**Exercise 2: Implementing the Factory Method Pattern**

**CODE :**

using System;

namespace FactoryPatternDemo

{

// Step 1: Product Interface

public interface IShape

{

void Draw();

}

// Step 2: Concrete Products

public class Circle : IShape

{

public void Draw()

{

Console.WriteLine("Drawing Circle");

}

}

public class Square : IShape

{

public void Draw()

{

Console.WriteLine("Drawing Square");

}

}

// Step 3: Factory Class

public class ShapeFactory

{

public IShape GetShape(string shapeType)

{

if (shapeType == null) return null;

if (shapeType.ToLower() == "circle")

return new Circle();

else if (shapeType.ToLower() == "square")

return new Square();

else

return null;

}

}

// Step 4: Client Code

class Program

{

static void Main(string[] args)

{

ShapeFactory factory = new ShapeFactory();

IShape shape1 = factory.GetShape("circle");

shape1?.Draw();

IShape shape2 = factory.GetShape("square");

shape2?.Draw();

}

}

}

**OUTPUT**

