

```
1
2  import java.text.DecimalFormat;
4  public class Sieve {
5
6
7      public static void main(String args[])
8      {
9          System.out.println("\nSieve of Eratosthenes\n");
10         Scanner input = new Scanner(System.in);
11         System.out.print("Enter the primes upper bound
====>> ");
12         final int MAX = input.nextInt();
13
14         input.close();
15
16         boolean primes[] = new boolean[MAX];
17
18         for (int i=2; i<MAX; i++) {
19             primes [i] = true;
20         }
21
22
23         computePrimes(primes);
24         displayPrimes(primes);
25
26     }
27
28     public static void computePrimes(boolean primeArray[])
29     {
30         // This method will compute the prime numbers
31
32         for (int i=2; i <= Math.sqrt(primeArray.length); i+
+) {
33
34             for (int j = 2*i; j<primeArray.length; j
= j +i) {
35                 primeArray [j] = false;
36             }
37         }
38
39
40     }
41
42     public static void displayPrimes(boolean primeArray[])
```

```
43     {
44         // This method will display the prime numbers
45         int counter = 0;
46
47         for (int x = 0; x < primeArray.length; x++) {
48             DecimalFormat dec = new DecimalFormat
49             ("0000");
50
51             if (primeArray [x] == true) {
52                 System.out.print(dec.format (x) + " ");
53             }
54
55             if (primeArray [x] == true) {
56                 counter ++;
57
58                 if (counter % 16 == 0)
59                     System.out.println ();
60             }
61         }
62     }
63
64 }
65
66
67
```