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```

```
using System;
using System.Collections.Generic;
using System.Text;
using System.Security.Cryptography;

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namespace NXTBlocks.Blockchain.Demo03
{
    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;  
  
        SHA256 sha256 = SHA256.Create();  
  
        Encoding utf8 = Encoding.UTF8;  
  
        string inputString = string.Empty;  
        string outputString = string.Empty;  
  
        try  
        {  
            inputString = $"{TimeStamp}-{PreviousHash ?? ""}-{Data}";  
  
            byte[] inputBytes = utf8.GetBytes(inputString);  
  
            byte[] outputBytes = sha256.ComputeHash(inputBytes);  
  
            result = Convert.ToBase64String(outputBytes);  
        }  
        catch (Exception ex)  
        {  
            Console.WriteLine("Exception: \n" + ex.Message);  
        }  
  
        return result;  
    }  
}
```