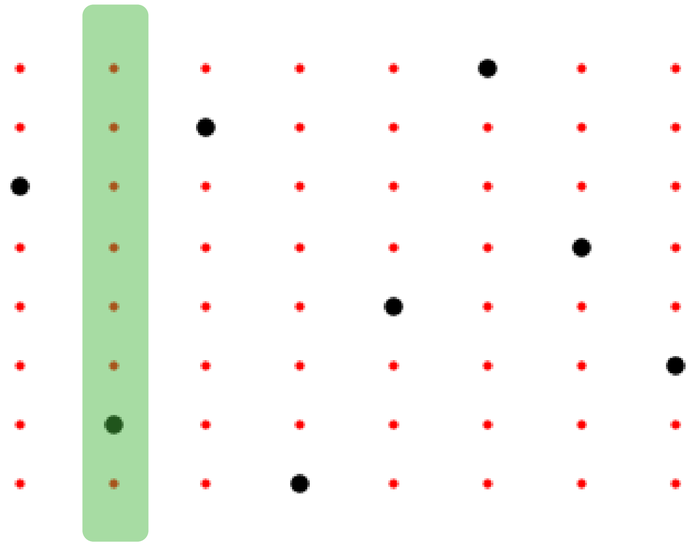
N Queens

Solve the following optimization problem

Allocate the maximum number of queens on a chess board without attacking each other.

$$\max_{U} \sum_{i,j} U_{i,j}$$

$$\sum_{i} U_{i,j} \leq 1$$



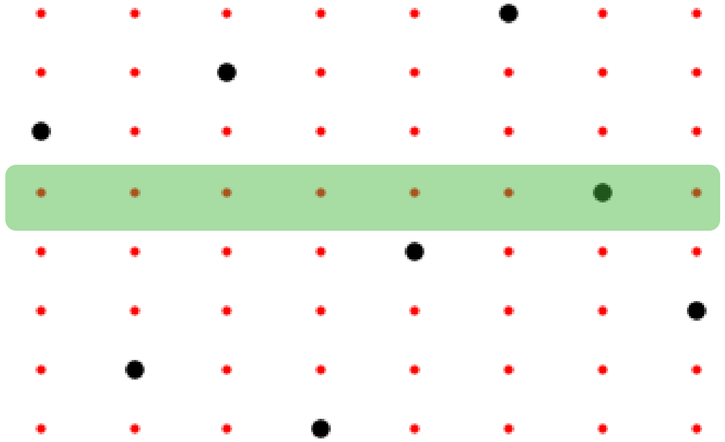
Ex12

N Queens

Solve the following optimization problem

Allocate the maximum number of queens on a chess board without attacking each other.

$$\max \sum_{i,j} U_{i,j}$$



$$\sum_{j} U_{i,j} \leq 1$$

Ex12

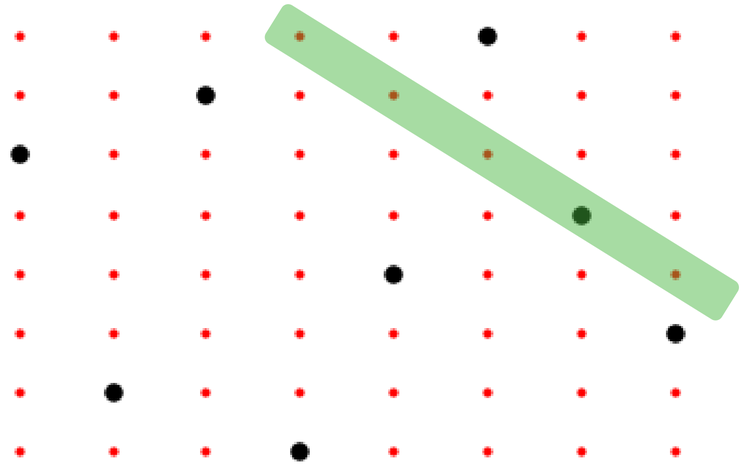
N Queens

Solve the following optimization problem

Allocate the maximum number of queens on a chess board without attacking each other.

$$\max \sum_{i,j} U_{i,j}$$

$$if \ \frac{j-c}{i-r} = -1 \longrightarrow \sum_{c,r} U_{c,r} \leq 1$$



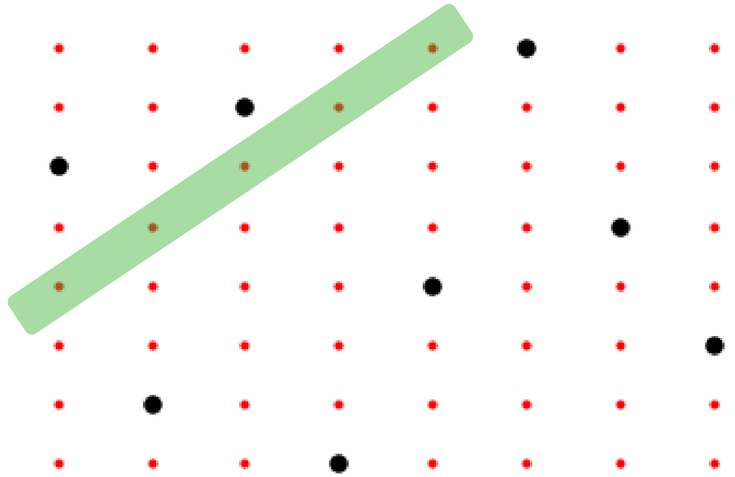
Ex12

N Queens

Solve the following optimization problem

Allocate the maximum number of queens on a chess board without attacking each other.

$$\max \sum_{i,j} U_{i,j}$$



$$if\ \frac{j-c}{i-r} = 1 \longrightarrow \sum_{c,r} U_{c,r} \leq 1$$

Ex12

N Queens

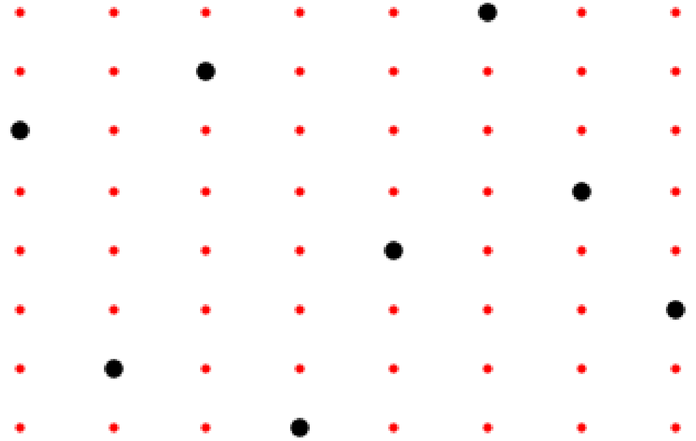
Solve the following optimization problem

Allocate the maximum number of queens on a chess board without attacking each other.

$$\max \sum_{i,j} U_{i,j}$$

$$\forall_j \sum_i U_{i,j} \leq 1 \qquad \forall_{i,j}\ if\ \frac{j-c}{i-r} = -1 \rightarrow \sum_{c,r} U_{c,r} \leq 1$$

$$\forall_i \sum_j U_{i,j} \leq 1 \qquad \forall_{i,j}\ \ if\ \frac{j-c}{i-r} = 1 \rightarrow \sum_{c,r} U_{c,r} \leq 1$$



Ex12