#include <stdio.h>

void makepatterns(int N, int currentlevel, char pattern[]) {

if(currentlevel==N)

printf("%s\n", pattern); // print pattern

else {

pattern[currentlevel]='0'; // set one character to something

makepatterns(N, currentlevel+1, pattern); // recursive call

pattern[currentlevel]='1'; // set it to something else

makepatterns(N, currentlevel+1, pattern); // recursive call

}

}

int main() {

char pattern[21]; // at most 20 chars plus NULL

int N;

scanf("%d", &N); // read N

pattern[N]='\0'; // terminate string at position N

makepatterns(N, 0, pattern); // generate all patterns

}