Lab: Interfaces and Abstract Classes

Instructions

Part 1

1. Using C# IDE, create a program that implements an abstract class called **Animal**.
    - This class has the attributes and properties: **`Name (_name)`**, **`Colour (_colour)`** and **`Age (_age)`**.
    - The class has the following methods:
        - A method called **`Eat`** is an abstract method of type **`void`**.
2. Create a **`Dog`** class that implements the **`Animal`** class and the **`Eat`** method that prints **`"Dogs eat meat."`**
3. Create a **`Cat`** class that implements the **`Animal`** class above and the **`Eat`** method that prints **`"Cats eat mice."`**
4. To test the program, ask the user for a dog name and create a new **`Dog`** object from the **`Main`** of the program. Give the **`Dog`** object a name, colour and age, then call the respective properties to print these attributes and call the **`Eat`** methods.
5. Repeat the previous step for a **`Cat`** object.

Part 2

1. Using C# IDE, create a program that implements an **`IAnimal`** interface.
    - The interface has the attributes and properties: **`Name`** (**`_name`**), **`Colour`** (**`_colour`**), **`Height`** (**`_height`**) and **`Age`** (**`_age`**).
    - The interface has the following methods:
        - A method called "**`Eat`**"
        - A method called "**`Cry`**"
    - The **`Eat`** method is an abstract method of type **`void`**. The **`Cry`** method is a method of type **`string`**.
2. Create a Dog class that implements the **`IAnimal`** interface. The **`Eat`** method should print **`"Dogs eat meat"`** and the **`Cry`** method should print **`"Woof!"`**
3. Create a **`Cat`** class that implements the **`IAnimal`** above interface. The **`Eat`** method should print **`"Cats eat mice"`** and the **`Cry`** method should print **`"Meow!"`**
4. To test the program, ask the user for a dog name and create a new **`Dog`** object from the **`Main`** of the program. Then ask the user to give the **`Dog`** object a name, height, colour and age, then call the respective properties to print these attributes and run the **`Eat`** and **`Cry`** methods.

5. Repeat the previous step for a **`Cat`** object.
6. Create a list called “animals” and add some animal objects to the list.
7. Print the names of all the animals.