1. **Assignment Problems**(赋值问题)
2. Constraint Propagation
3. **Constructive Methods**
4. Heuristic Repair
5. **Function Optimization**

This problem is to place 8 queens on the chess board so that they do not check each other. This problem is probably as old as the chess game itself, and thus its origin is not known, but it is known that Gauss studied this problem. If we want to find a single solution, it is not difficult as shown below. If we want to find all possible solutions, the problem is difficult and the backtrack method is the only known method. For 8-queen, we have 92 solutions. If we exclude symmetry, there are 12 solutions.