

C programs

Problem 1: Write a C program to compute prime numbers between 1 to n.

Program:

```
#include<conio.h>
#include<stdio.h>

int prime(int n)
{
    int i;
    for(i=2;i<=n/2;i++)
    {
        if(n%i==0)
        {
            return 0;
        }
    }
    return 1;
}

void main()
{
    int i,n;
    printf("Enter The value of n: ");
    scanf("%d",&n);
    printf("The prime's in the given range is:\n");
    for(i=2;i<=n;i++)
    {
        if(prime(i)==1)
        {
            printf("%d ",i);
        }
    }
    getch();
}
```

Output:

```
Enter The value of n: 20
The prime's in the given range is:
2 3 5 7 11 13 17 19
```

Problem 2: Write a C program to compute the G. C. D of two positive integers.

Program:

```
#include<conio.h>
#include<stdio.h>

void main()
{
    int a,b,r;
    printf("Enter two positive integer: ");
    scanf("%d%d",&a,&b);
    r=a%b ;
    while(r!=0)
    {
        a=b;
        b=r;
        r=a%b ;
    }
    printf("The GCD is : %d ",b);
    getch();
}
```

Output:

Enter two positive integer: 15

10

The GCD is : 5

.....

Enter two positive integer: 21

49

The GCD is : 7

Problem 3: Write a recursive C function to compute factorial of a given non-negative integer.

Program:

```
#include<conio.h>
#include<stdio.h>

int factorial(int n)
{
    if(n==0)
    {
        return 1;
    }
    return n* factorial(n-1);
}

void main()
{
    int n;
    printf("Enter a number: ");
    scanf("%d",&n);
    printf("The factorial of %d is: %d",n,factorial(n));
}
```

Output:

```
Enter a number: 0
The factorial of 0 is: 1
.....
Enter a number: 1
The factorial of 1 is: 1
.....
Enter a number: 6
The factorial of 6 is: 720
```