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```

```
using System;
using System.Reflection;

using Newtonsoft.Json;

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namespace NXTBlocks.Blockchain.Demo03
{
    class Program
    {
        static void Main(string[] args)
        {
            // Retrieve Application Title, Version and Description in Net Core 2.0
            var appTitle = typeof(Program).Assembly.GetCustomAttribute<AssemblyTitleAttribute>().Title;
            var appVersion = typeof(Program).Assembly.GetCustomAttribute<AssemblyFileVersionAttribute>().Version;
            var appDescription =
                typeof(Program).Assembly.GetCustomAttribute<AssemblyDescriptionAttribute>().Description;

            Console.WriteLine(appTitle);
            Console.WriteLine("Released on December 16, 2018 (AssemblyVersion: " + appVersion + ")");
            Console.WriteLine("Description: " + appDescription);

            Console.WriteLine("\n--- Begin Of Demo ---");
        }
    }
}
```

```
Blockchain myBlockchain = new Blockchain();

myBlockchain.AddBlock(new Block(DateTime.Now, null, "{sender:Alice,receiver:Bob,amount:10}"));
myBlockchain.AddBlock(new Block(DateTime.Now, null, "{sender:Alice,receiver:Bob,amount:20}"));
myBlockchain.AddBlock(new Block(DateTime.Now, null, "{sender:Alice,receiver:Bob,amount:30}"));
Console.WriteLine("\n" + JsonConvert.SerializeObject(myBlockchain, Formatting.Indented));

Console.WriteLine($"Is Chain Valid: {myBlockchain.IsValid()}");

Console.WriteLine("\nUpdate amount to 100");

myBlockchain.Chain[1].Data = "{sender:Alice,receiver:Bob,amount:100}";

Console.WriteLine($"Is Chain Valid: {myBlockchain.IsValid()}");

Console.WriteLine("\nUpdate hash");

myBlockchain.Chain[1].Hash = myBlockchain.Chain[1].CalculateHash();

Console.WriteLine($"Is Chain Valid: {myBlockchain.IsValid()}");

Console.WriteLine("\nUpdate the entire chain");

for (var i = 1; i < myBlockchain.Chain.Count; i++)
{
    Console.WriteLine($"Updating block #{myBlockchain.Chain[i].Index.ToString()}");
    myBlockchain.Chain[i].PreviousHash = myBlockchain.Chain[i - 1].Hash;
    myBlockchain.Chain[i].Hash = myBlockchain.Chain[i].CalculateHash();
    Console.WriteLine($"Index = {myBlockchain.Chain[i].Index}\nTimeStamp =
    {myBlockchain.Chain[i].TimeStamp}\nPreviousHash = {myBlockchain.Chain[i].PreviousHash}\nHash =
    {myBlockchain.Chain[i].Hash}\nData = {myBlockchain.Chain[i].Data}");
}

Console.WriteLine($"Is Chain Valid: {myBlockchain.IsValid()}");
```

```
        Console.WriteLine("\n" + JsonConvert.SerializeObject(myBlockchain, Formatting.Indented));  
        Console.WriteLine("\n--- End Of Demo ---");  
        Console.Write("\nPress Enter key to continue...");  
        Console.ReadLine();  
    }  
}
```