**7 kyu**

**Next Prime**

34682% of 177129 of796[zruF](http://www.codewars.com/users/zruF)

C++

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Get the next prime number!

You will get a numbern (>= 0) and your task is to find the next prime number.

Make sure to optimize your code: there will numbers tested up to about 1012

Examples

5 ==> 7

12 ==> 13

<http://www.codewars.com/kata/next-prime/cpp>

#include <iostream>

#include <stdio.h>

bool esPrimo(int n) {

    if(n<2) return false;

    if(n == 2) return true;

    if(n % 2 ==0) return false;

    for(int i =3; i\*i<=n; i+=2) {

        if(n %i==0) return false;

    }

    return true;

}

int nextPrime (int num )

{

  // Your code is Here .... Enjoy !!!

  num++;

  while(!esPrimo(num)) {

    num++;

  }

  return num ;

}

int main() {

   printf("%d ", nextPrime(5));

    return 0;

}

----------------SOLUCION [huwei](http://www.codewars.com/users/huwei) -------------------

**#include"math.h"**

**bool isPrime\_3(int num)**

**{**

**//两个较小数另外处理**

**if (num == 2 || num == 3)**

**return 1;**

**//不在6的倍数两侧的一定不是质数**

**if (num % 6 != 1 && num % 6 != 5)**

**return 0;**

**int tmp = sqrt(num);**

**//在6的倍数两侧的也可能不是质数**

**for (int i = 5; i <= tmp; i += 6)**

**if (num %i == 0 || num % (i + 2) == 0)**

**return 0;**

**//排除所有，剩余的是质数**

**return true;**

**}**

**int nextPrime(int num)**

**{**

**// Your code is Here .... Enjoy !!!**

**if (num == 0 || num == 1)**

**return 2;**

**else if (num == 2)**

**return 3;**

**else if (num == 3 || num == 4)**

**return 5;**

**else**

**{**

**while (++num)**

**{**

**if (isPrime\_3(num))**

**{**

**return num;**

**}**

**}**

**}**

**}**