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import java.util.Scanner;
import java.text.DecimalFormat;

public class SieveOfEratosthenes {

    public static void main(String args[]) {
        System.out.println("\nSieve of Eratosthenes\n");
        Scanner input = new Scanner(System.in);
        System.out.print("Enter the primes upper bound ===>> ");
        final int MAX = input.nextInt();
        boolean primes[] = new boolean[MAX];
        computePrimes(primes);
        displayPrimes(primes);
        input.close();
    }

    public static void computePrimes(boolean primeArray[]) {
        for (int i = 2; i < (int)Math.sqrt(primeArray.length); i++) {
            if (!primeArray[i]) {
                for (int j = i * 2; j < primeArray.length; j += i) {
                    primeArray[j] = true;
                }
            }
        }
    }

    public static void displayPrimes(boolean primeArray[]) {
        DecimalFormat df = new DecimalFormat("0000");
        int counter = 0;
        for (int i = 2; i < primeArray.length; i++) {
            if (!primeArray[i]) {
                counter++;
                if (counter % 16 == 0) {
                    System.out.print(df.format(i) + "\n");
                }
                else {
                    System.out.print(df.format(i) + " ");
                }
            }
        }
    }
}

```