作業：矩陣相乘


```
C:\Windows\system32\cmd.exe
Matrix A:
13 18 04
05 13 10

Matrix B:
13 18
04 05
13 10

相乘結果Matrix C:
293 364
247 255

請按任意鍵繼續 . . .
```

```csharp
namespace 矩陣相乘
{
    class Program
    {
        static void Main(string[] args)
        {
            int m = 3, n = 2;
            int i, j;
            int[,] aMatrix = new int[n, m];
            int[,] bMatrix = new int[m, n];
            int[,] cMatrix = new int[n, n];
            CreateMatrix(ref aMatrix);
            Console.WriteLine("Matrix A:");
            PrintMatrix(aMatrix);
            CreateMatrix(ref bMatrix);
            Console.WriteLine("Matrix B:");
            PrintMatrix(bMatrix);
            for (j = 0; j <= cMatrix.GetUpperBound(0); ++j)
            {
                for (i = 0; i <= cMatrix.GetUpperBound(1); ++i)
                {
                    for (int k = 0; k <= n; k++)
                    {
                        cMatrix[j, i] = cMatrix[j, i] + aMatrix[j, k] * bMatrix[k, i];
                    }
```

```csharp
            }
        }
        Console.WriteLine("相乘結果Matrix C:");
        PrintMatrix(cMatrix);
    }
    static void CreateMatrix(ref int[,] matrix)
    {
        int i, j;
        Random randomNum = new Random();
        for (j = 0; j <= matrix.GetUpperBound(0); ++j)
        {
            for (i = 0; i <= matrix.GetUpperBound(1); ++i)
            {
                matrix[j, i] = randomNum.Next(20);
            }
        }
    }
    static void PrintMatrix(int[,] matrix)
    {
        int i, j;
        for (j = 0; j <= matrix.GetUpperBound(0); ++j)
        {
            for (i = 0; i <= matrix.GetUpperBound(1); ++i)
            {
                Console.Write("{0:d2} ", matrix[j, i]);
            }
            Console.WriteLine();
        }
        Console.WriteLine();
    }
}
}
```