i) // towers of Hanoi

```
#include <stdio.h>
void towers (int, char, char, char);
int main () {
    int num;
    printf ("Enter the number of disks:");
    scanf ("%d", &num)
    printf (" Steps in towers of Hanoi are : ");
    towers (num, 'A', 'C', 'B');

    return 0;
}
```

[redacted]

```
void towers ( int num, char source, char dest, char auxiliary ) {
    if (num == 1) {

        printf ("\n Move disk 1 from peg %c to peg %c", source, dest);
        return;
    }

    towers (num -1, source, auxiliary, dest);
    printf ("\n move disk %d from peg %c to peg %c", num, source, dest);
    towers (num -1, auxiliary, dest, source);
}
```

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// modification of towers of hanai to count number of recursive call

~~void towers (int n, char sourc, char dest, char aux){~~
~~int count = 0;~~
~~if (n == 0)~~
~~return~~

~~}~~

```
static int count (int n, char s, char d, char a){
    int caunt =0;
    if (n==0)
    return 1;

    count += caunt (n-1, s, a, d)
    Caunt += caunt(n-1, a, d, s)

    return cout;
}
```


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ii) // Find GCD

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


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