

checkPrime.c

```
1  #include <stdio.h>
2  #include <math.h>
3
4  // check if a number is prime
5
6  int main(){
7
8      int num, i, isPrime = 1;
9
10     printf("Enter a positive integer: ");
11     scanf("%d", &num);
12
13     if (num <= 1) {
14         isPrime = 0; // numbers less than or equal to 1 are not prime
15     } else {
16         for (i = 2; i <= sqrt(num); i++) {
17             if (num % i == 0) {
18                 isPrime = 0; // found a divisor, not prime
19                 break;
20             }
21         }
22     }
23
24     if (isPrime) {
25         printf("%d is a prime number.\n", num);
26     } else {
27         printf("%d is not a prime number.\n", num);
28     }
29
30     return 0;
31 }
```