**Code:**

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| // Problem 2. Some Fibonacci Primes  // Check if the 24th, 101st and 251st prime numbers are part of the base Fibonacci number set. What is their position?  // The program below first calculates the first 20 members of the Fibonacci sequence,  // after that compares the 3 prime numbers from Problem 1 (89, 547, 1597) with the Fibonacci sequence and prints the results  using System;  using System.Collections.Generic;  using System.Linq;  class SomeFibonacciPrimes  {  static void Main()  {  //declarations  // this array will be storing the first 20 numbers of the Fibonacci sequence  double[] fibonacciNums = new double[20];  // formula for phi (the golden ratio)  double phi = (1 + Math.Sqrt(5)) / 2;  // this array stores the 24th, 101st, and 251st prime numbers calcullated in Problem 1  int[] primes = new int[] { 89, 547, 1597};  //logic  // the code below calculates the first 20 numbers of the Fibonacci sequence  // using the golden ratio formula Xn = Math.Round((Math.Pow(phi, n) - Math.Pow((1 - phi), n)) / Math.Sqrt(5));  // http://www.mathsisfun.com/numbers/fibonacci-sequence.html  // and stores them into the nums array  for (int i = 0; i < 20; i++)  {  fibonacciNums[i] = Math.Round((Math.Pow(phi, i) - Math.Pow((1 - phi), i)) / Math.Sqrt(5));  }    // printing  // comparing the fibonacciNums and primes arrays, and printing the result:  for (int i = 0; i < primes.Length; i++)  {  Console.Write("The prime number {0} ", primes[i]);  if (fibonacciNums.Contains(primes[i]))  {  Console.Write("\nis also a member of the Fibonacci sequence, \nat position {0}.\n\n", Array.IndexOf(fibonacciNums, primes[i]));  }  else  {  Console.Write("\nis not a member of the Fibonacci sequence.\n\n");  }  }  }  } |
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**Output:**

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| The prime number 89  is also a member of the Fibonacci sequence,  at position 11.  The prime number 547  is not a member of the Fibonacci sequence.  The prime number 1597  is also a member of the Fibonacci sequence,  at position 17.  Press any key to continue . . . |