

```
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```

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

using Mediacrypt.IDcypher;

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namespace NXTPBlocks.Blockchain.Demo02
{
    public class Block
    {
        public int Index { get; set; }
        public DateTime TimeStamp { get; set; }
        public string PreviousHash { get; set; }
        public string Hash { get; set; }
        public string Data { get; set; }

        public Block(DateTime timeStamp, string previousHash, string data)
        {
            Index = 0;
            TimeStamp = timeStamp;
        }
    }
}
```

```
        PreviousHash = previousHash;
        Data = data;
        Hash = CalculateHash();
    }

    public string CalculateHash()
    {
        string result = string.Empty;

        IEncoder hexEncoder = new EncoderHex();
        IMemoryBlockHash hashFunction = new HashSha256();
        Encoding utf8 = Encoding.UTF8;

        string inputString = string.Empty;
        string outputString = string.Empty;

        try
        {
            inputString = string.Format("{0}-{1}-{2}", TimeStamp, PreviousHash ?? "", Data);

            byte[] inputBytes = utf8.GetBytes(inputString);

            byte[] outputBytes = hashFunction.HashBlock(inputBytes, 0, inputBytes.Length);

            result = Convert.ToBase64String(outputBytes);
        }
        catch (Exception ex)
        {
            Console.WriteLine("Exception: \n" + ex.Message);
        }

        return result;
    }
}
```