

```
public static List<Integer> sieveOfEratosthenes(int n) {  
    boolean[] prime = new boolean[n + 1];  
    for (int i = 0; i <= n; i++)  
        prime[i] = true;  
  
    for (int p = 2; p * p <= n; p++) {  
        if (prime[p]) {  
            for (int i = p * p; i <= n; i += p)  
                prime[i] = false;  
        }  
    }  
  
    List<Integer> primes = new ArrayList<>();  
    for (int i = 2; i <= n; i++) {  
        if (prime[i]) {  
            primes.add(i);  
        }  
    }  
    return primes;  
}
```