**Assignment 1**

import java.util.Scanner;

public class TowerOfHanoi {

public void solve(int n, int start, int auxilary, int end){

if(n==1)

System.out.println(start+" -> "+end);

else{

solve(n-1,start,end,auxilary);

System.out.println(start+" -> "+end);

solve(n-1,auxilary,start,end);

}

}

public static void main(String args[]){

TowerOfHanoi t= new TowerOfHanoi();

Scanner sc= new Scanner(System.in);

System.out.println("Enter the number of disks: ");

int n= sc.nextInt();

System.out.println("Disk movements are: ");

t.solve(n, 1, 2, 3);

}

}

**Assignment 2**

public class stack {

int a1[];

int top;

stack(){

a1=new int[100];

top=-1;

}

public void push(int x){

if(top==a1.length-1)

System.out.println("\nStack is full. ");

else

a1[++top]=x;

}

public int pop(){

if(top<0){

System.out.println("\nStack underflow. ");

return 0;

}

else

return a1[top--];

}

public boolean isEmpty(){

if(top<0)

return true;

else

return false;

}

}

import java.util.Scanner;

public class TowerOfHanoi {

public static void move(int n){

int i = 0,j = 0,k = 0,p;

stack s= new stack();

s.push(n);

s.push(1);

s.push(2);

s.push(3);

while(s.isEmpty()==false){

for(p=1;p<=4;p++){

if(p%4==1)

k=s.pop();

else if(p%4==2)

j=s.pop();

else if(p%4==3)

i=s.pop();

else

n=s.pop();

}

if(n==1)

System.out.println(i+" -> "+k);

else{

s.push(n-1);s.push(j);s.push(i);s.push(k);

s.push(1);s.push(i);s.push(j);s.push(k);

s.push(n-1);s.push(i);s.push(k);s.push(j);

}

}

}

public static void main(String args[]){

Scanner sc= new Scanner(System.in);

System.out.println("Enter the number of disks: ");

int n=sc.nextInt();

move(n);

}

}