

```

using System;
class Functions{

    static public void Main(string[] args)    {
        int N=6;
        Welcome();
        int i,m;
        int[] b;
        b = new int[N];
        b = ReadArray(N);

        for ( i = 0 ; i < N ; i++)
            Console.Write(b[i] + ", ");
        Console.WriteLine();

        Console.WriteLine();
        Console.WriteLine("the minimum is " + min(b) );

        m = readInteger();
        aMod( m, b);
        Console.WriteLine(" after aMod: " + m);
        for ( i = 0 ; i < N ; i++)
            Console.Write(b[i] + ",");
        Console.WriteLine();

        int x=readInteger();
        int y=readInteger();
        Console.WriteLine("x="+x + " y="+y + " gcd "+ gcd(x,y) );
    }

    static void Welcome() {
        Console.WriteLine("Hello World");
        Console.WriteLine("this is a test application");
        Console.WriteLine("to use the sub programs");
    }

    static int readInteger() {
        int a;
        String Sa;
        Console.Write("Enter an Integer:");
        Sa = Console.ReadLine();
        a = Int32.Parse(Sa);
        return a;
    }

    static int[] ReadArray(int n) {
        int i;
        int[] a = new int[n];

        for (i=0 ; i < n ; i++ )
            a[i] =readInteger();

        return a;
    }

    static void aMod( int k, int[] v) {    // replace v[i] by v[i] mod k
        for( int i=0; i<v.Length; i++)
            v[i] = v[i] % k;
    }

    static int gcd(int a, int b) {

        while (a != b )
            if ( a >b)
                a = a - b;
            else
                b = b - a;
    }
}

```