#include <fstream>

#include <cstring>

#define DIM 1010

using namespace std;

char a[DIM][DIM], s[DIM];

int n, k, i, j, L;

char toUpper(char x) {

if (x >= 'a' && x <= 'z')

x -= ('a'-'A');

return x;

}

int main () {

ifstream fin ("rebus.in");

ofstream fout("rebus.out");

fin>>n;

for (i=1;i<=n;i++)

for (j=1;j<=n;j++) {

fin>>a[i][j];

a[i][j] = toUpper(a[i][j]);

}

for(fin>>k;k--;){

fin>>s;

L = strlen(s);

for (i=0;i<L;i++)

s[i] = toUpper(s[i]);

int gasit = 0;

for (i=1;i<=n && !gasit;i++) {

/// verificam daca s apare pe linia i

for (j=1;j+L-1<=n;j++) {

int ok = 1;

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

if (a[i][j+t] != s[t]) {

ok = 0;

break;

}

if (ok) {

gasit = 1;

break;

}

}

}

if (! gasit) {

for (i=1;i<=n && !gasit;i++) {

/// verificam daca s apare pe linia i

for (j=1;j+L-1<=n;j++) {

int ok = 1;

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

if (a[j+t][i] != s[t]) {

ok = 0;

break;

}

if (ok) {

gasit = 1;

break;

}

}

}

}

fout<<gasit;

}

fout<<"\n";

return 0;

}