

```

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

public class Sieve {

    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);

    }

    public static void computePrimes(boolean primeArray[]) {

        // This method will compute the prime numbers
        for (int i = 2; i < primeArray.length; i++) {
            primeArray[i] = true;
        }

        for (int i = 2; i < Math.sqrt(primeArray.length); i++)
        {
            if (primeArray[i] == true) {
                for (int j = i + i; j <
primeArray.length; j += i) {
                    primeArray[j] = false;
                }
            }
        }

    }

    private static void printMatrix(boolean[] primeArray) {
        for (int r = 0; r < primeArray.length; r++) {

            System.out.print(primeArray[r] + " ");

            System.out.print("\n");
        }
        System.out.println("Here are the numbers starting from
1 and " + primeArray.length);
    }
}

```

```
public static void displayPrimes(boolean primeArray[]) {
    // This method will display the prime numbers
    DecimalFormat dF = new DecimalFormat("0000");

    int counter = 0 ;
    for (int i = 2; i < primeArray.length; i++) {
        if (primeArray[i] == true) {
            counter++;
            System.out.print(dF.format(i) + " ");
            if (counter % 16 == 0) {
                System.out.println();
            }
        }
    }
}
}
```