

```
#include <math.h>

const int MAX = 1000;
bool prime[MAX];

void fill_prime(const int max){
    int sqrt_max = sqrt(max);
    memset(prime, true, sizeof(prime));
    prime[0] = false;
    prime[1] = false;
    for (int i=2; i <= sqrt_max; i++) {
        if (prime[i]) {
            for (int k=i*i; k < max; k+=i) {
                prime[k] = false;
            }
        }
    }
}
```