#include<iostream>

using namespace std;

void toh(int n, int t1id, int t2id, int t3id){

if(n==0){

return;

}

toh(n-1,t1id,t3id,t2id);

cout<<n<<"["<<t1id<<" -> "<<t2id<<"]"<<endl;

toh(n-1,t3id,t2id,t1id);

}

int main() {

int n;cin>>n;

int n1,n2,n3;cin>>n1>>n2>>n3;

toh(n, n1, n2, n3);

}