N-queens problem solved in SWI-Prolog

Output :

```
% c:/Users/IOT Lab/Desktop/Queen.pl compiled 0.00 sec, 8 clauses
?- Usage: n_queen(1,X).
Usage = user,
X = [1] ;
false.

?- Usage: n_queen(2,X).
false.

?- Usage: n_queen(3,X).
false.

?- Usage: n_queen(4,X).
Usage = user,
X = [3, 1, 4, 2] ;
Usage = user,
X = [2, 4, 1, 3] ;
false.

?- Usage: n_queen(5,X).
Usage = user,
X = [4, 2, 5, 3, 1] ;
Usage = user,
X = [3, 5, 2, 4, 1] ;
Usage = user,
X = [5, 3, 1, 4, 2] ;
Usage = user,
X = [4, 1, 3, 5, 2] ;
Usage = user,
X = [5, 2, 4, 1, 3] ;
Usage = user,
X = [1, 4, 2, 5, 3] ;
Usage = user,
X = [2, 5, 3, 1, 4] ;
Usage = user,
X = [1, 3, 5, 2, 4] ;
Usage = user,
X = [3, 1, 4, 2, 5] ;
Usage = user,
X = [2, 4, 1, 3, 5] ;
false.

?- Usage: n_queen(6,X).
Usage = user,
X = [5, 3, 1, 6, 4, 2] ;
Usage = user,
X = [4, 1, 5, 2, 6, 3] ;
Usage = user,
X = [3, 6, 2, 5, 1, 4] ;
Usage = user,
X = [2, 4, 6, 1, 3, 5] ;
false.
```

```
?- Usage: n_queen(8,X).
Usage = user,
X = [4, 2, 7, 3, 6, 8, 5, 1] ;
Usage = user,
X = [5, 2, 4, 7, 3, 8, 6, 1] ;
Usage = user,
X = [3, 5, 2, 8, 6, 4, 7, 1] ;
Usage = user,
X = [3, 6, 4, 2, 8, 5, 7, 1] ;
Usage = user,
X = [5, 7, 1, 3, 8, 6, 4, 2] ;
Usage = user,
X = [4, 6, 8, 3, 1, 7, 5, 2] ;
Usage = user,
X = [3, 6, 8, 1, 4, 7, 5, 2] ;
Usage = user,
X = [5, 3, 8, 4, 7, 1, 6, 2] ;
Usage = user,
X = [5, 7, 4, 1, 3, 8, 6, 2] ;
Usage = user,
X = [4, 1, 5, 8, 6, 3, 7, 2] ;
Usage = user,
X = [3, 6, 4, 1, 8, 5, 7, 2] ;
Usage = user,
X = [4, 7, 5, 3, 1, 6, 8, 2] ;
Usage = user,
X = [6, 4, 2, 8, 5, 7, 1, 3] ;
Usage = user,
X = [6, 4, 7, 1, 8, 2, 5, 3] ;
Usage = user,
X = [1, 7, 4, 6, 8, 2, 5, 3] ;
Usage = user,
X = [6, 8, 2, 4, 1, 7, 5, 3] ;
Usage = user,
X = [6, 2, 7, 1, 4, 8, 5, 3] ;
Usage = user,
X = [4, 7, 1, 8, 5, 2, 6, 3] ;
Usage = user,
X = [5, 8, 4, 1, 7, 2, 6, 3] ;
Usage = user,
X = [4, 8, 1, 5, 7, 2, 6, 3] ;
Usage = user,
X = [2, 7, 5, 8, 1, 4, 6, 3] ;
Usage = user,
X = [1, 7, 5, 8, 2, 4, 6, 3] ;
Usage = user,
X = [2, 5, 7, 4, 1, 8, 6, 3] ;
Usage = user,
X = [4, 2, 7, 5, 1, 8, 6, 3] ;
Usage = user,
X = [5, 7, 1, 4, 2, 8, 6, 3] ;
Usage = user,
X = [6, 4, 1, 5, 8, 2, 7, 3] ;
Usage = user,
X = [5, 1, 4, 6, 8, 2, 7, 3] ;
Usage = user,
X = [5, 2, 6, 1, 7, 4, 8, 3] ;
Usage = user,
X = [6, 3, 7, 2, 8, 5, 1, 4] ;
```

```
Usage = user,
X = [6, 3, 7, 2, 8, 5, 1, 4] ;
Usage = user,
X = [2, 7, 3, 6, 8, 5, 1, 4] ;
Usage = user,
X = [7, 3, 1, 6, 8, 5, 2, 4] ;
Usage = user,
X = [5, 1, 8, 6, 3, 7, 2, 4] ;
Usage = user,
X = [1, 5, 8, 6, 3, 7, 2, 4] ;
Usage = user,
X = [3, 6, 8, 1, 5, 7, 2, 4] ;
Usage = user,
X = [6, 3, 1, 7, 5, 8, 2, 4] ;
Usage = user,
X = [7, 5, 3, 1, 6, 8, 2, 4] ;
Usage = user,
X = [7, 3, 8, 2, 5, 1, 6, 4] ;
Usage = user,
X = [5, 3, 1, 7, 2, 8, 6, 4] ;
Usage = user,
X = [2, 5, 7, 1, 3, 8, 6, 4] ;
Usage = user,
X = [3, 6, 2, 5, 8, 1, 7, 4] ;
Usage = user,
X = [6, 1, 5, 2, 8, 3, 7, 4] ;
Usage = user,
X = [8, 3, 1, 6, 2, 5, 7, 4] ;
Usage = user,
X = [2, 8, 6, 1, 3, 5, 7, 4] ;
Usage = user,
X = [5, 7, 2, 6, 3, 1, 8, 4] ;
Usage = user,
X = [3, 6, 2, 7, 5, 1, 8, 4] ;
Usage = user,
X = [6, 2, 7, 1, 3, 5, 8, 4] ;
Usage = user,
X = [3, 7, 2, 8, 6, 4, 1, 5] ;
Usage = user,
X = [6, 3, 7, 2, 4, 8, 1, 5] ;
Usage = user,
X = [4, 2, 7, 3, 6, 8, 1, 5] ;
Usage = user,
X = [7, 1, 3, 8, 6, 4, 2, 5] ;
Usage = user,
X = [1, 6, 8, 3, 7, 4, 2, 5] ;
Usage = user,
X = [3, 8, 4, 7, 1, 6, 2, 5] ;
Usage = user,
X = [6, 3, 7, 4, 1, 8, 2, 5] ;
Usage = user,
X = [7, 4, 2, 8, 6, 1, 3, 5] ;
Usage = user,
X = [4, 6, 8, 2, 7, 1, 3, 5] ;
Usage = user,
X = [2, 6, 1, 7, 4, 8, 3, 5] ;
Usage = user,
X = [2, 4, 6, 8, 3, 1, 7, 5] ;
Usage = user,
X = [3, 6, 8, 2, 4, 1, 7, 5] ;
```

```
Usage = user,
X = [6, 3, 1, 8, 4, 2, 7, 5] ;
Usage = user,
X = [8, 4, 1, 3, 6, 2, 7, 5] ;
Usage = user,
X = [4, 8, 1, 3, 6, 2, 7, 5] ;
Usage = user,
X = [2, 6, 8, 3, 1, 4, 7, 5] ;
Usage = user,
X = [7, 2, 6, 3, 1, 4, 8, 5] ;
Usage = user,
X = [3, 6, 2, 7, 1, 4, 8, 5] ;
Usage = user,
X = [4, 7, 3, 8, 2, 5, 1, 6] ;
Usage = user,
X = [4, 8, 5, 3, 1, 7, 2, 6] ;
Usage = user,
X = [3, 5, 8, 4, 1, 7, 2, 6] ;
Usage = user,
X = [4, 2, 8, 5, 7, 1, 3, 6] ;
Usage = user,
X = [5, 7, 2, 4, 8, 1, 3, 6] ;
Usage = user,
X = [7, 4, 2, 5, 8, 1, 3, 6] ;
Usage = user,
X = [8, 2, 4, 1, 7, 5, 3, 6] ;
Usage = user,
X = [7, 2, 4, 1, 8, 5, 3, 6] ;
Usage = user,
X = [5, 1, 8, 4, 2, 7, 3, 6] ;
Usage = user,
X = [4, 1, 5, 8, 2, 7, 3, 6] ;
Usage = user,
X = [5, 2, 8, 1, 4, 7, 3, 6] ;
Usage = user,
X = [3, 7, 2, 8, 5, 1, 4, 6] ;
Usage = user,
X = [3, 1, 7, 5, 8, 2, 4, 6] ;
Usage = user,
X = [8, 2, 5, 3, 1, 7, 4, 6] ;
Usage = user,
X = [3, 5, 2, 8, 1, 7, 4, 6] ;
Usage = user,
X = [3, 5, 7, 1, 4, 2, 8, 6] ;
Usage = user,
X = [5, 2, 4, 6, 8, 3, 1, 7] ;
Usage = user,
X = [6, 3, 5, 8, 1, 4, 2, 7] ;
Usage = user,
X = [5, 8, 4, 1, 3, 6, 2, 7] ;
Usage = user,
X = [4, 2, 5, 8, 6, 1, 3, 7] ;
Usage = user,
X = [4, 6, 1, 5, 2, 8, 3, 7] ;
Usage = user,
X = [6, 3, 1, 8, 5, 2, 4, 7] ;
Usage = user,
X = [5, 3, 1, 6, 8, 2, 4, 7] ;
Usage = user,
X = [4, 2, 8, 6, 1, 3, 5, 7] ;
```

```
Usage = user,
X = [6, 3, 5, 7, 1, 4, 2, 8] ;
Usage = user,
X = [6, 4, 7, 1, 3, 5, 2, 8] ;
Usage = user,
X = [4, 7, 5, 2, 6, 1, 3, 8] ;
Usage = user,
X = [5, 7, 2, 6, 3, 1, 4, 8] ;
false.
```