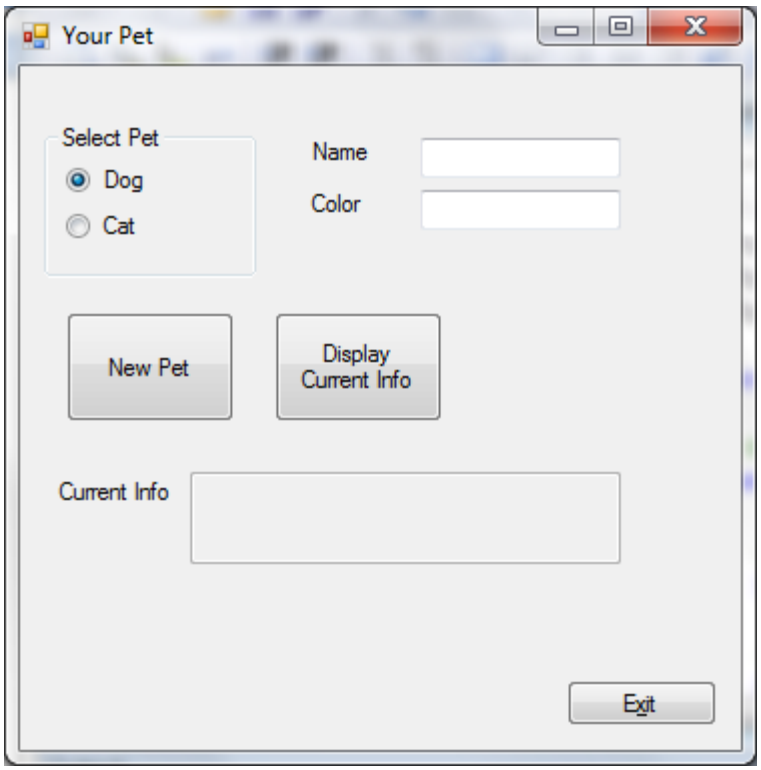
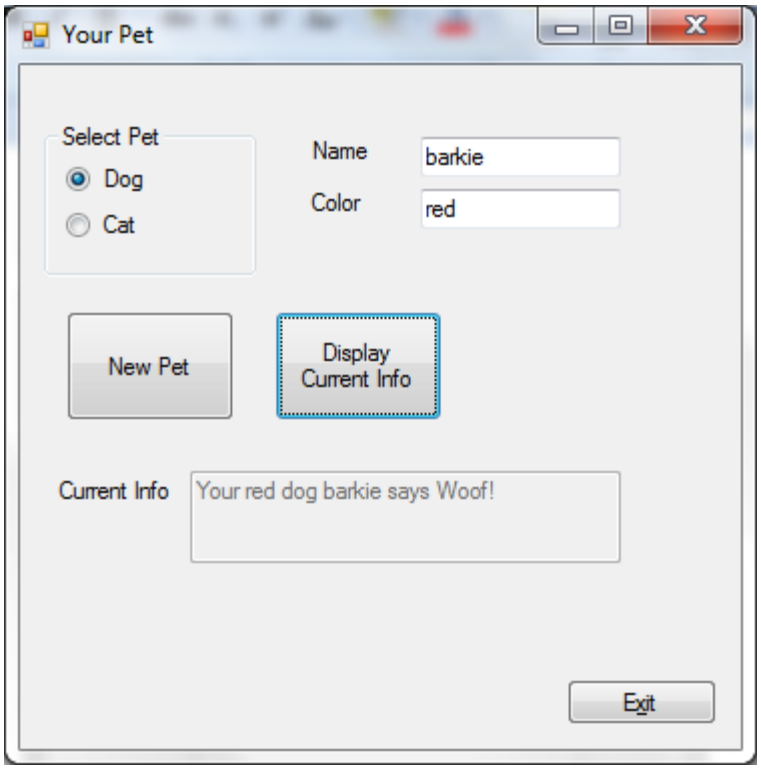
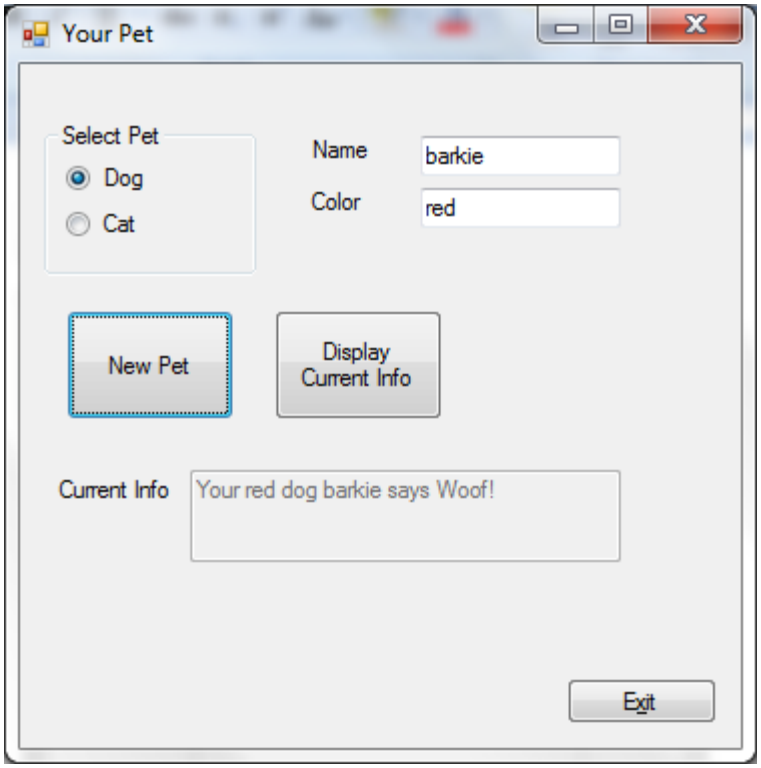
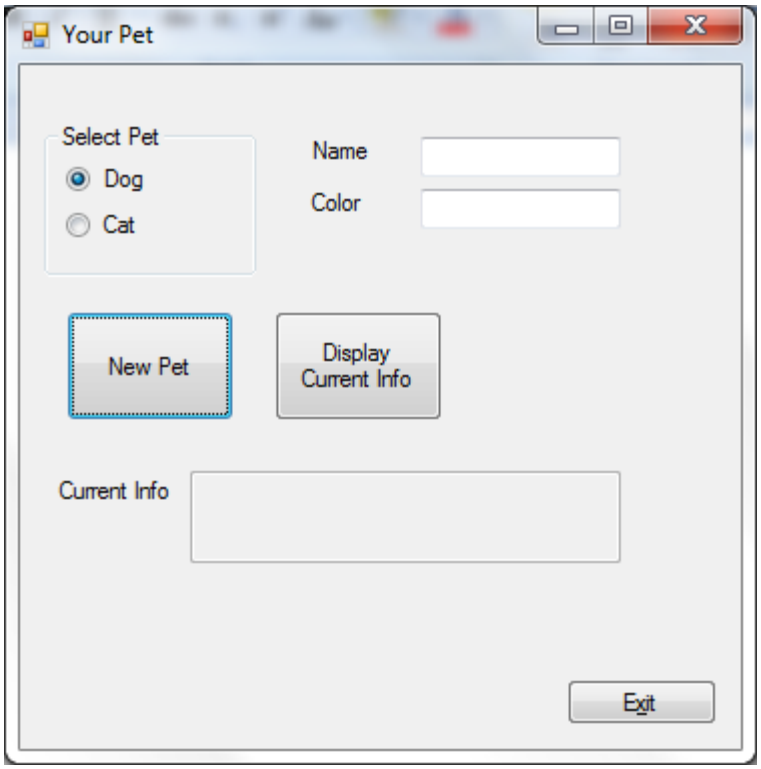
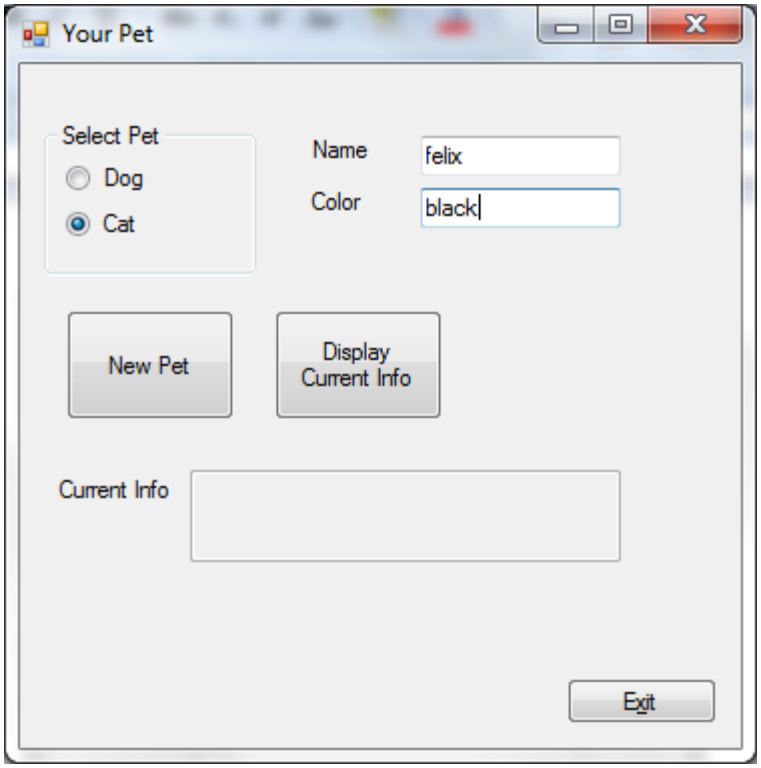
Lab 12 by Bryant Tunbutr

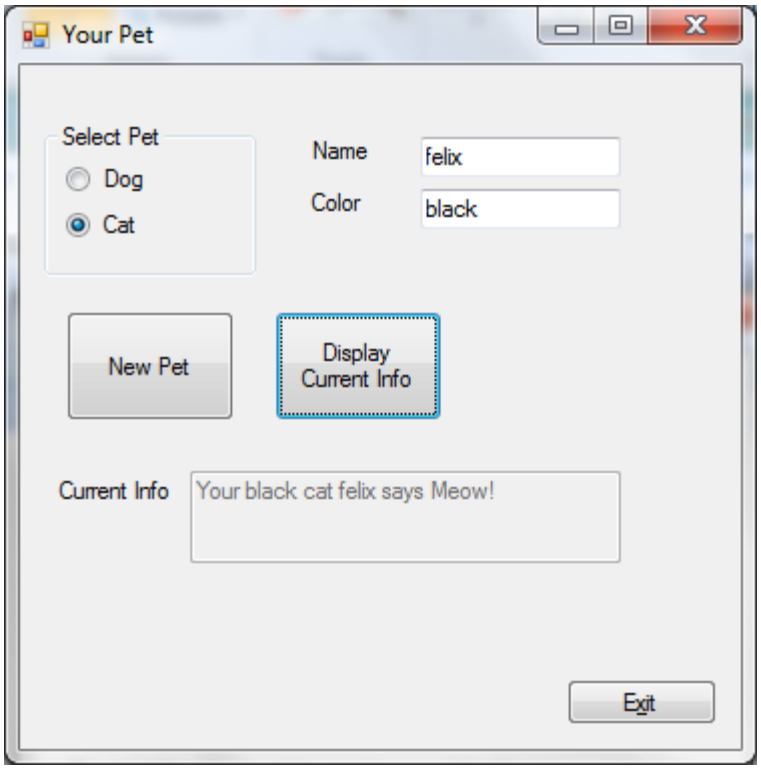





Your Pet
Select Pet
Dog
Cat
Name
barkie
Color
red
New Pet
Display Current Info
Current Info
Your red dog barkie says Woof!
Exit


Your Pet
Select Pet
Dog
Cat
Name
Color
New Pet
Display Current Info
Current Info
Exit


Your Pet
Select Pet
Dog
Cat
Name
felix
Color
black
New Pet
Display Current Info
Current Info
Exit


Your Pet
Select Pet
Dog
Cat
Name
felix
Color
black
New Pet
Display Current Info
Current Info
Your black cat felix says Meow!
Exit

Source code for BaseForm.cs

```
/*
 * Project:                BTunbutrLab12
 * Programmer:       Bradley/Millspaugh
 * Date:               Nov 29
 * Description:     Use classes, methods, over riding to
 *                  display pet information
 * * I certify that the code below is my own work.
 */

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace WindowsFormsApplication22
{
    public partial class BaseForm : Form
    {
        public BaseForm()
        {
            InitializeComponent();
        }

        public virtual void  okButton_Click(object sender, EventArgs e)
        {
            // Close the form.
            this.Close();

        }
    }
}
```

Source code for petsForm.cs

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

namespace WindowsFormsApplication22
{
    public partial class petsForm : Form
    {
        public petsForm()
        {
            InitializeComponent();
        }

        // Display info in text box
        public void displayInfoButton_Click(object sender, EventArgs e)
        {
            // Use info about pet name and color
            string petName = nameTextBox.Text;
            string petColor = colorTextBox.Text;

            // Call dog speak method
            if (dogRadioButton.Checked == true)
                {
                    displayInfoTextBox.Text = "Your " + petColor + " dog " +
                        petName + " says " + dog.Speak;
                }

            // Call cat speak method
            if (catRadioButton.Checked == true)
            {
                displayInfoTextBox.Text = "Your " + petColor + " cat " +
                    petName + " says " + cat.Speak;
            }

        }

        private void petsForm_Load(object sender, EventArgs e)
        {
            // Initialize the form.
        }

        private void newPetButton_Click(object sender, EventArgs e)
        {
            // clear textboxes, reset to default radio button
            displayInfoTextBox.Text = "";
            nameTextBox.Text = "";
            colorTextBox.Text = "";
            dogRadioButton.Checked = true;
```

```
        }

        private void button1_Click(object sender, EventArgs e)
        {
            // Close the form.
            this.Close();
        }
    }
}
```

Source code for pets.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace WindowsFormsApplication22
{
    // create a pets class.
    class pets
    {
        // create a pets class.
        protected string petName, petColor;

        // name property of the pets class.
        public string Name
        {
            get
            {
                return petName;
            }
            private set
            {
                petName = value;
            }
        }

        // Color property of the pets class.
        public string Color
        {
            get
            {
                return petColor;
            }
            private set
            {
                petColor = value;
            }
        }

        // create a pets speak method.
        // use static to allow it to pass to the other form.
        public static string Speak
        {
            get
            {
                return "Speaking!";
            }
            private set
            {
                Speak = value;
            }
        }
    }
```

```
    class dog : pets
    {
        public dog()
        {
        }

        // override the pets speak method.
        // use new to override
        new public static string Speak
        {
            get
            {
                return "Woof!";
            }
            private set
            {
                Speak = value;
            }
        }
     }

    // override the pets speak method.
    // use new to override
    class cat : pets
    {
        public cat()
        {
        }

        new public static string Speak
        {
            get
            {
                return "Meow!";
            }
            private set
            {
                Speak = value;
            }
        }
    }
}
```

Why wouldn't the compiler complain about the fact that a Pet variable is referring to a Dog or Cat object? What is the name of this feature?

The dog and cat class and their objects are based on the pet class

This is known as inheritance

The dog and cat classes are derived

The derived class has access to public and protected data members of the base class

The good part is the protected keyword allows elements to accessible within their own class, AND any class derived from the class.

Thus the pet class has access to the dog and cat elements