

Describe any implementation choices you made that you felt were important. Clearly explain any aspects of your program that aren't working. Mention anything else that we should know when evaluating your work.

On mid-sized and larger problems, the DLL algo gets stuck in a recursive loop I believe this is due to my issues within how I am altering the CNF formula between setting a variables values.

2. What is the size of the state space for this problem?

As each variable has 2 options, true or false, given N variables there are potentially 2^N configurations.

3. When there are around 3.3 clauses per variable, how does the largest 3-CNF formula your DLL can solve compare to the largest for your WalkSAT? (Undergrads can run the reference WalkSAT.)

WalkSat is consistently a factor of 3 times faster upon the upper end of variables count yet at low variable counts DLL outperforms or is comparable.

4. Repeat the previous question at 4.3 clauses per variable, and explain the results you obtain.

WalkSat finds satisfiable solutions more often and is generally faster.

5. What suggestions do you have for improving this assignment in the future?

Downloads from the website with the python files took a bit to get going but other than that not much.