**LAB # 07**

**Task 1: You are working on an application that have utility to turn flashlight of smartphone On/Off and have a requirement to add ringtones and effects for flashlight in an application, Implement Decorator pattern for adding ringtone functionality in an application that have a basic functionality of flashlight only. Decorate an application with ringtones and flashlight effects using Decorator.**

**Solution :**

**Interface**

internal interface IFlashLight

{

string getFunctionality();

}

**Abstract Class Decorator**

internal abstract class FlashLightDecorator :IFlashLight

{

private IFlashLight \_flashLight;

public FlashLightDecorator(IFlashLight flashLight)

{

\_flashLight = flashLight;

}

public virtual string getFunctionality()

{

return \_flashLight.getFunctionality();

}

}

**Flash Light Class**

internal class FlashLight : IFlashLight

{

public string getFunctionality()

{

return "Simple Flash Light";

}

}

**Class Flash Light Effect**

internal class FlashLightEffect : FlashLightDecorator

{

public FlashLightEffect(IFlashLight flashLight) : base(flashLight)

{

}

public override string getFunctionality()

{

return base.getFunctionality() + ", with Blinking Effect .....";

}

}

**Class Ring Tone Effect**

internal class RingtoneEffect : FlashLightDecorator

{

public RingtoneEffect(IFlashLight ringtone) : base(ringtone)

{

}

public override string getFunctionality()

{

return base.getFunctionality()+"\nAdding Nokia Ringtone .....";

}

}

**Main Method**

static void Main(string[] args)

{

IFlashLight light = new FlashLight();

IFlashLight flash = new FlashLightEffect(light);

IFlashLight ring = new RingtoneEffect(flash);

Console.WriteLine(ring.getFunctionality());

}

Graphical user interface, text

Description automatically generated**OUTPUT :**