



THE UNIVERSITY  
OF LAHORE  
**ISLAMABAD  
CAMPUS**

## **Artificial Intelligence (CS13217)**

### **Lab Report 1**

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# Experiment 1

## Implementing tower of honai

### Objective

To understand and implement tower of honai

### Software Tool

1. opertaing system window 10
- 2.subline version 3.0
3. python

## 1 Theory

The Tower of Hanoi (also called the Tower of Brahma or Lucas' Tower[1] and sometimes pluralized) is a mathematical game or puzzle. It consists of three rods and a number of disks of different sizes, which can slide onto any rod. The puzzle starts with the disks in a neat stack in ascending order of size on one rod, the smallest at the top, thus making a conical shape.

The objective of the puzzle is to move the entire stack to another rod, obeying the following simple rules:.

1. Only one disk can be moved at a time.
2. Each move consists of taking the upper disk from one of the stacks and placing it on top of another stack..
3. No disk may be placed on top of a smaller disk..

## 2 Task

### 2.1 Procedure: Task 1

### 2.2 Procedure: Task 1

```

Enter the number of disks : 3

move disk 1 frompeg A topeg c
move disk 2 frompeg A topeg B
move disk 1 frompeg c topeg B
move disk 3 frompeg A topeg c
move disk 1 frompeg B topeg A
move disk 2 frompeg B topeg c
move disk 1 frompeg A topeg c
-----
Process exited after 3.022 seconds with return value 0
Press any key to continue . . .

```

Figure 1: Time Independent Feature Set

```

graph = { # sample graph implemented as a dictionary
          #include<stdio.h>
void tower(int num,char frompeg,char topeg,char auxpeg);
{
    if (num==1)
    {
        printf("\n move disk frompeg %c topeg %c", frompeg,topeg);
        return;}
    tower(num-1,frompeg ,auxpeg ,frompeg );
    printf("\n move disk %d frompeg %c",num,frompeg ,topeg );
    tower(num-1,auxpeg ,topeg ,frompeg );
}
int main()
{
    int num;
    printf("enter the number of disk :");
    scanf("%d",&num);
    tower(num, 'A' , 'C' , 'B' );
    return 0;
}

```

### 3 Conclusion