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# ADA-LAB Test

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## 1) Solve tower 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 ("The sequence of moves involved in the tower of Hanoi
          are:\n");
  towers (num, 'A', 'C', 'B');
  return 0;
}
void towers (int num, char frompeg, char topeg, char auxpeg)
{
  if (num == 1)
  { printf ("\n Move disk 1 from peg %c to peg %c ", frompeg, topeg);
    return;
  }
  towers (num-1, frompeg, auxpeg, topeg);
  printf ("\n Move disk %d from peg %c to peg %c ", num, frompeg, topeg);
  towers (num-1, auxpeg, topeg, frompeg);
}
```

Output :-

## 2). GCD

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

Output :

Modification : find LCM using GCD

```
int LCM (int n1, int n2)
{
  ans = n1 + n2;
  ans = ans/gcd (n1, n2);
     return ans;
}.
```