#include <fstream>

#define DIM 1010

using namespace std;

ifstream fin ("mins.in");

ofstream fout("mins.out");

int a[DIM][DIM], b[2\*DIM];

int n, i, j, k, t, c, L1, L2, p;

int main () {

fin>>n;

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

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

fin>>a[i][j];

fin>>k;

for (t=1;t<=k;t++) {

fin>>L1>>L2;

i = 1;

j = 1;

p = 0;

while(i<=n && j<=n) {

if (a[L1][i] < a[L2][j]) {

b[++p] = a[L1][i++];

} else {

b[++p] = a[L2][j++];

}

if (p >= n)

break;

}

if (p < n)

for (;i<=n && p<n;)

b[++p] = a[L1][i++];

if (p < n)

for (;j<=n && p<n;)

b[++p] = a[L2][j++];

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

a[L1][i] = b[i];

}

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

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

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

fout<<"\n";

}

return 0;

}