

Universidad Nacional Autónoma de México

Facultad de Ingeniería



Asignatura: Estructura de Datos y Algoritmos I

Actividad 3: Sudoku.

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Código del Sudoku

Adjuntar capturas del código y del ejecutable.

```
Start here X Sudoku.c X
1  #include <stdio.h>
2
3  int main() {
4      printf("\n\t\tSUDOKU\n\n");
5      int Sudoku[9][9]={3,0,0,0,0,0,5,4,0,
6                          4,8,6,1,3,0,0,0,0,
7                          0,0,0,0,7,6,0,3,1,
8                          0,3,2,0,0,8,0,0,4,
9                          0,6,0,0,0,0,0,2,0,
10                         0,1,0,7,2,3,0,0,0,
11                         9,4,3,0,0,0,2,1,0,
12                         6,0,7,0,0,0,0,8,0,
13                         0,0,0,0,4,2,7,6,9};
14
15      int i,j;
16      for(i=0;i<9;i++){
17          for(j=0;j<9;j++){
18              printf("[%d] ",Sudoku[i][j]);
19          }
20          printf("\n\n");
21      }
22      printf("Complete los espacios con 0 del sudoku\n\n");
```

```
Start here X Sudoku.c X
22
23      int x;
24      printf("posicion [1,2] :"); scanf("%d",&x); Sudoku[0][1]=x;
25      printf("posicion [1,3] :"); scanf("%d",&x); Sudoku[0][2]=x;
26      printf("posicion [1,4] :"); scanf("%d",&x); Sudoku[0][3]=x;
27      printf("posicion [1,5] :"); scanf("%d",&x); Sudoku[0][4]=x;
28      printf("posicion [1,6] :"); scanf("%d",&x); Sudoku[0][5]=x;
29      printf("posicion [1,9] :"); scanf("%d",&x); Sudoku[0][8]=x;
30      printf("\n");
31      printf("posicion [2,6] :"); scanf("%d",&x); Sudoku[1][5]=x;
32      printf("posicion [2,7] :"); scanf("%d",&x); Sudoku[1][6]=x;
33      printf("posicion [2,8] :"); scanf("%d",&x); Sudoku[1][7]=x;
34      printf("posicion [2,9] :"); scanf("%d",&x); Sudoku[1][8]=x;
35      printf("\n");
36      printf("posicion [3,1] :"); scanf("%d",&x); Sudoku[2][0]=x;
37      printf("posicion [3,2] :"); scanf("%d",&x); Sudoku[2][1]=x;
38      printf("posicion [3,3] :"); scanf("%d",&x); Sudoku[2][2]=x;
39      printf("posicion [3,4] :"); scanf("%d",&x); Sudoku[2][3]=x;
40      printf("posicion [3,7] :"); scanf("%d",&x); Sudoku[2][6]=x;
41      printf("\n");
42
```

```
Starthere x Sudoku.c x
43     for(i=0;i<9;i++){
44         for(j=0;j<9;j++){
45             printf("[%d] ",Sudoku[i][j]);
46         }
47         printf("\n\n");
48     }
49     printf("\n");
50
51     printf("posicion [4,1] :"); scanf("%d",&x); Sudoku[3][0]=x;
52     printf("posicion [4,4] :"); scanf("%d",&x); Sudoku[3][3]=x;
53     printf("posicion [4,5] :"); scanf("%d",&x); Sudoku[3][4]=x;
54     printf("posicion [4,7] :"); scanf("%d",&x); Sudoku[3][6]=x;
55     printf("posicion [4,8] :"); scanf("%d",&x); Sudoku[3][7]=x;
56     printf("\n");
57     printf("posicion [5,1] :"); scanf("%d",&x); Sudoku[4][0]=x;
58     printf("posicion [5,3] :"); scanf("%d",&x); Sudoku[4][2]=x;
59     printf("posicion [5,4] :"); scanf("%d",&x); Sudoku[4][3]=x;
60     printf("posicion [5,5] :"); scanf("%d",&x); Sudoku[4][4]=x;
61     printf("posicion [5,6] :"); scanf("%d",&x); Sudoku[4][5]=x;
62     printf("posicion [5,7] :"); scanf("%d",&x); Sudoku[4][6]=x;
63     printf("posicion [5,9] :"); scanf("%d",&x); Sudoku[4][8]=x;
```

```
Starthere x Sudoku.c x
64     printf("\n");
65     printf("posicion [6,1] :"); scanf("%d",&x); Sudoku[5][0]=x;
66     printf("posicion [6,3] :"); scanf("%d",&x); Sudoku[5][2]=x;
67     printf("posicion [6,7] :"); scanf("%d",&x); Sudoku[5][6]=x;
68     printf("posicion [6,8] :"); scanf("%d",&x); Sudoku[5][7]=x;
69     printf("posicion [6,9] :"); scanf("%d",&x); Sudoku[5][8]=x;
70     printf("\n");
71
72     for(i=0;i<9;i++){
73         for(j=0;j<9;j++){
74             printf("[%d] ",Sudoku[i][j]);
75         }
76         printf("\n\n");
77     }
78     printf("\n");
79
80     printf("posicion [7,4] :"); scanf("%d",&x); Sudoku[6][3]=x;
81     printf("posicion [7,5] :"); scanf("%d",&x); Sudoku[6][4]=x;
82     printf("posicion [7,6] :"); scanf("%d",&x); Sudoku[6][5]=x;
83     printf("posicion [7,9] :"); scanf("%d",&x); Sudoku[6][8]=x;
84     printf("\n");
```

```
Starthere x Sudoku.c x
85     printf("posicion [8,2] :"); scanf("%d",&x); Sudoku[7][1]=x;
86     printf("posicion [8,4] :"); scanf("%d",&x); Sudoku[7][3]=x;
87     printf("posicion [8,5] :"); scanf("%d",&x); Sudoku[7][4]=x;
88     printf("posicion [8,6] :"); scanf("%d",&x); Sudoku[7][5]=x;
89     printf("posicion [8,7] :"); scanf("%d",&x); Sudoku[7][6]=x;
90     printf("posicion [8,9] :"); scanf("%d",&x); Sudoku[7][8]=x;
91     printf("\n");
92     printf("posicion [9,1] :"); scanf("%d",&x); Sudoku[8][0]=x;
93     printf("posicion [9,2] :"); scanf("%d",&x); Sudoku[8][1]=x;
94     printf("posicion [9,3] :"); scanf("%d",&x); Sudoku[8][2]=x;
95     printf("posicion [9,4] :"); scanf("%d",&x); Sudoku[8][3]=x;
96     printf("\n");
97
98     printf("SUDOKU RESULETO!!\n\n");
99
100    for(i=0;i<9;i++){
101        for(j=0;j<9;j++){
102            printf("[%d] ",Sudoku[i][j]);
103        }
104        printf("\n\n");
105    }
```

```

106         system("pause");
107         return 0;
108     }
109 }

```

```

C:\Users\manolo\Desktop\Sudoku.exe

SUDOKU

[3] [0] [0] [0] [0] [0] [5] [4] [0]
[4] [0] [6] [1] [3] [0] [0] [0] [0]
[0] [0] [0] [0] [7] [6] [0] [3] [1]
[0] [3] [2] [0] [0] [0] [0] [0] [4]
[0] [6] [0] [0] [0] [0] [0] [2] [0]
[0] [1] [0] [7] [2] [3] [0] [0] [0]
[9] [4] [3] [0] [0] [0] [2] [1] [0]
[6] [0] [7] [0] [0] [0] [0] [0] [0]
[0] [0] [0] [0] [4] [2] [7] [6] [9]

Complete los espacios con 0 del sudoku

posicion [1,2] :7
posicion [1,3] :1
posicion [1,4] :2
posicion [1,5] :8
posicion [1,6] :9
posicion [1,9] :6

posicion [2,6] :5
posicion [2,7] :9
posicion [2,8] :7
posicion [2,9] :2

posicion [3,1] :2
posicion [3,2] :9
posicion [3,3] :5
posicion [3,4] :4
posicion [3,7] :8

[3] [7] [1] [2] [0] [9] [5] [4] [6]
[4] [0] [6] [1] [3] [5] [9] [7] [2]
[2] [9] [5] [4] [7] [6] [0] [3] [1]
[0] [3] [2] [0] [0] [0] [0] [0] [4]
[0] [6] [0] [0] [0] [0] [0] [2] [0]
[0] [1] [0] [7] [2] [3] [0] [0] [0]
[9] [4] [3] [0] [0] [0] [2] [1] [0]
[6] [0] [7] [0] [0] [0] [0] [0] [0]

```

```

C:\Users\manolo\Desktop\Sudoku.exe

[0] [0] [0] [0] [4] [2] [7] [6] [9]

posicion [4,1] :7
posicion [4,4] :6
posicion [4,5] :9
posicion [4,7] :1
posicion [4,8] :5

posicion [5,1] :0
posicion [5,3] :9
posicion [5,4] :5
posicion [5,5] :1
posicion [5,6] :4
posicion [5,7] :3
posicion [5,9] :7

posicion [6,1] :5
posicion [6,3] :4
posicion [6,7] :6
posicion [6,8] :9
posicion [6,9] :8

[3] [7] [1] [2] [0] [9] [5] [4] [6]
[4] [0] [6] [1] [3] [5] [9] [7] [2]
[2] [9] [5] [4] [7] [6] [0] [3] [1]
[7] [3] [2] [6] [9] [0] [1] [5] [4]
[0] [6] [9] [5] [1] [4] [3] [2] [7]
[5] [1] [4] [7] [2] [3] [6] [9] [0]
[9] [4] [3] [0] [0] [0] [2] [1] [0]
[6] [0] [7] [0] [0] [0] [0] [0] [0]
[0] [0] [0] [0] [4] [2] [7] [6] [9]

posicion [7,4] :8
posicion [7,5] :6
posicion [7,6] :7
posicion [7,9] :5

posicion [8,2] :2
posicion [8,4] :9
posicion [8,5] :5
posicion [8,6] :1
posicion [8,7] :4
posicion [8,9] :3

posicion [9,1] :1
posicion [9,2] :5

```

```

C:\Users\manolo\Desktop\Sudoku.exe
posicion [8,2] :2
posicion [8,4] :9
posicion [8,5] :5
posicion [8,6] :1
posicion [8,7] :4
posicion [8,9] :3

posicion [9,1] :1
posicion [9,2] :5
posicion [9,3] :8
posicion [9,4] :3

SUDOKU RESUELTO!!

[3] [7] [1] [2] [8] [9] [5] [4] [6]
[4] [8] [6] [1] [3] [5] [9] [7] [2]
[2] [9] [5] [4] [7] [6] [8] [3] [1]
[7] [3] [2] [6] [9] [8] [1] [5] [4]
[8] [6] [9] [5] [1] [4] [3] [2] [7]
[5] [1] [4] [7] [2] [3] [6] [9] [8]
[9] [4] [3] [8] [6] [7] [2] [1] [5]
[6] [2] [7] [9] [5] [1] [4] [8] [3]
[1] [5] [8] [3] [4] [2] [7] [6] [9]

Presione una tecla para continuar . . .

```

3	7	1	2	8	9	5	4	6
4	8	6	1	3	5	9	7	2
2	9	5	4	7	6	8	3	1
7	3	2	6	9	8	1	5	4
8	6	9	5	1	4	3	2	7
5	1	4	7	2	3	6	9	8
9	4	3	8	6	7	2	1	5
6	2	7	9	5	1	4	8	3
1	5	8	3	4	2	7	6	9

Bibliografía:

<https://quehacerenbenidorm.com/wp-content/uploads/2019/03/Sudoku-nivel-2-RESUELTO.jpg>