ASSIGNMENT #6 – N Queens Problem

C Code of 8 Queens Problem

#include <stdio.h>

#define QUEENS 8 /\* number of queens and board size \*/

#define int unsigned

int number = 0;

int board [QUEENS]; /\* each element represents a queue\*/

int boardTamam /\* check the validity of the board \*/

(register int queue)

{

register int r;

for (r = 0; r < queue; r++) /\* Check all previous queues \*/

if (board[queue] == board[r] ||

board[queue] == board[r] << queue-r ||

board[queue] == board[r] >> queue-r)

return 0;

return 1;

}

void writesol (void) /\* show the solution; Increase the NUMBER \*/

{

register int t, r;

printf("\n\n\t SOLUTIONS %u\n\n", ++number);

for (r = 0; r < QUEENS; r++) { /\* queue \*/

for (t = 1<<QUEENS-1; t > 0; t >>= 1)

printf(" %c", board[r] == t ? 'Q' : '.');

printf("\n");

}

}

void place (int queue) /\* place to next queue \*/

{

if (queue == QUEENS) /\* all queues are full and checked \*/

writesol();

else

for (board[queue]=1; board[queue]<1<<QUEENS; board[queue]<<=1)

if (boardTamam(queue))

place(queue+1); /\* try the next queue \*/

}

signed main (void)

{

place(0);

printf("\n\n There is %u diffirent solution for Queen Promlem \n", QUEENS, number);

return 0;

}

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  | | |

Output of Program

172701 - Lütfi Arda GEZEK

**[Download the C Code File (until 24 January.)](https://fromsmash.com/ASSIGNMENT-6-N-Queens-Problem-using8x8)**