

```

#include <bits/stdc++.h>
using namespace std;
#define int long long
bool arr[1000000];

bool SieveOfEratosthenes(int n)
{
    bool prime[n + 1];
    memset(prime, true, sizeof(prime));

    for (int p = 2; p * p <= n; p++)
    {
        if (prime[p] == true)
        {
            for (int i = p * p; i <= n; i += p)
                prime[i] = false;
        }
    }
    return prime[n];
}

int32_t main()
{
    ios_base::sync_with_stdio(false);
    cin.tie(NULL);

    int tt;
    cin >> tt;
    while (tt--)
    {
        int n;
        cin >> n;
        if (n == 1)
        {
            cout << 1 << "\n";
            continue;
        }
        if (n != 3)

```

```
{  
    if (SieveOfEratosthenes(n))  
    {  
        cout << 2 << "\n";  
    }  
    else  
        cout << 1 << "\n";  
}  
else  
{  
    cout << 3 << "\n";  
}  
}
```



Test against custom input ▼

Compile & Test code

Submit code

Submission ID: 82041098

RESULT: Accepted

Refer judge environment

Score	Time (sec)	Memory (KiB)	Language
100	0.00955	2	C++17

Input	Result	Time (sec)	Memory (KiB)	Score	Your output	Correct output	Diff
Input #1	Accepted	0.009552	2	100			



input.txt ×

input.txt

```
1 30
2 1
3 8566
4 6308
5 41
6 5680
7 4427
8 2739
9 77
10 6274
```

output.txt ×

output.txt

```
1 1
2 1
3 1
4 2
5 1
6 1
7 1
8 1
9 1
10 1
11 1
12 2
13 1
14 3
15 1
16 1
17 2
18 1
19 1
20 1
21 2
22 1
23 1
24 1
```