" Margin="380,82,0,0"</pre>
              Text="(array)" VerticalAlignment="Top"/>
        <Button Content="Zoek 3" HorizontalAlignment="Left" Margin="273,119,0,0"</pre>
              VerticalAlignment="Top" Width="75"
              x:Name="zoek3Button" Click="zoek3Button_Click"/>
        <TextBlock HorizontalAlignment="Left" Margin="380,120,0,0"
              Text="(list)" VerticalAlignment="Top"/>
        <TextBox HorizontalAlignment="Left" Height="116" Margin="40,160,0,0"
                 Name="resultTextBox" VerticalAlignment="Top" Width="308"/>
    </Grid>
</Window>
public class Vak
        public string Naam { get; set; }
        public string Docent { get; set; }
        public int Uren { get; set; }
        public Vak(string naam, string docent, int uren)
            Naam = naam;
            Docent = docent;
            Uren = uren;
        }
}
public partial class MainWindow : Window
        private const int MaxLength = 1000000;
        private DateTime startTime;
        private Dictionary<string, Vak> vakDictionary;
        private Vak[] vakArray;
        private List<Vak> vakList;
        public MainWindow()
            InitializeComponent();
```

```
vakDictionary = new Dictionary<string, Vak>();
    vakArray = new Vak[MaxLength];
    vakList = new List<Vak>();
    for (int i = 0; i < MaxLength; i++)</pre>
    {
        vakDictionary.Add("Vak" + i, new Vak("Vak" + i, "Docent" + i, 5));
        vakArray[i] = new Vak("Vak" + i, "Docent" + i, 5);
        vakList.Add(new Vak("Vak" + i, "Docent" + i, 5));
    }
}
// Dictionary
private void zoek1Button_Click(object sender, RoutedEventArgs e)
    StartChronometer();
    string key = keyTextBox.Text;
    if (vakDictionary.ContainsKey(key))
    {
        Vak vak = vakDictionary[key];
        ToonVak(vak);
    }
    else
    {
        MessageBox.Show("Vak: " + key + " niet gevonden.");
    StopChronometer();
}
// Array
private void zoek2Button_Click(object sender, RoutedEventArgs e)
{
    StartChronometer();
    string key = keyTextBox.Text;
    int index = 0;
    bool found = false;
    while (index < vakArray.Length && !found)</pre>
    {
        if (key == vakArray[index].Naam)
            ToonVak(vakArray[index]);
            found = true;
        index++;
    }
    StopChronometer();
    if (!found)
        MessageBox.Show("Vak: " + key + " niet gevonden.");
}
// List
private void zoek3Button_Click(object sender, RoutedEventArgs e)
    StartChronometer();
```

```
string key = keyTextBox.Text;
            int index = 0;
            bool found = false;
            while (index < vakList.Count && !found)</pre>
                if (key == vakList[index].Naam)
                {
                    ToonVak(vakList[index]);
                    found = true;
                index++;
            }
            StopChronometer();
            if (!found)
            {
                MessageBox.Show("Vak: " + key + " niet gevonden.");
            }
        }
        private void StartChronometer()
            startTime = DateTime.Now;
        }
        private void StopChronometer()
            TimeSpan timeSpan = DateTime.Now - startTime;
            string line = String.Format("Duur: {0} sec en {1} msec.",
                                         timeSpan.Seconds, timeSpan.Milliseconds);
            MessageBox.Show(line);
        }
        private void ToonVak(Vak vak)
            resultTextBox.Clear();
            resultTextBox.AppendText("Vakgegevens voor " + vak.Naam);
            resultTextBox.AppendText(Environment.NewLine);
            resultTextBox.AppendText(Environment.NewLine);
            resultTextBox.AppendText("Docent: " + vak.Docent);
            resultTextBox.AppendText(Environment.NewLine);
            resultTextBox.AppendText("Uren: " + vak.Uren);
        }
}
```