PROGRAM-1

**1. Write a recursive program to     a. Solve Towers-of-Hanoi  
problem    b. To find GCD**

#include<stdio.h>

void toh(int n,int A,int B,int C)

{

if(n>0)

{

toh(n-1,A,C,B);

printf("Move a disc from %d to %d\n",A,C);

toh(n-1,B,A,C);

}

}

int hcf(int n1, int n2) {

if (n2 != 0)

return hcf(n2, n1 % n2);

else

return n1;

}

int main()

{

int choice;

while(1)

{

int n;

int n1, n2;

printf("\n 1. tower of hanoi\n 2. GCD\n");

scanf("%d",&choice);

switch(choice)

{

case 1: printf("How many discs\n ");

scanf("%d",&n);

toh(n,1,2,3);

break;

case 2: printf("Enter two positive integers: ");

scanf("%d %d", &n1, &n2);

printf("G.C.D of %d and %d is %d.", n1, n2, hcf(n1, n2));

break;

}

}

}