

## main.c

```
1 #include <stdio.h>
2 int hcf(int n1, int n2);
3 int main() {
4     int n1, n2;
5     printf("Enter two positive integers: ");
6     scanf("%d %d", &n1, &n2);
7     printf("G.C.D of %d and %d is %d.", n1, n2, hcf(n1, n2)
8 );
9     return 0;
10 }
11 int hcf(int n1, int n2) {
12     if (n2 != 0)
13         return hcf(n2, n1 % n2);
14     else
15         return n1;
16 }
17 }
```

```
> clang-7 -pthread -lm -o main main.c
> ./main
Enter two positive integers: 2
4
G.C.D of 2 and 4 is 2.
```

## GCD

```
#include <stdio.h>
int hcf (int n1, int n2);
int main()
{
    int n1, n2;
    printf ("Enter two positive integers : ");
    scanf ("%d %d", &n1, &n2);
    printf ("GCD of %d and %d is %d.", n1, n2, hcf(n1, n2));
    return 0;
}

int hcf (int n1, int n2)
{
    if (n2 == 0)
        return hcf (n2, n1 % n2);
    else
        return n1;
}
```

## main.c

```
1 #include <stdio.h>
2 int gcd(int m,int n)
3 {
4     int r;
5     do{
6         r=m%n;
7         m=n;
8         n=r;
9     } while(n!=0);
10    return m;
11 }
12 int main()
13 {
14     int m,n,res;
15     printf("Enter m and n\n");
16     scanf("%d%d",&m,&n);
17     res=gcd(m,n);
18     printf("The GCD is %d",res);
19
20 }
```

```
› clang-7 -pthread -lm -o main main.c
› ./main
Enter m and n
4
8
The GCD is 4
```

I

# Iterative GCD program

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```
#include <stdio.h>
int gcd (int m, int n)
{
    int r;
    do {
        r = m % n;
        m = n;
        n = r;
    } while (n != 0);
    return m;
}

int main()
{
    int m, n, res;
    printf("Enter m and n\n");
    scanf ("%d %d", &m, &n);
    res = gcd (m, n);
    printf ("The GCD is %d", res);
}
```