#include <cmath>

#include <cstdio>

#include <vector>

#include <iostream>

#include <algorithm>

using namespace std;

int main() {

/\* Enter your code here. Read input from STDIN. Print output to STDOUT \*/

int n;

cin>>n;

int a[2\*n-1][2\*n-1];

int low=0,high=2\*n-1,num=n;;

while(num!=0){

for(int i=low;i<high;i++)

a[low][i]=num;

for(int i=low;i<high;i++)

a[i][high-1]=num;

for(int i=low;i<high;i++)

a[high-1][i]=num;

for(int i=low;i<high;i++)

a[i][low]=num;

low=low+1;

high=high-1;

num=num-1;

}

for(int i=0;i<2\*n-1;i++){

for(int j=0;j<2\*n-1;j++)

cout<<a[i][j]<<" ";

cout<<endl;

}

return 0;

}