CS5120: Programming HW 2

Deadline: 23/04/2023

2-SAT:

Input: The input is a text file in the following format: the first line has the number n of variables; the second line has the number m of clauses, and every subsequent line consists of a pair i,j (separated by a comma), indicating a clause $x_i \vee x_j$. If a variable is negated then it stands for $\neg x_i$. For example, -2,3 represents the clause $\neg x_2 \vee x_3$. The input instance is guaranteed to be satisfiable; the value of n is at most 100 and the value of m is at most 200.

Output: The output is a text file with a satisfying assignment as a sequence of 0s and 1s on a single line.

Three sample input and output files are attached. Use the randomized algorithm seen in class to solve this problem. Note that there may be more than one satisfying assignment for the given instance: for example, the first input instance has two satisfying assignments, 10001 and 10111. Finding any one satisfying assignment is sufficient.