#include <iostream>

using namespace std;

int n;

int ans = 0, DONE;

int getPosition(int n){

int ans=0;

while(n>0){

ans++;

n = n >>1;

}

return ans-1;

}

int board[100][100] = {0};

void solve(int rowMask,int ld,int rd,int row){

if(rowMask==DONE){

for(int i=0;i<n;i++){

for(int j=0;j<n;j++){

cout<<board[i][j];

}

cout<<endl;

}

cout<<endl;

ans++;

return;

}

int safe = DONE & (~(rowMask|ld|rd));

while(safe){

int p = safe & (-safe);

//p will give you the column

int col = getPosition(p);

board[row][col] = 1;

safe = safe - p;

solve(rowMask|p, (ld|p)<<1,(rd|p)>>1,row+1);

board[row][col] = 0;

}

}

int main() {

cin>>n;

DONE = ((1<<n)) - 1;

solve(0,0,0,0);

cout<<ans<<endl;

}