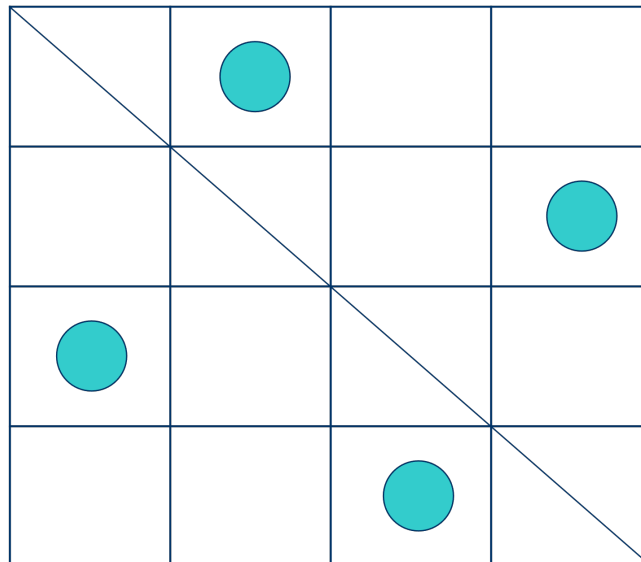# Before Starting

- LNS in MiniZinc
  - Available only with Gecode
    - Ref. Manual Sec. 4.2.4. Additional declarations for Gecode
  - Kicks in with restarting

- Use commas when reporting big numbers. E.g.,
  - 9,764,748 instead of 9764748

- Configure the solver to search for one solution, to set a time limit and to obtain solution statistics.

Optimal N-Queens

- Add an objective to the alldiff model:
  - Minimize the total distance of the queens to the main diagonal

Optimal N-Queens

- Search for the optimal solution to the 50-queens problem using Gecode, with a time limit of 5 mins (300 secs).

- Experiment with the following search strategies:
  - the default search
  - the domWdeg-random heuristic
  - by adding restarting (Luby strategy with L = 250) to the previous
  - by adding LNS (fixing the 85% of the variables) to the previous.
    85% viene visto come la percentuale migliore per ottenere un buon risultato

- Record the number of failures and the objective value in each experiment.

Optimal N-Queens

- Report the number of failures (f) and the objective value (obj) in a table.

search	f	obj
def		
dWd-rand		
dWd-rand + restart		
dWd-rand + restart + lns		