

***C# Basics***

**Lab Guides**

|  |  |
| --- | --- |
| Document Code | 25e-BM/HR/HDCV/FSOFT |
| Version | 1.1 |
| Effective Date | 20/11/2012 |

**Hanoi, 06/2019**

RECORD OF CHANGES

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Effective Date | Change Description | Reason | Reviewer | Approver |
|  | 01/Oct/2018 | Create new | Draft |  |  |
|  | 01/Jun/2019 | Update template | Fsoft template |  |  |
| 3 | 15/Apr/2019 | Review content | Review | TuTB |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Contents

[Lab 10: Work with Inheritance and Polymorphism 4](#_Toc17708982)

[Objectives: 4](#_Toc17708983)

[Prerequisites: 4](#_Toc17708984)

[Problem Description: 4](#_Toc17708985)

[Guidelines: 4](#_Toc17708986)

[Step 1: Create project named **Animal** in Visual Studio 4](#_Toc17708987)

[Step 2: Add class named **Animal** then declare properties and method: 4](#_Toc17708988)

[Step 3: Create Dog class inherit from Animal class 4](#_Toc17708989)

[Step 4: Create Cat class inherit from Animal class 5](#_Toc17708990)

[Step 5: In Program.cs file, write code to initial objects in various ways 5](#_Toc17708991)

|  |  |
| --- | --- |
|  | **CODE: Net.S.L010**  **TYPE: SHORT**  **LOC: 100**  **DURATION: 30 MINUTES** |

# Lab 10: Work with Inheritance and Polymorphism

Objectives:

* Understand the application of Inheritance and Polymorphism in C #.

Prerequisites:

* Download and installs Visual Studio (included .net Framework)

Problem Description:

* Create an Animal class as a supper class
* Create a Dog class inherit from Animal class
* Create a Cat class inherit from Animal class

Guidelines:

### Step 1: Create project named **Animal** in Visual Studio

### Step 2: Add class named **Animal** then declare properties and method:

public class Animal

{

public string Name { get; set; }

public string Location { get; set; }

public void Run()

{

Console.WriteLine("{0} is running at {1}!", this.Name, this.Location);

}

}

### Step 3: Create Dog class inherit from Animal class

public class Dog : Animal

{

public void Say()

{

Console.WriteLine("{0} says woof woof woof", this.Name);

}

}

### Step 4: Create Cat class inherit from Animal class

public class Cat : Animal

{

public void Say()

{

Console.WriteLine("{0} says meow meow meow", this.Name);

}

}

### Step 5: In Program.cs file, write code to initial objects in various ways

static void Main(string[] args)

{

Dog dog = new Dog(){};

dog.Name = "Cooper";

dog.Location = "England";

//// dog object use method from supper class

dog.Run();

//// dog object use method from derived class

dog.Say();

Cat cat = new Cat(){};

cat.Name = "Tom";

cat.Location = "America";

//// cat object use method from supper class

cat.Run();

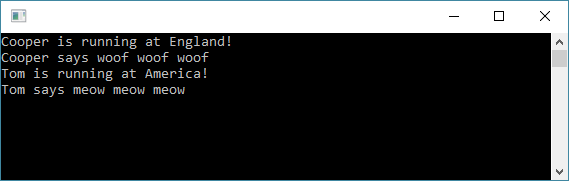
//// cat object use method from derived class

cat.Say();

Console.ReadKey();

}

Outputs

****