



INSTITUTO TECNICO HUMANISTICO  
JAUZEL ARRIETA

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## Elaboración del juego

### Tres en raya

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**Curso:** 6to de secundaria

**Materia:** Programacion

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Copa

## Diseño del programa.

```
1 | 2 | 3
-----
4 | 5 | 6
-----
7 | 8 | 9

Coloca una Ficha: _
```

```
X | 2 | 3
-----
4 | 5 | 6
-----
7 | 0 | 9

Coloca una Ficha: _
```

```
X | X | X
-----
4 | 5 | 0
-----
X | 0 | 0

Muy bien has ganado!!
```

0		x		x
-----				
x		x		0
-----				
0		0		x

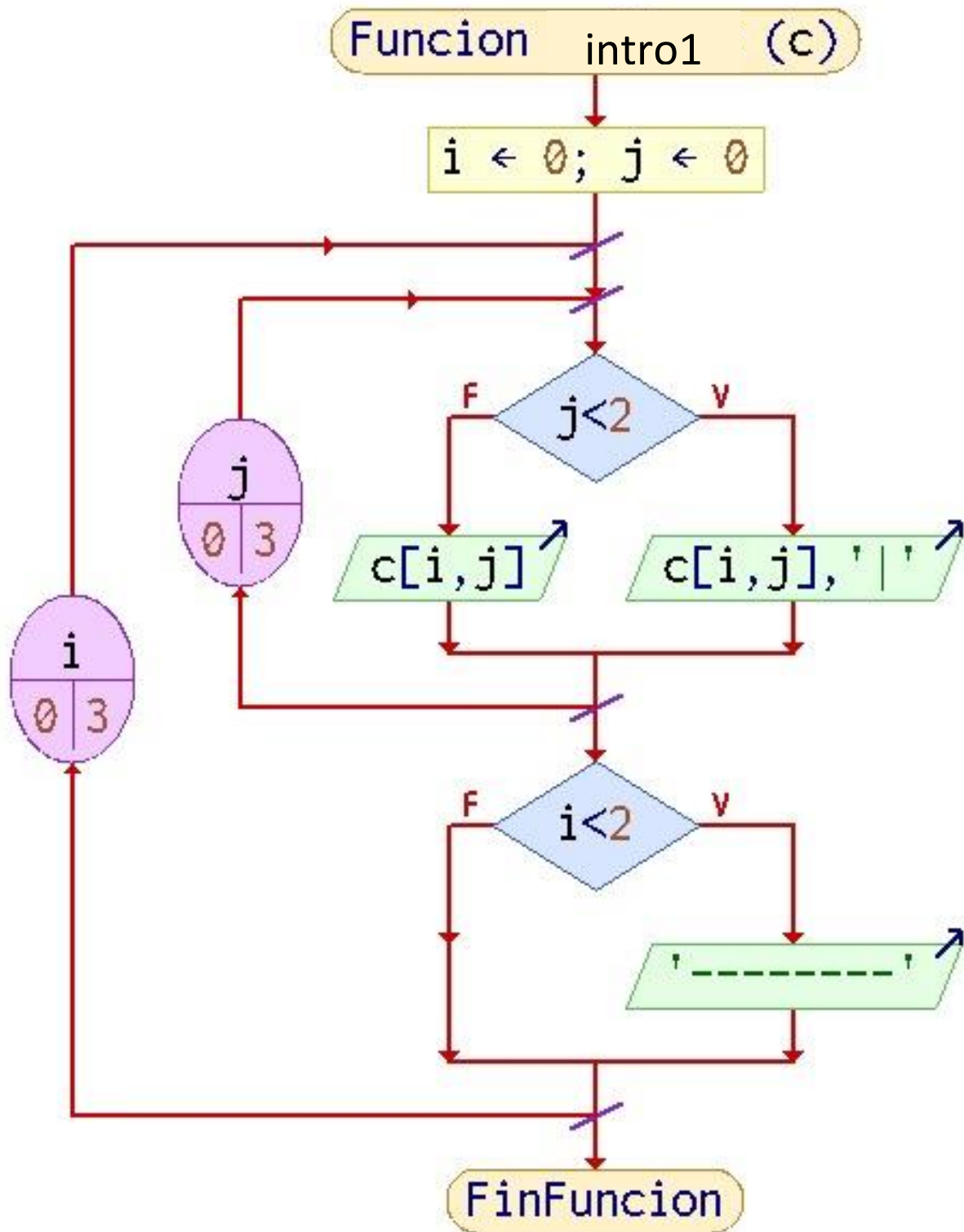
1		0		x
-----				
x		0		x
-----				
7		0		9

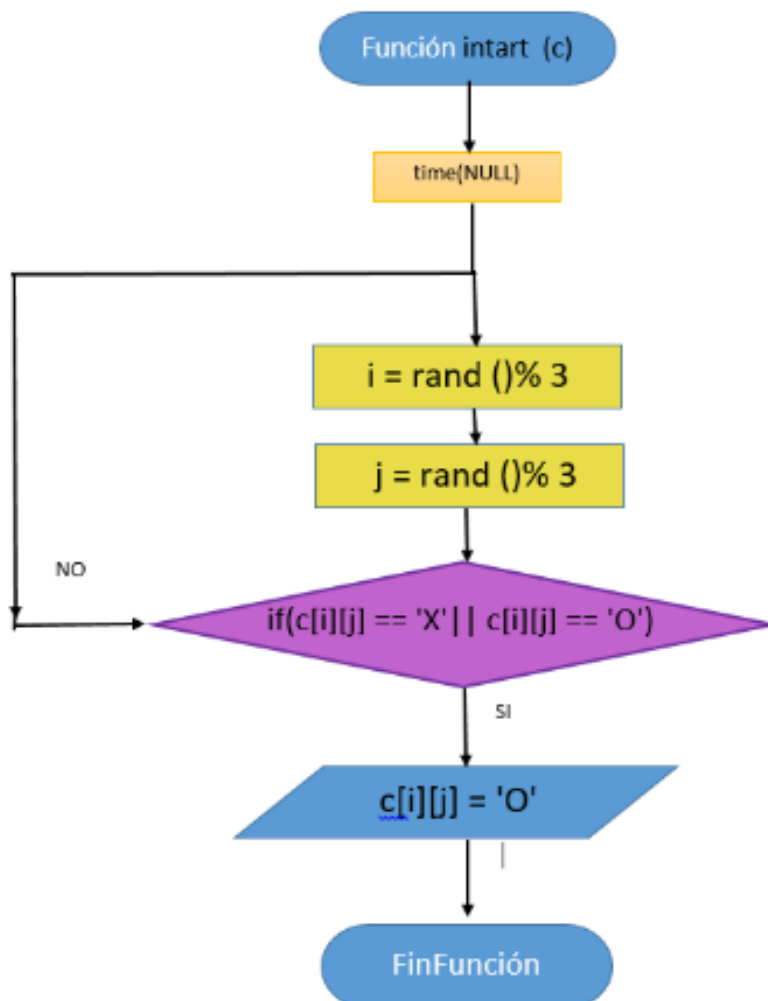
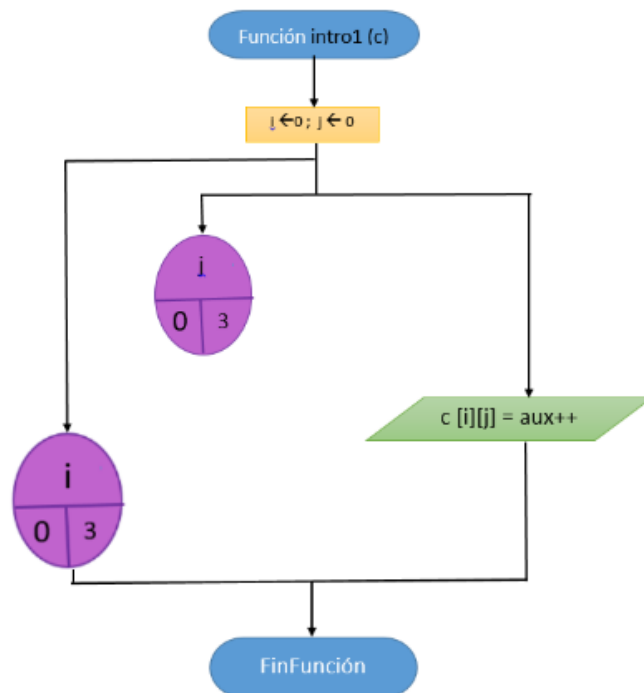
Que mal! has perdido!!

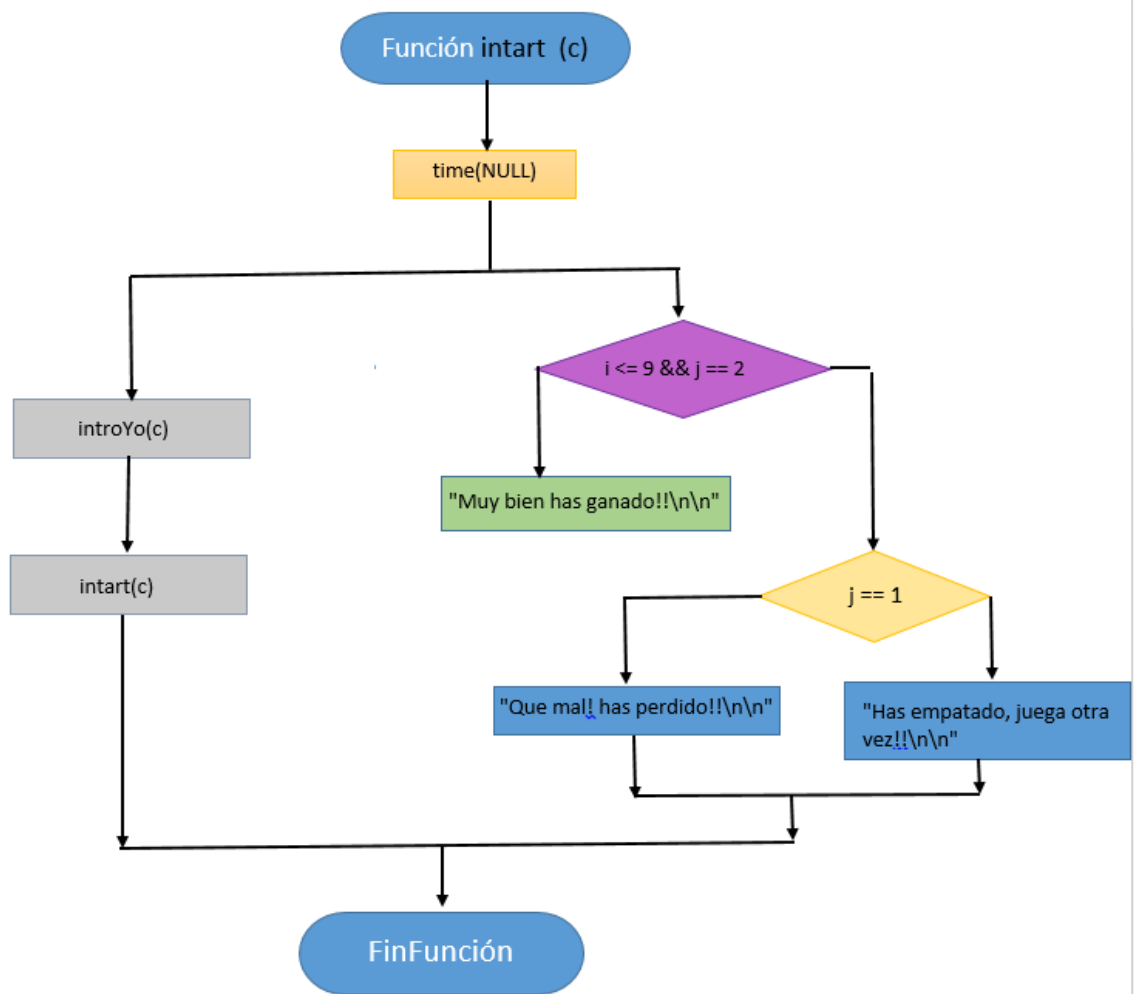
0		x		x
-----				
0		x		0
-----				
x		8		9

Muy bien has ganado!!

## Diagrama.







## Código.

//Hacer un juego (3 en raya)

```
#include<stdio.h>
```

```
#include<time.h>
```

```
#include <stdlib.h>
```

```
void loop(char c[3][3]);
```

```
void introI(char c[3][3]);
```

```
void tablero(char c[3][3]);
```

```
void introYo(char c[3][3]);
```

```
void intart(char c[3][3]);
```

```
int Ganador(char c[3][3]);
```

```
int main(){
```

```
char c[3][3];
```

```
loop(c);//hace llamadas a todas las funciones fundamentales y hace un refresco en pantalla XD LOL
```

```
system("pause");
```

```
return 0;
```

```
}
```

```
void loop(char c[3][3]){
```

```
    int i;
```

```
    int j;
```

```
    i = 0;
```

```
    intro(c);
```

```
    do{
```

```
        system ("cls");
```

```
        tablero(c);
```

```
        if(i % 2 == 0){
```

```
            introYa(c);
```

```
        }
```

```
        else{
```

```
            intart(c);
```

```
        }
```

```
        i++;
```

```
        j = Ganador(c);
```

```
    }while(i <= 9 && j == 2 );
```

```
    system ("cls");
```

```
        tablero(c);
```

```

        if(j == 0){

            printf("Muy bien has ganado!!\n\n");

        }

        else if(j == 1){

            printf("Que mal! has perdido!!\n\n");

        }

        else{

            printf("Has empatado, juega otra vez!!\n\n");

        }

    }
}

```

```

void introI(char c[3][3]){

    int i, j;

    char aux;

    aux = 'I';

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

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

            c [i][j] = aux++;

        }

    }

}

```

```

void introYo(char c[3][3]){

    int i,j,k;

    char aux;

    do{

        do{

            printf("Coloca una Ficha: ");

            fflush(stdin);

            scanf("%c",&aux);

        }while(aux < 'I' || aux > '9');

    }
}

```



```

k = 0;

switch (aux){
    case '1': {
        i = 0;
        j = 0;
        if (c[i][j] == 'X' || c[i][j] == '0'){
            k = 1;
            printf("La casilla esta ocupada!, intentalo con otro numero!\n\n");
        }
        break;
    }

    case '2': {
        i = 0;
        j = 1;
        if (c[i][j] == 'X' || c[i][j] == '0'){
            k = 1;
            printf("La casilla esta ocupada!, intentalo con otro numero!\n\n");
        }
        break;
    }

    case '3': {
        i = 0;
        j = 2;
        if (c[i][j] == 'X' || c[i][j] == '0'){
            k = 1;
            printf("La casilla esta ocupada!, intentalo con otro numero!\n\n");
        }
        break;
    }

    case '4': {
        i = 1;
        j = 0;
        if (c[i][j] == 'X' || c[i][j] == '0'){
            k = 1;

```

```

        printf("La casilla esta ocupada!, intentalo con otro numero!\n\n");
    }
    break;
}

case '5':{

    i = 1;
    j = 1;
    if (c[i][j] == 'X' || c[i][j] == '0'){
        k = 1;
        printf("La casilla esta ocupada!, intentalo con otro numero!\n\n");
    }
    break;
}

case '6':{

    i = 1;
    j = 2;
    if (c[i][j] == 'X' || c[i][j] == '0'){
        k = 1;
        printf("La casilla esta ocupada!, intentalo con otro numero!\n\n");
    }
    break;
}

case '7':{

    i = 2;
    j = 0;
    if (c[i][j] == 'X' || c[i][j] == '0'){
        k = 1;
        printf("La casilla esta ocupada!, intentalo con otro numero!\n\n");
    }
    break;
}

case '8':{

    i = 2;
    j = 1;
    if (c[i][j] == 'X' || c[i][j] == '0'){
        k = 1;

```

```

        printf("La casilla esta ocupada!, intentalo con otro numero!\n\n");
    }
    break;
}

case '9': {
    i = 2;
    j = 2;
    if (c[i][j] == 'X' || c[i][j] == '0'){
        k = 1;
        printf("La casilla esta ocupada!, intentalo con otro numero!\n\n");
    }
    break;
}

}

}while(k == 1);

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

}

void intart(char c[3][3]){
    int i,j,k;

    srand(time(NULL));

    do{
        i = rand ()% 3 ;
        j = rand ()% 3 ;
        k = 0;

        if(c[i][j] == 'X' || c[i][j] == '0'){
            k = 1;
        }
    }while(k == 1);
    c[i][j] = '0';
}

```

```
}
```

```
void tablero(char c[3][3]){
```

```
    int i,j;
```

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

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

```
            if(j < 2){
```

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

```
            }
```

```
            else{
```

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

```
            }
```

```
        }
```

```
        if(i < 2){
```

```
            printf("\n-----\n");
```

```
        }
```

```
    }
```

```
    printf("\n\n");
```

```
}
```

```
int Ganador(char c[3][3]){
```

```
    if(c[0][0] == 'X' || c[0][0] == 'O'){
```

```
        if(c[0][0] == c[0][1] && c[0][0] == c[0][2]){
```

```
            if(c[0][0] == 'X'){
```

```
                return 0; //Ganaste
```

```
            }
```

```
            else{
```

```
                return 1; //Perdiste
```

```
            }
```

```
    }
```

```
    if(c[0][0] == c[1][0] && c[0][0] == c[2][0]){
```

```
        if(c[0][0] == 'X'){
```

```
            return 0; //Ganaste
```

```

    }
    else{
        return 1; //Perdiste
    }
}
}

```

```

if(c[1][1] == 'X' || c[1][1] == 'O'){
    if(c[1][1] == c[0][0] && c[1][1] == c[2][2]){
        if(c[1][1] == 'X'){
            return 0; //Ganaste
        }
        else{
            return 1; //Perdiste
        }
    }
}

```

```

if(c[1][1] == c[1][0] && c[1][1] == c[1][2]){
    if(c[1][1] == 'X'){
        return 0; //Ganaste
    }
    else{
        return 1; //Perdiste
    }
}

```

```

if(c[1][1] == c[2][0] && c[1][1] == c[0][2]){
    if(c[1][1] == 'X'){
        return 0; //Ganaste
    }
    else{
        return 1; //Perdiste
    }
}

```

```

if(c[1][1] == c[0][1] && c[1][1] == c[2][1]){

```

```

        if(c[1][1] == 'X'){
            return 0; //Ganaste
        }
        else{
            return 1; //Perdiste
        }
    }
}

if(c[2][2] == 'X' || c[2][2] == 'O'){
    if(c[2][2] == c[2][0] && c[2][2] == c[2][1]){
        if(c[2][2] == 'X'){
            return 0; //Ganaste
        }
        else{
            return 1; //Perdiste
        }
    }

    if(c[2][2] == c[0][2] && c[2][2] == c[1][2]){
        if(c[2][2] == 'X'){
            return 0; //Ganaste
        }
        else{
            return 1; //Perdiste
        }
    }
}

return 2;
}

```