#include <iostream>

#include <vector>

#include <stack>

using namespace std;

vector< vector<int> > tower;

int step = 0;

// void printTower(){

// for (int h=5; h>0; h--){

// for (int i=0; i<3; i++){

// if (tower[i].size() < h)

// cout <<" \t";

// else

// cout << tower[i][h-1] << "\t";

// }

// cout << endl;

// }

// cout << "==================" << endl;

// }

void printTower(int srcTower, int desTower , int bufTower){

cout << "src : " ;

for (auto item:tower[srcTower])

cout << item << " ";

cout <<"|";

cout << " dest : " ;

for (auto item:tower[desTower])

cout << item << " ";

cout << "|";

cout << " temp : " ;

for (auto item:tower[bufTower])

cout << item << " ";

cout << endl;

}

void movePlate(int srcTower, int desTower,int bufTower) {

tower[desTower].push\_back(tower[srcTower].back());

tower[srcTower].pop\_back();

printTower(srcTower,desTower,bufTower);

}

void hanoi(int n, int srcTower, int desTower, int bufTower) {

if (n == 1)

movePlate(srcTower, desTower,bufTower);

else {

hanoi(n-1, srcTower, bufTower, desTower);

movePlate(srcTower, desTower,bufTower);

hanoi(n-1, bufTower, desTower, srcTower);

}

}

int main() {

tower.resize(3);

int height;

cout << " height : ";

cin >> height;

for( int i = height ; i >=1; i--){

tower[0].push\_back(i);

}

cout << "scr : " ;

for (auto item:tower[0])

cout << item << " ";

cout <<"| est: | temp: "<<endl;

hanoi(height, 0, 2, 1);

cout << step << endl;

return 0;

}

