#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 t=n\*2-1;

for(int i=0;i<t;i++)

{

for(int j=0;j<t;j++)

{

int m=i<j?i:j;

m=m<t-i?m:t-i-1;

m=m<t-j-1?m:t-j-1;

cout<<n-m<<" ";

}

cout<<endl;

}

return 0;

}