Lab Assignment 7, CS 22203

The following is a Backtracking algorithm for solving the n-queens problem (as discussed in class). Implement the following for instances when n=4 and n=5.

```
Nqueens(i,n) //Initial call is Nqueens(1,n)
begin
for j:=1 to n do //n columns
if Place(i,j)==true then //Can I place a queen in i^th row at column j.
                x[i] = j;
                if (i==n) then //an answer found, all queens are placed
                        print(x[1:n]);
                else
                        Nqueens(i+1,n)
                endif
endif
endfor
end

Place(i,j)
//returns true if x[i] can be assigned with j. Can ith queen be placed on column j?
//Otherwise false. x is a global array whose first i-1 values have been set.
begin
for l = 1 to i-1 do  // l denotes the queen at row l
        if (x[l]==j) or abs(l-i)==abs(x[l]-j) then
//on same col or same diagonal
                return false;
        endif
endfor
return true;
end
```
