**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.

**Main:**

static void Main(string[] args)

{

IULight normal = new UtilityFlashLight();

IULight stlight = new RingTunes(new UtilityFlashLight());

IULight fs = new FlashLights(new UtilityFlashLight());

Console.WriteLine("Enter your choice \n1) Ring Tunes with Flash Light\n2) Disco Lights with Flash Light");

String choice = Console.ReadLine();

if (choice == "1")

{

stlight.Display();

}

else if (choice == "2")

{

fs.Display();

}

else {

normal.Display();

}

}

**AbstractClass:**

abstract class IULight

{

public abstract void Display();

}

**Flash Light Class:**

class UtilityFlashLight:IULight

{

public override void Display() {

Console.WriteLine("These are Lights state On/Off");

}

}

**Decorator:**

class ULightDecorator:IULight

{

protected IULight IUL;

public ULightDecorator(IULight IUL) {

this.IUL = IUL;

}

public override void Display() {

IUL.Display();

}

}

**Ring Tunes:**

class RingTunes:ULightDecorator

{

public RingTunes(IULight IUL):base(IUL) {

}

public override void Display()

{

IUL.Display();

setRingTunes(IUL);

}

public void setRingTunes(IULight IUL) {

Console.WriteLine("Music lalaaaa with Flash Light Enjoy it");

}

}

**FlashLight:**

class FlashLights:ULightDecorator

{

public FlashLights(IULight IUL):base(IUL) {

}

public override void Display()

{

IUL.Display();

setDiscoFlashLight(IUL);

}

public void setDiscoFlashLight(IULight IUL) {

Console.WriteLine("Blinking Disco lights Enjoy this flavour");

}

}

**Output:**



