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Tugas Perkuliahan ke-10

Dengan Algoritma Backtracking, jelaskan langkah-langkahnya dan gambarkan solusi dari N-Queens Problem, Jika $n = 18$?

Jawaban :

1. Divide n by 12. Remember the remainder.
2. Write a list of the even numbers from 2 to n in order.
3. If the remainder is 3 or 9, move 2 to the end of the list.
4. Append the odd numbers from 1 to n in order, but, if the remainder is 8, switch pairs (i.e. 3, 1, 7, 5, 11, 9, ...).
5. If the remainder is 2, switch the places of 1 and 3, then move 5 to the end of the list.
6. If the remainder is 3 or 9, move 1 and 3 to the end of the list.
7. Place the first-column queen in the row with the first number in the list, place the second-column queen in the row with the second number in the list, etc.

For $n = 18$ this results in the solution shown above. A few more examples follow.

1. 14 queens (remainder 2) : 2, 4, 6, 8, 10, 12, 14, 3, 1, 7, 9, 11, 5.
2. 15 queens (remainder 3) : 4, 6, 8, 10, 12, 14, 2, 5, 7, 9, 11, 13, 15, 1, 3.
3. 18 queens (remainder 6) : 2, 4, 5, 6, 8, 10, 12, 14, 16, 18, 1, 3, 5, 7, 9, 11, 13, 15, 17.

[illegible]

