ParaDis - Calcul parallèle et distribué

HES-SO Lausanne

Mini-projet 1
Programmation parallèle

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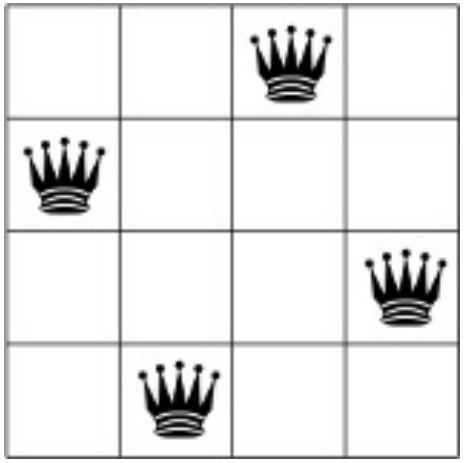
N-Queens problem

How can *N* queens be placed on an *N* x *N* chessboard so that no two of them attack each other? How many different solutions are there for *N* queens ?



What is the biggest *N* you can solve in **10 minutes**?

Constrains

Not many…

- 4 groups of 3 students (or 2x 3s + 3x 2s)
- Use a distributed programming model (ex. MPI)
  - Must be able to exploit the parallelism of a network of computers
- Programming model has to be approved by the lecturer (arbiter)
  - Choice must be made during the first day

Delivery

- Source code

- Small report, 1 page of text
  - Describe the solution
  - Graph: time to solve problem with 1…N queens
    - Inform the number of possible solutions for each case
  - Graph: time to solve N queens in 1…P machines