TOPIC NO.: 11 TITLE: Tower Of Hanoi DATE: 03.04.24

Program Code:

#include <stdio.h>

int move\_count = 0;

void towerOfHanoi(int n, char from\_rod, char to\_rod, char aux\_rod)

{

if (n == 1)

{

printf("Move disk 1 from %c to %c\n", from\_rod, to\_rod);

move\_count++;

return;

}

towerOfHanoi(n - 1, from\_rod, aux\_rod, to\_rod);

printf("Move disk %d from %c to %c\n", n, from\_rod, to\_rod);

move\_count++;

towerOfHanoi(n - 1, aux\_rod, to\_rod, from\_rod);

}

int main(void)

{

int num\_disks;

printf("Enter the number of disks: ");

scanf("%d", &num\_disks);

towerOfHanoi(num\_disks, 'A', 'C', 'B');

printf("Total number of moves: %d\n", move\_count);

return 0;

}

Output:

Enter the number of disks: 3

Move disk 1 from A to C

Move disk 2 from A to B

Move disk 1 from C to B

Move disk 3 from A to C

Move disk 1 from B to A

Move disk 2 from B to C

Move disk 1 from A to C

Total number of moves: 7