

```

1  /* Prime numbers between a & b using Sieve of Erotosthenes */
2
3  #include <stdio.h>
4  #include <string.h>
5  #include <map>
6  #include <iostream>
7  #include <string>
8  #include <vector>
9  #include <iterator>
10 #include <algorithm>
11 #include <stdio.h>
12 #include <stdlib.h>
13 #include <string>
14 #define gc getchar_unlocked
15 #define MOD 1000000009
16 using namespace std;
17 inline int getint()
18     {
19         int num = 0;
20         char c = getchar_unlocked();
21         int flag = 0;
22         while(!((c>='0' & c<='9') || c == '-'))
23             c=getchar_unlocked();
24         if(c == '-')
25             {
26                 flag = 1;
27                 c=getchar_unlocked();
28             }
29         while(c>='0' && c<='9')
30             {
31                 num = (num<<1)+(num<<3)+c-'0';
32                 c=getchar_unlocked();
33             }
34         if(flag==0)
35             return num;
36         else
37             return -1*num;
38     }
39
40 int main()
41 {
42     int isprime[1000000]={0};
43     int i,j,n=1000000,a,b,k,t,k1,zz;
44     isprime[0]=1;
45     isprime[1]=1;
46     for(i=2; i<=n; i++)
47     {
48         if(isprime[i]==0)
49             for(j=2*i; j<=n; j+=i)
50             {
51                 isprime[j]=1;
52             }
53     }
54
55     //array to store the count;
56     int ct[1000001]={0};
57     for(i=1; i<n; i++)
58     {
59         ct[i]=ct[i-1];
60         if(!isprime[i])
61             ct[i]++;
62     }
63
64     for(i=1; i<13; i++)

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```
65         cout<<"i:"<<i<<" "<<ct[i]<<endl;
66
67     t = getint();
68     while(t-->0)
69     {
70         a = getint();
71         b = getint();
72         cout<<(ct[b]-(ct[a-1]))<<endl;
73     }
74 }
75 }
76 //1 100000 1 u need to get 9700.
```