**1. METHOD OVERLOADING AND METHOD OVERRIDING**

**using System;**

**namespace PolymorphismDemo**

**{**

**class Animal**

**{**

**public virtual void Speak()**

**{**

**Console.WriteLine("Animal speaks");**

**}**

**public void Info()**

**{**

**Console.WriteLine("This is a general animal.");**

**}**

**public void Info(string type)**

**{**

**Console.WriteLine("This is a " + type);**

**}**

**}**

**class Dog : Animal**

**{**

**public override void Speak()**

**{**

**Console.WriteLine("Dog barks");**

**}**

**public void Info(string type, string breed)**

**{**

**Console.WriteLine("This is a " + type + " of breed " + breed);**

**}**

**}**

**class Program**

**{**

**static void Main(string[] args)**

**{**

**Console.WriteLine("=== Method Overriding ===");**

**Animal a = new Animal();**

**Dog d = new Dog();**

**Animal ad = new Dog();**

**a.Speak();**

**d.Speak();**

**ad.Speak();**

**Console.WriteLine("\n=== Method Overloading ===");**

**a.Info();**

**a.Info("Mammal");**

**d.Info("Dog", "Labrador");**

**Console.ReadLine();**

**}**

**}**

**}**

**Output:**

**=== Method Overriding ===**

**Animal speaks**

**Dog barks**

**Dog barks**

**=== Method Overloading ===**

**This is a general animal.**

**This is a Mammal**

**This is a Dog of breed Labrador**

**2. CLASS AND OBJECTS**

**using System;**

**namespace ClassObjectDemo**

**{**

**class Student**

**{**

**public string name;**

**public int age;**

**public void ShowDetails()**

**{**

**Console.WriteLine("Student Name: " + name);**

**Console.WriteLine("Student Age: " + age);**

**}**

**}**

**class Program**

**{**

**static void Main(string[] args)**

**{**

**Student s1 = new Student();**

**s1.name = "Arun";**

**s1.age = 20;**

**s1.ShowDetails();**

**Console.ReadLine();**

**}**

**}**

**}**

**Output:**

**Student Name: Arun**

**Student Age: 20**