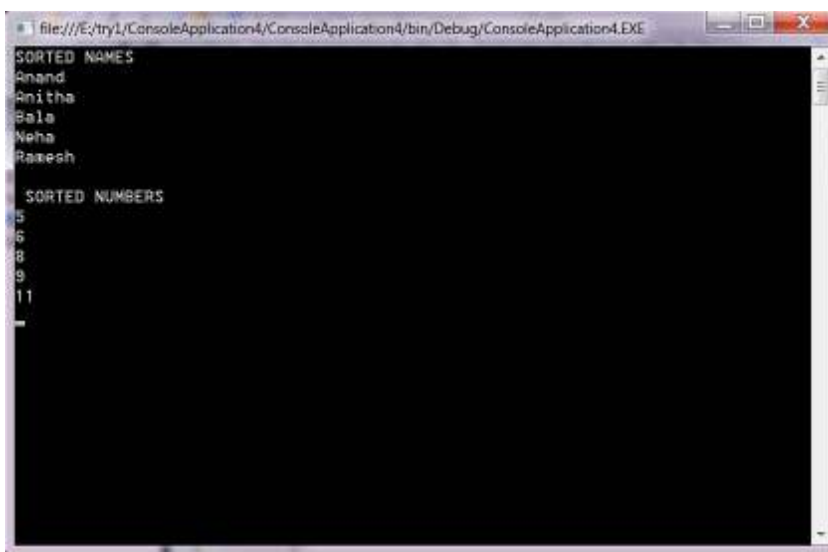


UNIVERSITY PRACTICAL EXERCISES

Exercise 1 : C# program to sort a set of names, numbers in alphabetical order.

```
using System;
namespace Program1
{
    class Program
    {
        static void Main(string[] args)
        {
            // Sort strings
            string[] stnames = { "Bala", "Anand", "Neha", "Ramesh", "Anitha" };
            Array.Sort(stnames);
            Console.WriteLine("SORTED NAMES");
            foreach (string i in stnames)
            {
                Console.WriteLine(i);
            }

            // Sort set of integers
            int[] myNumbers = { 5, 11, 8, 9, 6 };
            Array.Sort(myNumbers);
            Console.WriteLine("\n SORTED NUMBERS");
            foreach (int i in myNumbers)
            {
                Console.WriteLine(i);
            }
            Console.ReadLine();
        }
    }
}
```



```
file:///E:/try1/ConsoleApplication4/ConsoleApplication4/bin/Debug/ConsoleApplication4.EXE
SORTED NAMES
Anand
Anitha
Bala
Neha
Ramesh

SORTED NUMBERS
5
6
8
9
11
```

Exercise 2 : C# program for CLASSES and OBJECTS.

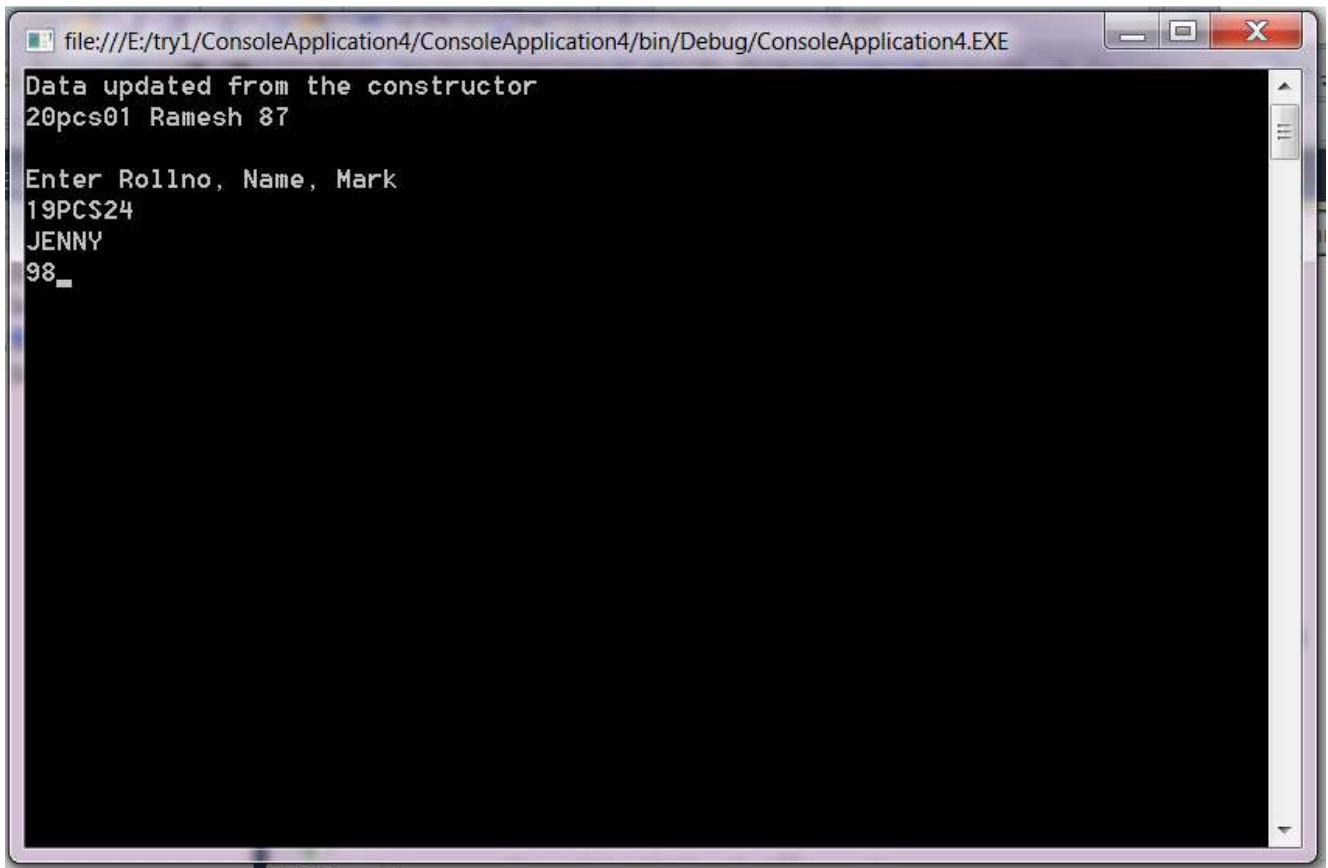
```
using System;

namespace Program2
{
    class stud
    {
        public string name;
        public string rollno;
        public int mark;

        // Create a class constructor with multiple parameters
        public stud(string studname, string studrollno, int studmark)
        {
            name = studname;
            rollno = studrollno;
            mark = studmark;
        }

        // Main Function
        static void Main(string[] args)
        {
            stud Mystud = new stud("Ramesh", "20pcs01", 87); //Create object
            Console.WriteLine("Data updated from the constructor");
            Console.WriteLine(Mystud.rollno+" " +Mystud.name + " " + Mystud.mark);

            // Reading from the keyboard and update the values
            Console.WriteLine("\nEnter Rollno, Name, Mark");
            Mystud.rollno = Console.ReadLine();
            Mystud.name = Console.ReadLine();
            Mystud.mark = Convert.ToInt32(Console.Read());
            Console.WriteLine("Data displaed after user entry :");
            Console.WriteLine(Mystud.rollno+" " + Mystud.name + " " + Mystud.mark);
            Console.ReadLine();
        }
    }
}
```



The image shows a screenshot of a Windows console application window. The title bar at the top reads "file:///E:/try1/ConsoleApplication4/ConsoleApplication4/bin/Debug/ConsoleApplication4.EXE". The main content area of the window is black with white text. The text displayed is as follows:

```
Data updated from the constructor  
20pcs01 Ramesh 87  
  
Enter Rollno, Name, Mark  
19PCS24  
JENNY  
98_
```

Exercise 3 : C# program for demonstrating INHERITANCE.

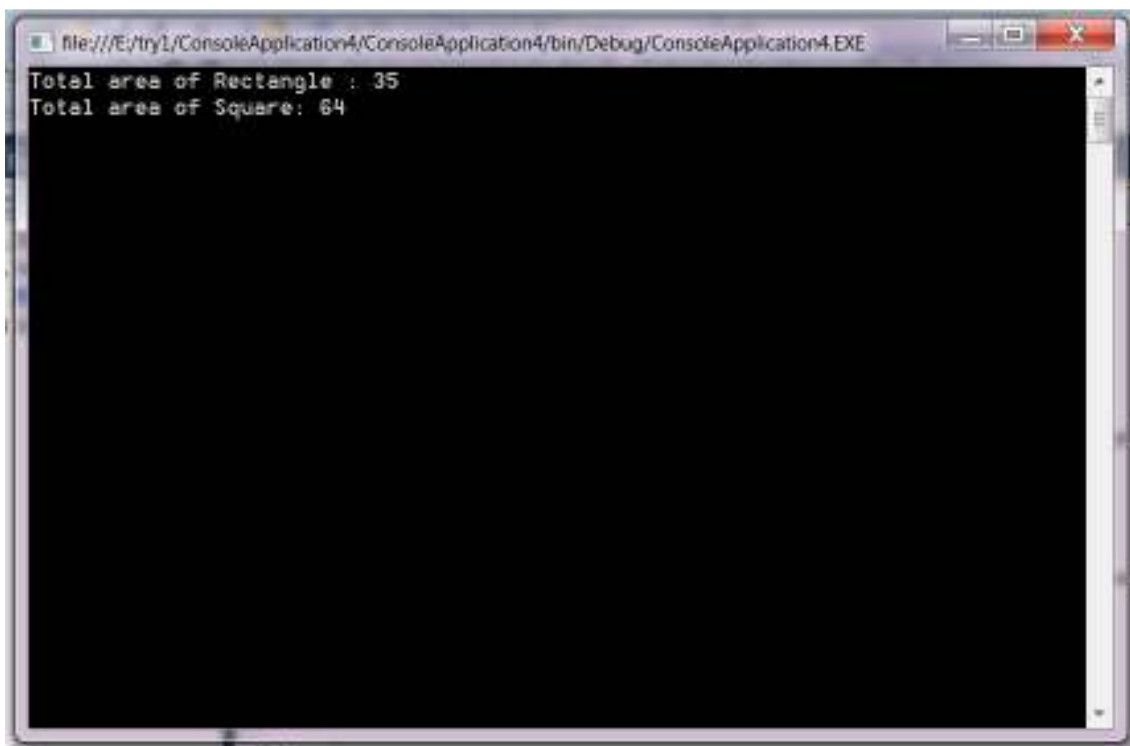
```
using System;
namespace InheritanceProgram
{
    //Base Class
    class Shape
    {
        public void setWidth(int w)
        {
            width = w;
        }
        public void setHeight(int h)
        {
            height = h;
        }
        protected int width;
        protected int height;
    }

    // Derived class-1
    class Rectangle : Shape
    {
        public int getArea()
        {
            return (width * height);
        }
    }

    // Derived class-2
    class Square : Shape
    {
        public int getArea()
        {
            return (width * width);
        }
    }
}
```

```
class ShapeTester
{
    static void Main(string[] args)
    {
        Rectangle Rect = new Rectangle();
        Rect.setWidth(5);
        Rect.setHeight(7);
        // Print the area of the Rectangle.
        Console.WriteLine("Total area of Rectangle : {0}", Rect.getArea());
        Console.ReadKey();

        Square sqr = new Square();
        sqr.setWidth(8);
        // Print the area of the Square.
        Console.WriteLine("Total area of Square: {0}", sqr.getArea());
        Console.ReadKey();
    }
}
```



The screenshot shows a Windows console window titled "file:///E:/try1/ConsoleApplication4/ConsoleApplication4/bin/Debug/ConsoleApplication4.EXE". The window contains the following output:

```
Total area of Rectangle : 35
Total area of Square: 64
```

Exercise 4 : C# program for demonstrating POLYMORPHISM.

```
using System;
public class shape
{
    public virtual double Area()
    {
        return 0;
    }
}

public class Circle : shape
{
    public double Radius { get; set; }
    public Circle()
    {
        Radius = 6;
    }

    public override double Area()
    {
        return (22.0/7.0) * Radius * Radius ;
    }
}

public class Square : shape
{
    public double Length { get; set; }
    public Square()
    {
        Length = 6;
    }
    public override double Area()
    {
        return Length * Length;
    }
}

public class Rectangle : shape
{
    public double Height { get; set; }
    public double Width { get; set; }
    public Rectangle()
    {
        Height = 5.2;
        Width = 2.4;
    }
    public override double Area()
    {
        return Height * Width;
    }
}
```

```
class Program
{
    static void Main(string[] args)
    {
        shape circle = new Circle();
        Console.WriteLine("Area of Circle :" + circle.Area());

        shape square = new Square();
        Console.WriteLine("Area of Square :" + square.Area());

        shape rectangle = new Rectangle();
        Console.WriteLine("Area of Rectangle :" + rectangle.Area());
        Console.ReadLine();
    }
}
```

