

```

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

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();
input.close();
boolean[] primes = computePrimes(MAX);
displayPrimes(primes);
}
public static boolean[] computePrimes(int upperBound)
{
// This method will compute the prime numbers
boolean[] primeArray = new boolean[upperBound+1];
for (int i=2; i<upperBound+1; i++) {
    primeArray[i]=true;
}
for(int i=0; i<Math.sqrt(upperBound+1); i++) {
    if (primeArray[i]==true){
        int check;
        for (check=2*i; check<upperBound+1; check+=i) {
            primeArray[check]=false;

        }
        check=i;
    }
}

return primeArray;
}

public static void displayPrimes(boolean[] primeArray)
{
// This method will display the prime numbers
int maxLength=primeArray.length;
int places=String.valueOf(maxLength).length();
String d=new String();
for (int count=0; count<places;count++) {
    d+="0";
}

DecimalFormat df = new DecimalFormat(d);
String printer=new String();
int check=0;
    for(int i=0; i<primeArray.length; i++) {
        if (primeArray[i]==true) {
            printer+=df.format(i)+" ";
            check++;
        }
        if (check==16){
            printer=printer.trim();
            System.out.println(printer);
            printer="";
            check=0;
        }
    }
    if (!printer.equals(""))
        printer=printer.trim();
}

```

```
System.out.println(printer);
```

```
}
```

```
}
```