Q1: Block Placement Problem

a) In CSP model, blocks are variables to bet matched with integer. These integers will be placing order of the blocks. While matching an integer to a block, requirements(supporting from center etc.) will be checked.

b) After compiling blocks.cpp with command: "g++ blocks.cpp -std=c++14 -O2 -o blocks". Code can be run with command "./blocks 1 ¡ input file path ¿ output file path". 1 is for DFS algorithm. Code is written in C++ language. "center.txt, input.txt, input2.txt, input3.txt, input4.txt" are some example input files.

c) Algorithm will not stuck, because there is a finite set of moves and there is visited control. If it can find a proper solution it returns it immediately.

d) Visualization program is implemented in Python3 with using pygame. "pip3 install pygame" is pygame installagiton command. After installation it can be run via "python3 draw.py output file path of c++ code" command.

Q2: Connect Four

a) Red can not wing against blue.

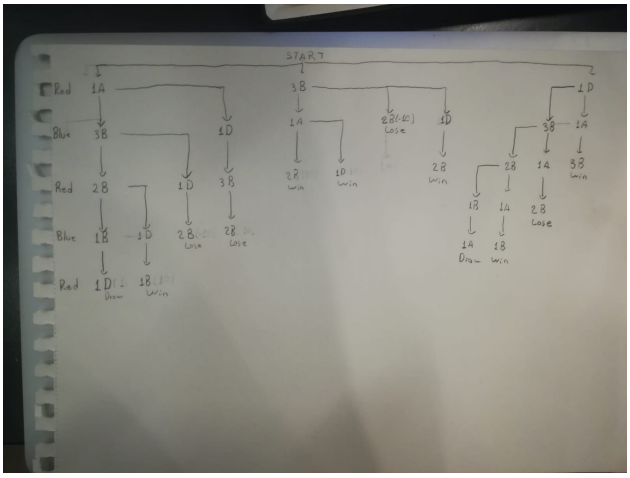

Figure 1: Tree

Q3: Students

It can be implemented by using "Prologue" logical programming language.