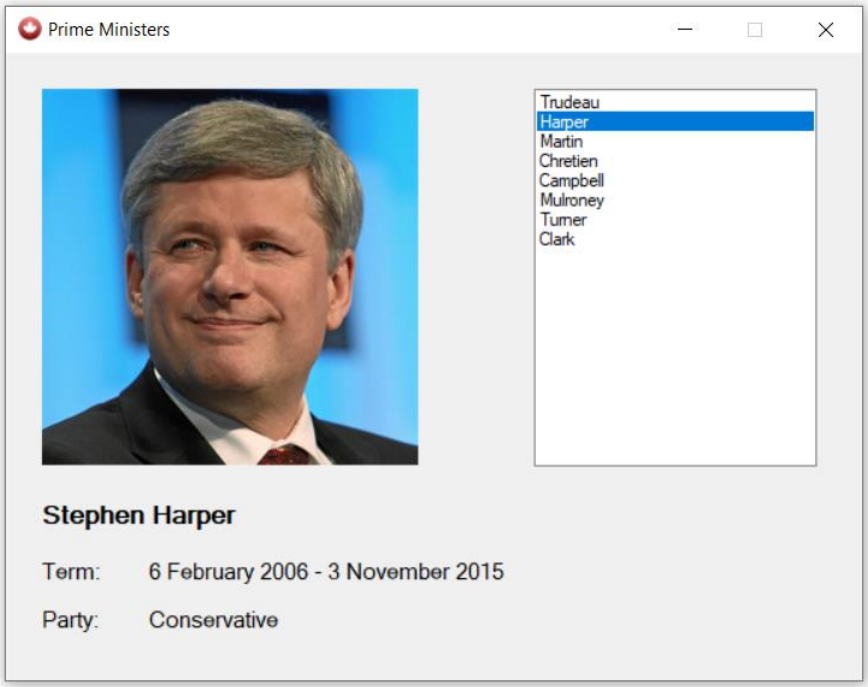
Programming II

Exercise

You will use a Dictionary collection to drive this application. The Dictionary Key will be the last name of the Prime Minister and the value will be the **`PrimeMinister`** object, which can be found in the **`PrimeMinister.cs`** file as per Appendix.

STEP 1 Create a new "Windows Forms App" project called **`PrimeMinisters`**:

STEP 2 Design the following GUI using the PictureBox, ListBox and Label controls:



"

- Name the Form as **`frmPrimeMinisters`**
- Name the PictureBox as **`picPhoto`**
- Name the ListBox as **`lstPrimeMinisters`**
- Name the Label with the Prime Minister name as **`lblName`**
- Name the Label with the Term as **`lblTerm`**
- Name the Label with the Party Name as **`lblParty`**

STEP 3 Add the provided file called "**PrimeMinister.cs**" to your project. This file contains the **PrimeMinister** class definition

STEP 4 Declare and create a private field called **primeMinisters** in the **frmPrimeMinisters** class of type Dictionary which should be declared as:

```
private Dictionary<string, PrimeMinister> primeMinisters =
        new Dictionary<string, PrimeMinister>();
```

STEP 5 Identify during which event the list of Prime Minister's last name will be populated. This will be during the form **Load** event.

STEP 5.1 During the Load even, you will have to read and deserialize the PrimeMinisters.json file. Use the JSON code you have used during the exercises on Week 6. A little hint:

```
primeMinisters = serializer.Deserialize
        <Dictionary<string, PrimeMinister>>(streamReader.ReadToEnd());
```

Remember that in order to use JSON deserializing classes, you need to add a reference to

```
System.Web.Extensions
```

and use the following namespaces:

```
using System.Web.Script.Serialization;
using System.IO;
```

STEP 5.2 You need to connect the ListBox **lstPrimeMinisters** to the list of Prime Minister's last names. This is the list of keys from the Dictionary **primeMinisters**. You will connect them with the following line of code:

```
lstPrimeMinisters.DataSource = primeMinisters.Keys.ToList<string>();
```

STEP 6 Identify during which event the Prime Minister's photo, name, term and party will get changed. Utilizing the **`SelectedValueChanged`** event from the ListBox **`lstPrimeMinisters`**, fill out all the GUI controls with the selected Prime Minister.

a. It should find the correct Prime Minister selected inside the Dictionary based on the Key (Last Name). You can get the selected name by using this property:

   `lstPrimeMinisters.SelectedValue.ToString();`

b. Then find the Prime Minister inside the **`primeMinisters`** dictionary:

   `primeMinisters[lstPrimeMinisters.SelectedValue.ToString()]`

c. The FirstName and LastName properties go to the Label **`lblName`**

d. The Term goes to the Label **`lblTerm`**

e. The Party goes to the Label **`lblParty`**

f. The picture goes to the **`picPhoto`** control. To set the image file, use the following code as a reference:

   `picPhoto.ImageLocation = filename;`

   `LastName + ".jpg"` is the name of the image file so you know which image you must load on the PictureBox

Appendix

The images and the JSON file are in a file on eCentennial called **PrimeMinister-exercise-files.zip**. The images are named also by the prime minister's last name.

You should use the file **`PrimeMinister.cs`** file.

Inside the **PrimeMinister-exercise-files.zip** file you will find the following

1. Eight pictures of the Prime Ministers, named by their last names;
2. **maple-leaf.ico** – Icon to be used as the application icon
3. **PrimeMinisters.json** – This is the file with the data about the 8 prime ministers;
4. **PrimeMinister.cs** – This is the **`PrimeMinister`** class that you can use in your app so you don't have to create it manually;