```
// Introduction to Windows and Web Applications in C#
// demonstration of classes and methods
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using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Class04
{
    enum Species
    {
        Cat,
        Dog,
        Cow
    }

    class Pet
    {
        #region "Properties"

        /// <summary>
        /// The name of the pet.
        /// </summary>
        private string name = "";
        public string Name
        {
            get
            {
                return name;
            }
            set
            {
                name = value;
            }
        }
        // since the property just gets/sets the backing store,
        // we might use an automatic property instead
        public string AutoName { get; set; }

        /// <summary>
        /// The age of the pet, in years.
        /// </summary>
        private int age = 0;
        public int Age
        {
            get
            {
                return age;
            }
            set
            {
                if (value < 0)
                {
                    Console.WriteLine("Pet can't be less than 0 years old.");
                    // might also throw an exception here
                    // throw new Exception("Pet can't be less than 0 years old.");
                    age = 0;
                }
                else
                {
```

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            age = value;
        }
    }
}

/// <summary>
/// The species of the pet.
/// </summary>
Species species = Species.Cat;
public Species Species
{
    get
    {
        return species;
    }
    set
    {
        species = value;
    }
}
#endregion

#region "Constructors"
public Pet()
{
}

public Pet(string name, int age, Species species)
{
    Name = name;
    Age = age;
    Species = species;
}
#endregion

#region "Methods"
public void MakeNoise()
{
    switch (this.Species)
    {
        case Species.Cat:
            Console.WriteLine("meow");
            break;
        case Species.Dog:
            Console.WriteLine("woof");
            break;
        case Species.Cow:
            Console.WriteLine("moo");
            break;
    }
}

public void MakeAnnoyingNoise(int howAnnoying)
{
    for (int i = 0; i < howAnnoying; i++)
    {
        MakeNoise();
    }
}

/// <summary>
/// calculate the year of the pet's birth based on its age
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```
        /// </summary>
        public int CalculateBirthYear()
        {
            int birthyear = 2013 - Age;
            return birthyear;
        }
        #endregion
    }
}
```