#include<stdio.h>

#include<pthread.h>char board[3][3] = {{' ', ' ', ' '}, {' ', ' ', ' '}, {' ', ' ', ' '}};

pthread\_mutex\_t mx, m0;

void display() {

int i, j;

for(i=0; i<3; i++) {

for(j=0; j<3; j++) {

printf("%c", board[i][j]);

}

printf("\n");

}

}

void\* fx(void\* a) {

int i, j, played;

while(1) {

played = 0;

pthread\_mutex\_lock(&mx);

printf("X\n");

for(i=0; i<3; i++) {

for(j=0; j<3; j++) {

if(board[i][j] == ' ') {

board[i][j] = 'X';

played = 1;

break;

}

}

if(played) {

break;

}

}

pthread\_mutex\_unlock(&m0);

if(!played) {

break;

}

}

return NULL;

}

void\* f0(void\* a) {

int i, j, played;

while(1) {

played = 0;

pthread\_mutex\_lock(&m0);

printf("0\n");

for(i=0; i<3; i++) {

for(j=0; j<3; j++) {

if(board[i][j] == ' ') {

board[i][j] = '0';

played = 1;

break;

}

}

if(played) {

break;

}

}

pthread\_mutex\_unlock(&mx);

if(!played) {

break;

}

}

return NULL;

}

int main(int argc, char\*\* argv) {

pthread\_t tx, t0;

pthread\_mutex\_init(&mx, NULL);

pthread\_mutex\_init(&m0, NULL);

pthread\_mutex\_lock(&m0);

pthread\_create(&tx, NULL, fx, NULL);

pthread\_create(&t0, NULL, f0, NULL);

pthread\_join(tx, NULL);

pthread\_join(t0, NULL);

pthread\_mutex\_destroy(&mx);

pthread\_mutex\_destroy(&m0);

display();

return 0;

}