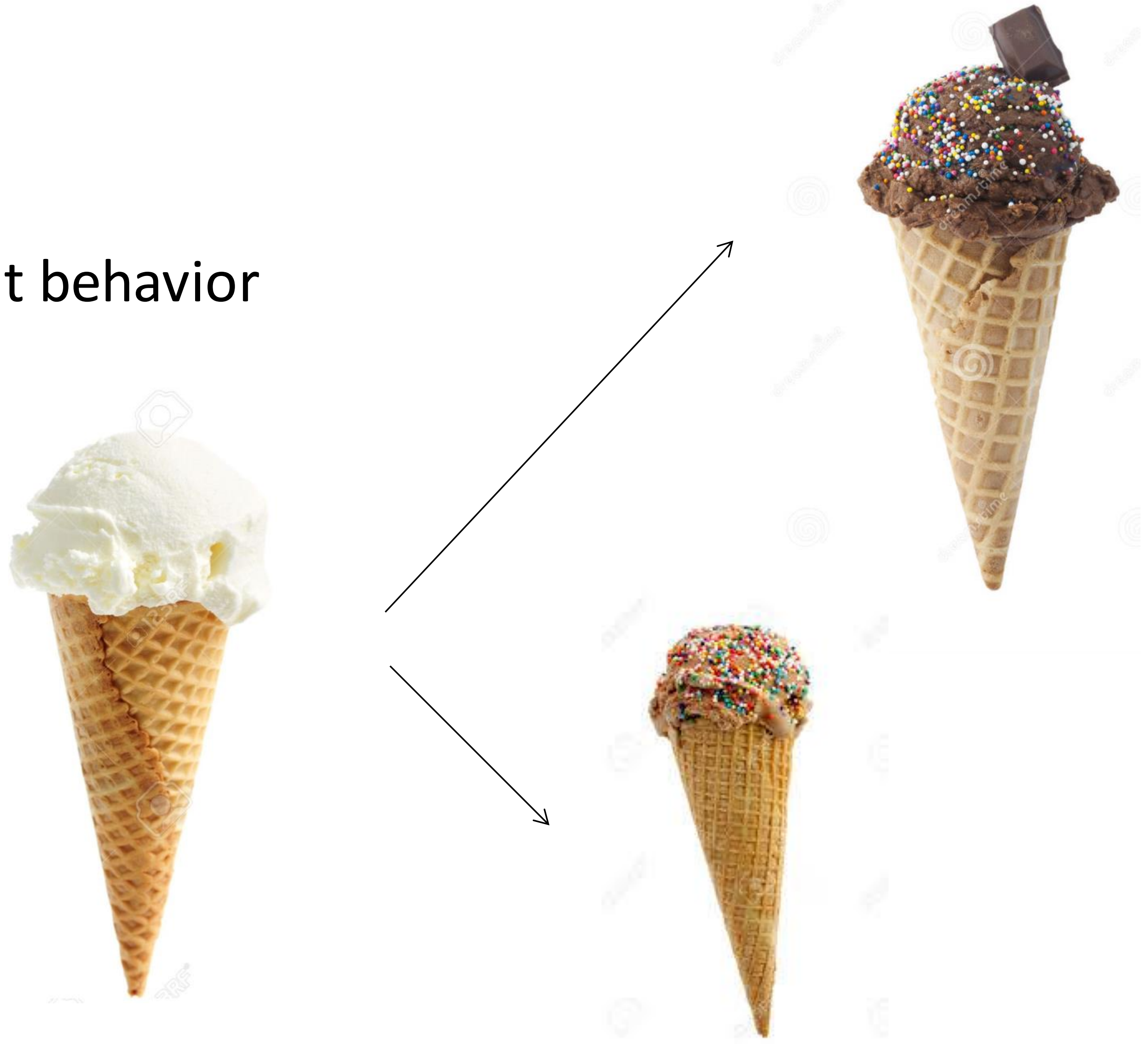
Decorator pattern

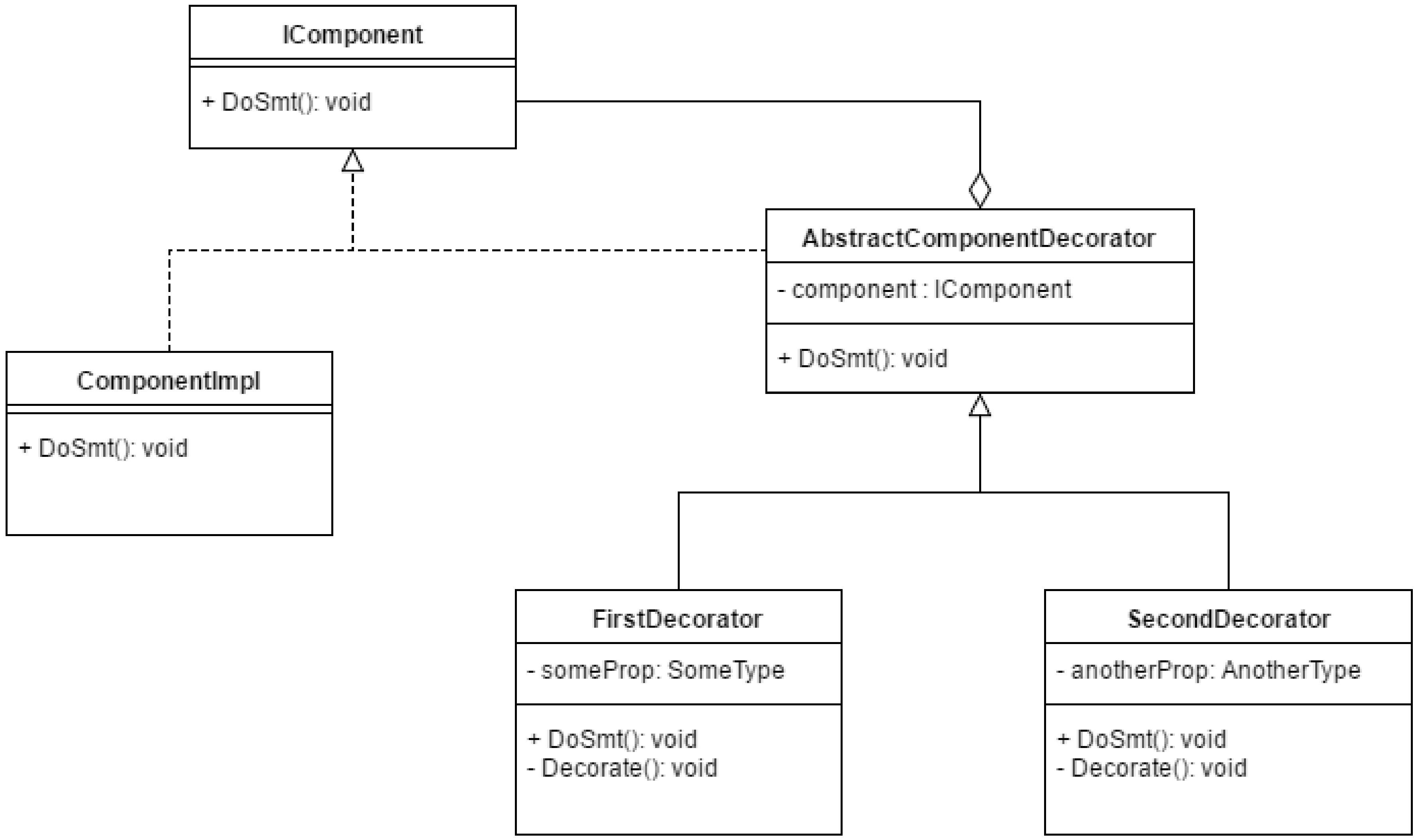
Problem

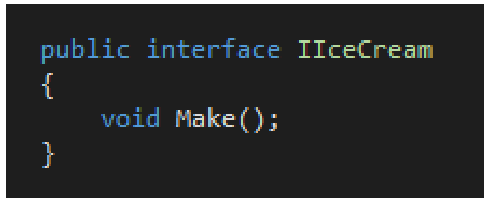
Add or alter component behavior



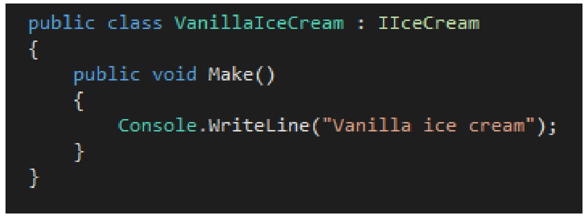
Solution - Decorator

- Flexible class creation
- Decorate just certain methods
- Dynamically enabled

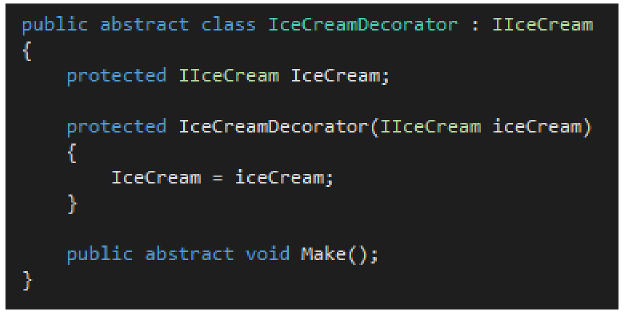

IComponent
+ DoSmt(): void
AbstractComponentDecorator
- component : IComponent
+ DoSmt(): void
ComponentImpl
+ DoSmt(): void
FirstDecorator
- someProp: SomeType
+ DoSmt(): void
- Decorate(): void
SecondDecorator
- anotherProp: AnotherType
+ DoSmt(): void
- Decorate(): void



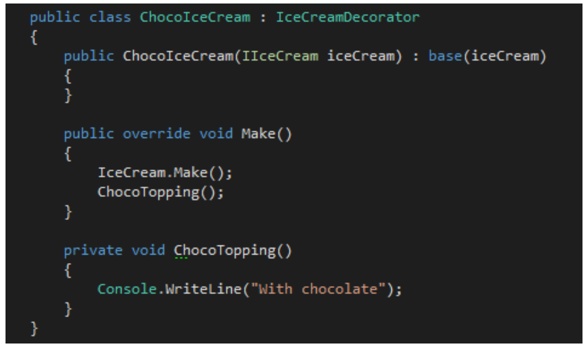
```
public interface IIceCream
{
    void Make();
}
```



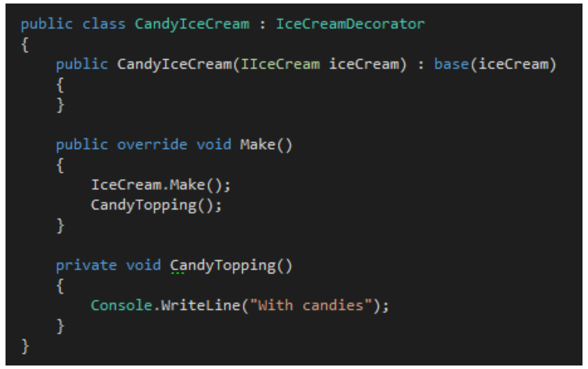
```
public class VanillaIceCream : IIceCream
{
    public void Make()
    {
        Console.WriteLine("Vanilla ice cream");
    }
}
```



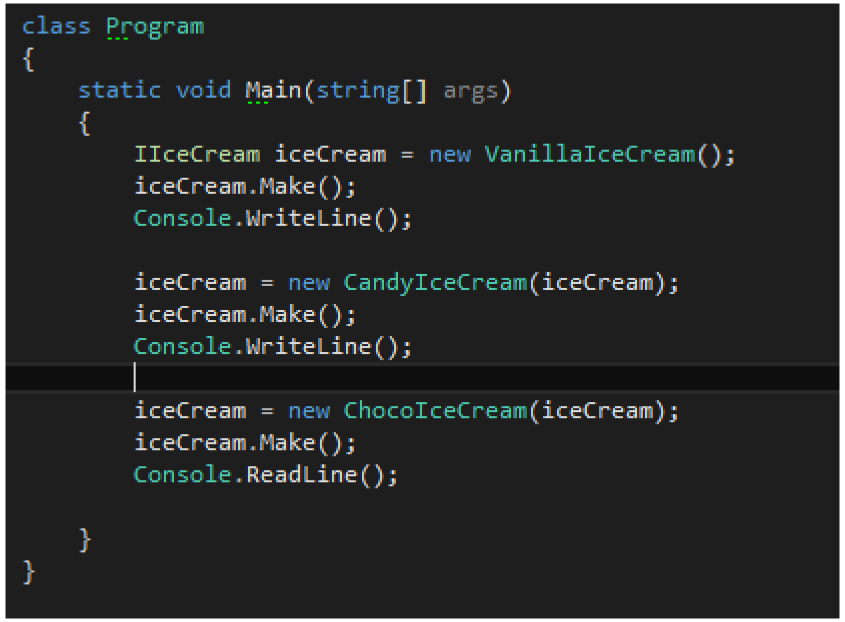
```
public abstract class IceCreamDecorator : IIceCream
{
    protected IIceCream IceCream;

    protected IceCreamDecorator(IIceCream iceCream)
    {
        IceCream = iceCream;
    }

    public abstract void Make();
}
```



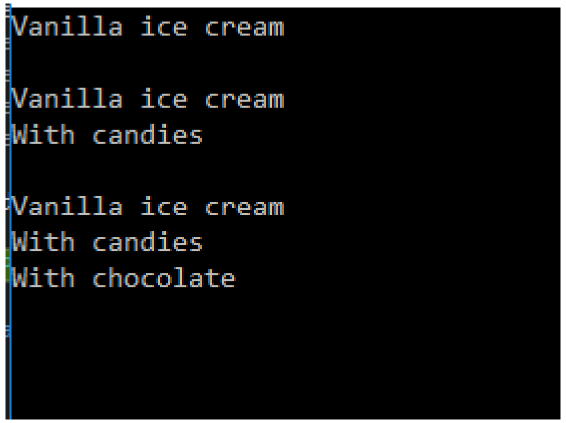
```
public class ChocoIceCream : IceCreamDecorator
{
    public ChocoIceCream(IIceCream iceCream) : base(iceCream)
    {
    }

    public override void Make()
    {
        IceCream.Make();
        ChocoTopping();
    }

    private void ChocoTopping()
    {
        Console.WriteLine("With chocolate");
    }
}
```



```
public class CandyIceCream : IceCreamDecorator
{
    public CandyIceCream(IIceCream iceCream) : base(iceCream)
    {
    }

    public override void Make()
    {
        IceCream.Make();
        CandyTopping();
    }

    private void CandyTopping()
    {
        Console.WriteLine("With candies");
    }
}
```



```
class Program
{
    static void Main(string[] args)
    {
        IIceCream iceCream = new VanillaIceCream();
        iceCream.Make();
        Console.WriteLine();

        iceCream = new CandyIceCream(iceCream);
        iceCream.Make();
        Console.WriteLine();

        iceCream = new ChocoIceCream(iceCream);
        iceCream.Make();
        Console.ReadLine();

    }
}
```



```
Vanilla ice cream

Vanilla ice cream
With candies

Vanilla ice cream
With candies
With chocolate
```