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Section: C	
Subject: CSE 108	

1. Write a C program to find the greatest common divisor (gcd) of two numbers using Euclid's algorithm.

```c
#include <stdio.h>


int gcd(int a, int b) {
    while (b != 0) {
        int temp = b;
        b = a % b;
        a = temp;
    }
    return a;
}

int main() {
    int num1, num2;


    printf("Enter two integers: ");
    scanf("%d %d", &num1, &num2);


    int result = gcd(num1, num2);


    printf("GCD of %d and %d is %d\n", num1, num2, result);

    return 0;
}
```
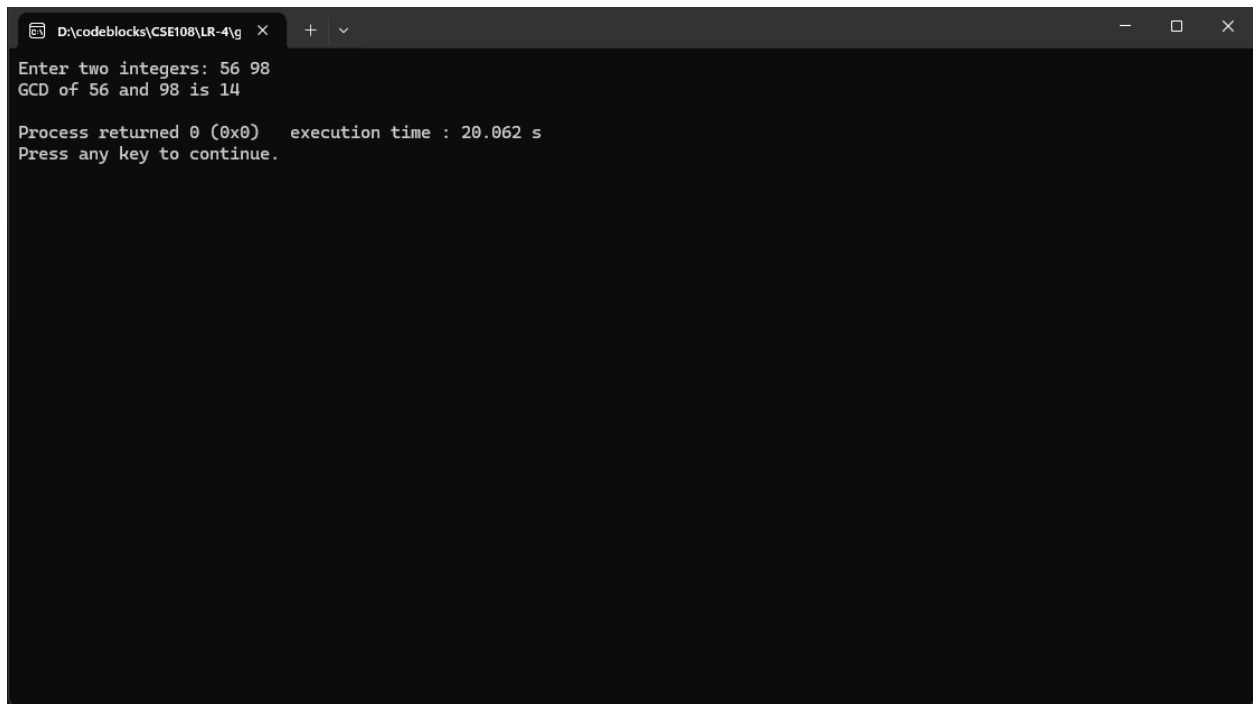
Output:

```
D:\codeblocks\CSE108\LR-4\g   ×   +   ∨                              —   �□   ×

Enter two integers: 56 98
GCD of 56 and 98 is 14

Process returned 0 (0x0)   execution time : 20.062 s
Press any key to continue.
```

2 . Develop a C program to calculate the least common multiple (lcm) of two numbers using their gcd.

#include <stdio.h>

int main() {

  int num1,num2,i,a,b;

  printf("enter two number's : \n");

  scanf("%d %d",&num1,&num2);

  a=num1;

  b=num2;

  for(i=1;;i++){

    if(num1>num2){

      num1=num1-num2;

    }

    else if(num1<num2){

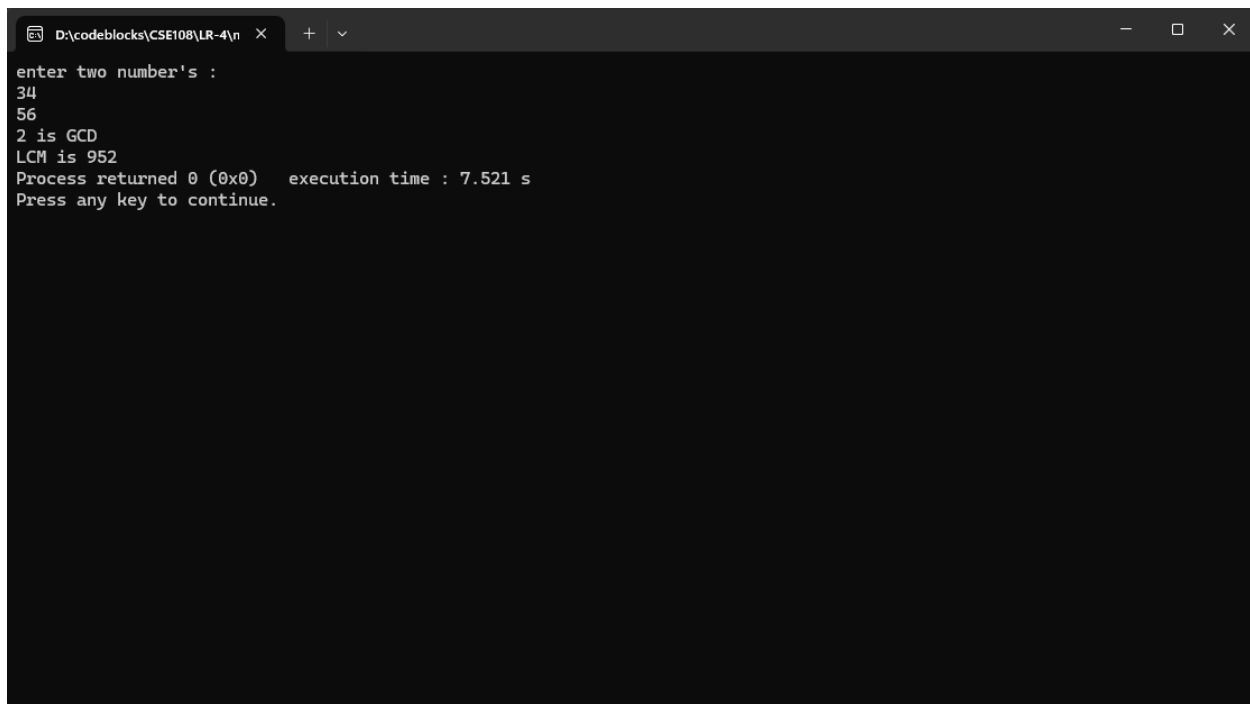   num2-=num1;

```
            }else{

                printf("%d is GCD\n",num1);

                break;

            }

        }

        printf("LCM is %d",(a*b)/num1);

        return 0;

}
```

Output:


```
enter two number's :
34
56
2 is GCD
LCM is 952
Process returned 0 (0x0)   execution time : 7.521 s
Press any key to continue.
```

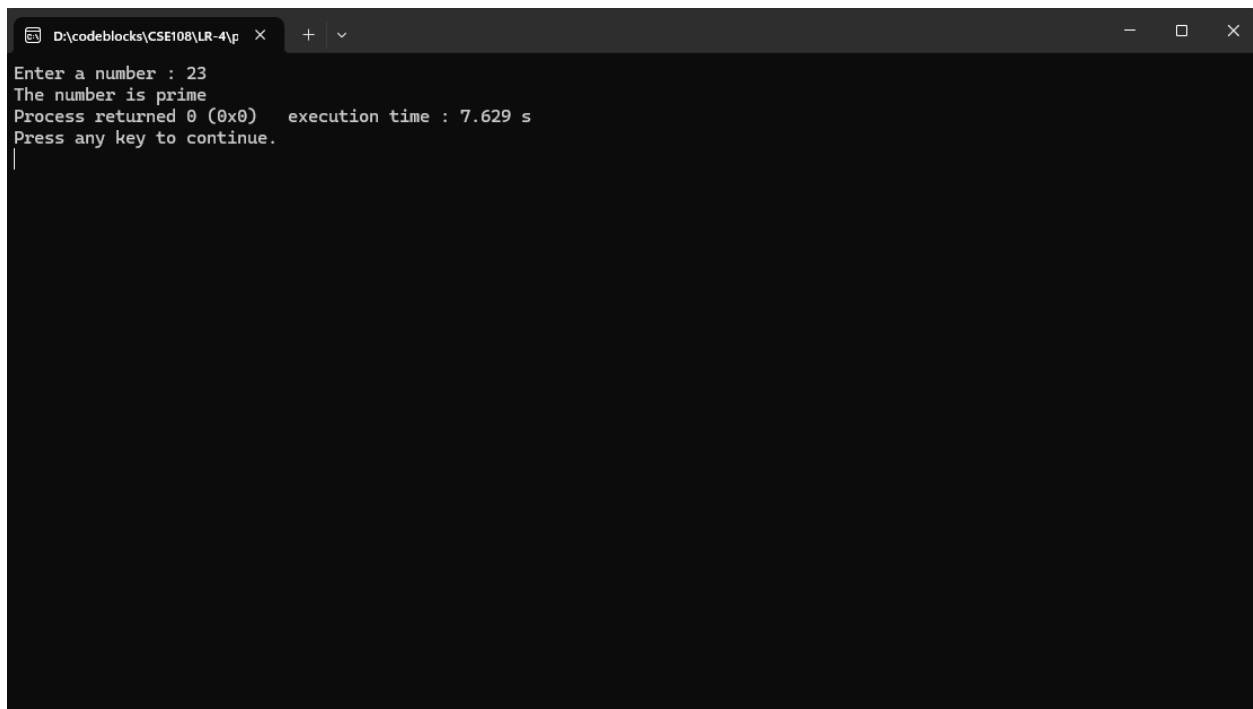3 . Create a C program to check whether a given number is prime or not.

```c
#include <stdio.h>

int main() {

    int i,num,k=1;

    printf("Enter a number : ");
```

```c
        scanf("%d",&num);
    if (num%2!=0){
        for(i=k+2;i<=num/2;i++){
            if(num%i==0){
                k=1;
                break;
            }
            else{
                k=0;
            }
        }
        if(k==1){
            printf("The number is not prime");
        }else{
            printf("The number is prime");
        }
    } else{
        if(num==2){
            printf("The number is prime");
        }else{
            printf("The number is not prime");
        }
    }
    return 0;
}
```
Output:

```
Enter a number : 23
The number is prime
Process returned 0 (0x0)   execution time : 7.629 s
Press any key to continue.
```