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ASSIGNMENT 1 (204)

1.

import java.util.Scanner;  
  
public class Main {

// function to find the GCD using Euclid's algorithm

public static int findGCD(int x, int y){  
 if (y == 0)  
 return x;  
 else  
 return *findGCD*(y, x % y);  
 }  
 // the above is the way the find the GCD

public static void main(String[] args){

Scanner gcd = new Scanner(System.*in*);

// the scanner class here takes input of the values   
  
 System.*out*.println("Please enter first number:");

int number1 = gcd.nextInt(); //the first number is sent  
  
 System.*out*.println("Please enter second number:");

int number2 = gcd.nextInt(); // the second number is also sent  
  
 int euclid = *findGCD*(number1, number2);  
  
 System.*out*.println("GCD of " + number1 + " and " + number2 + " is " + euclid);

// the result is brought out in this form  
 }  
}

2.  
  
public class Main {  
 public static void SieveOfEratosthenes(int n){  
 boolean[] isPrime = new boolean[n + 1]; // initialize all inputs as true  
  
 for (int a = 0; a <= n; a++){  
 isPrime[a] = true;  
 } // mark 0 and 1 as non-prime  
   
 isPrime[0] = false;  
 isPrime[1] = false;  
  
 for (int i = 2; i \* i <= n; i++){ //if isPrime[i] is not changed, then it is a prime  
   
 if (isPrime[i]){ //mark all multiples of i as non-prime  
   
 for (int a = i \* i; a <= n; a += i){  
 isPrime[a] = false;  
 }  
 }  
 }  
 // print all prime numbers  
   
 for (int i = 2; i <= n; i++){  
 if (isPrime[i]){  
 System.*out*.println(i + " ");  
 }  
 }  
 }  
 public static void main(String[] args){  
 int n = 100;  
  
 System.*out*.println("Prime numbers up to " + n + " : ");  
 *SieveOfEratosthenes*(n);  
 }  
  
}