Question:
Develop a program to demonstrate concept of recursion (Factorial / Binary Search / Towers of
Hanoi)

Aim:
To develop a program to solve the towers of hanoi problem

Algorithm

- Firstly move all but the lowest disc to the Auxiliary tower using the target tower
- Move the disc from To tower to Initial tower
- Now again move all the lowest disc among the discs in the Auxiliary tower to the Initial tower using To tower.
- Repeat the above steps till the smallest disc remains.
- Now move the smallest disc to the To tower

Program

```
#include <stdio.h>

void toh(int disc, char from, char to, char aux){
    /*algo is to move last disc first so we move n-1 disc to
aux then move first disc to last*/
    if(disc==1){
        printf("move disc 1 from %c to %c\n",from,to);
        return;
    }
        toh(disc-1,from, aux ,to);
        printf("Disc %d moved from %c to %c\n",disc,from,
to);
        toh(disc-1,aux,to,from);
}

int main(){
```

```
    toh(3,'a','b','c');
}
```

Output

```
PS E:\code> cd "e:\code\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }
move disc 1 from a to b
Disc 2 moved from a to c
move disc 1 from b to c
Disc 3 moved from a to b
move disc 1 from c to a
Disc 2 moved from c to b
move disc 1 from a to b
PS E:\code>
```