I’ve completed all of Problem. P8 is the hardest part for me to think about how to optimize it. What’s more, another thing that bothers me is inflexibility of these given functions. It’s really hard for me to debug and optimize the performance. P8 maybe will run approximately 1 sec due to randomness. I spent 6 hours on finishing p1-p8 and took 3 hours to optimize the P8 and tried 5 different method/tricks:

1. try normal local search without any optimization.

2. local search + random choose the node which has the same min cost.

3. utilize the cache/memory to memorize the number of attack.

4. give the algorithm some chance to get out of the plateau (count the number of the consecutive plateau)

5. early exit mechanism: set a high value, if the number of attack is greater than that, just exit and reinitialize it.

6. dfs