Topitop Solver

Gamescrafters Fall 2019

Goal:
Create a solver for topitop and solve it.

Group Members:
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What I did:
Analyze the broken version of topitop which created by Mike Hamada and Alex Choy in 2006, figure out the original idea of it and recreate the whole program. Besides, Alex tried to update the original version of topitop to tier version in 2007, using the Tier Gamesman API which created by Max Delgadillo, Deepa Mahajan and Yanpei Chen, but failed. So, I create a new data structure which can adapt to the API perfectly, hash the whole board directly instead of using three layers to represent it, add new functions as well as variants and change some old parts of the original version, then change the original version to tier version successfully. I make the original and tier version separately, store in GamesmanClassic\src, which named mtopitop.c and mtopitier.c.

Future Development:
For the original version, it uses the Gamesman API and Generic Hash API to solve this loopy game but, according to professor Dan, it doesn’t work. So, the point is to analyze the core of gamesman API and find out the reason for this incompatible.
For the tier version, it uses the Tier Gamesman API and Generic Hash API. According to the document of Tier Gamesman API, the tier version has ability to solve loopy game more efficiently. The only problem is that the Generic Hash API is hard to use when the board has too many kinds of pieces. So, updating the old Generic Hash API or creating a new hash function for topitier will make it run much faster.