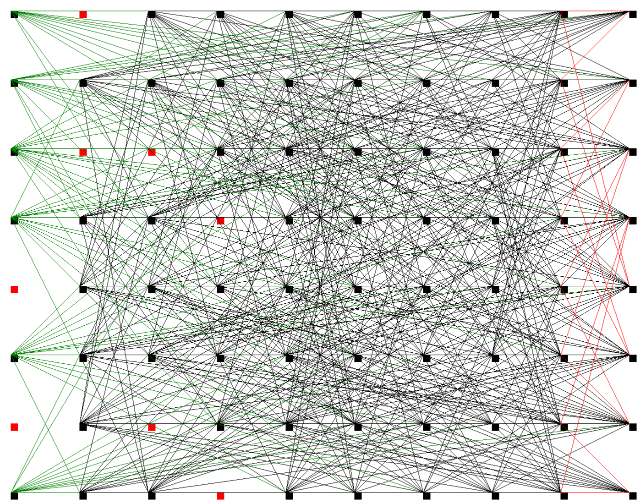

Figure 1: Edges seen from the first clause type set.

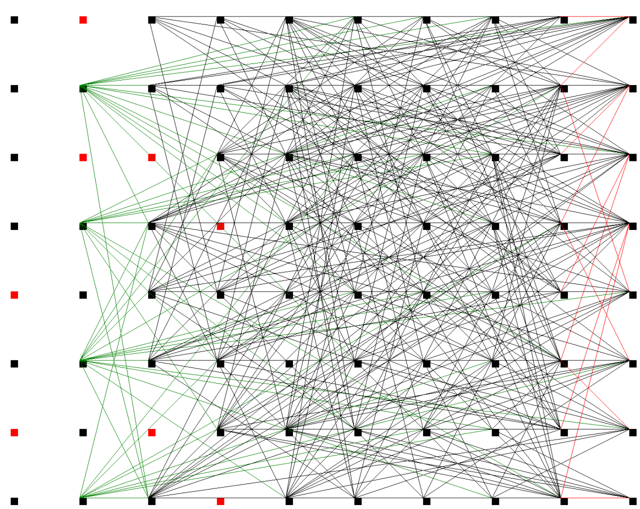

Figure 2: Edges seen from the second clause type set.

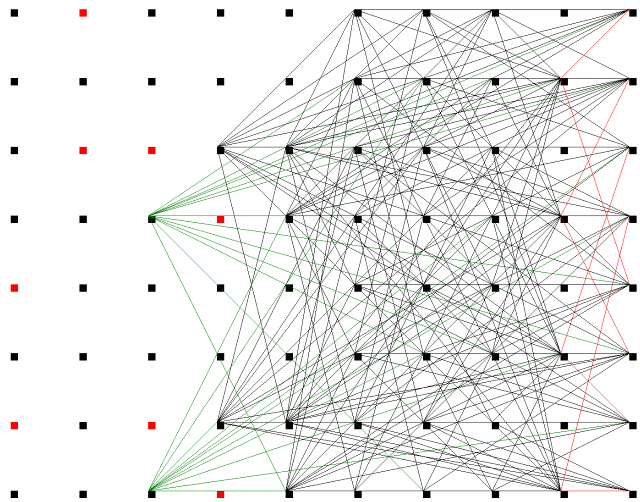

Figure 3: Edges seen from the third clause type set.

$$I = (\neg x_2 \vee \neg x_4 \vee x_5) \wedge (\neg x_2 \vee x_4 \vee x_5) \wedge (\neg x_2 \vee \neg x_3 \vee \neg x_5) \wedge (\neg x_2 \vee x_3 \vee \neg x_5) \wedge$$
$$\wedge (\neg x_1 \vee x_2 \vee \neg x_4) \wedge (\neg x_1 \vee x_2 \vee x_4) \wedge (x_1 \vee x_2 \vee \neg x_3) \wedge (x_1 \vee x_2 \vee x_3)$$

The set of supports is ordered as follows: $(2,4,5)$, $(2,3,5)$, $(1,2,4)$, $(1,2,3)$, $(1,2,5)$, $(1,3,4)$, $(1,3,5)$, $(1,4,5)$, $(2,3,4)$, $(3,4,5)$. Only the first four supports contain clauses from I, the remaining six supports are ordered lexicographically. The images below represent the successive graphs produced by the second algorithm. The clause type sets corresponding to each support contain eight elements and are displayed vertically. The graph is 10-partite. Clauses from I are marked by red vertexes.

References

[1] **Matthias Müller**: *Polynomial SAT-solver.* http://vixra.org/author/matthias_mueller

[2] **Michael R. Garey and David S. Johnson**: *Computers and intractability: A guide to the theory of NP-completeness.* W. H. Freeman & Co., 1979.

[3] **Bengt Aspvall, Michael F. Plass, Robert E. Tarjan**: *A linear-time algorithm for testing the truth of certain quantified boolean formulas.* Information Processing Letters 8 (3), 121123, 1979.

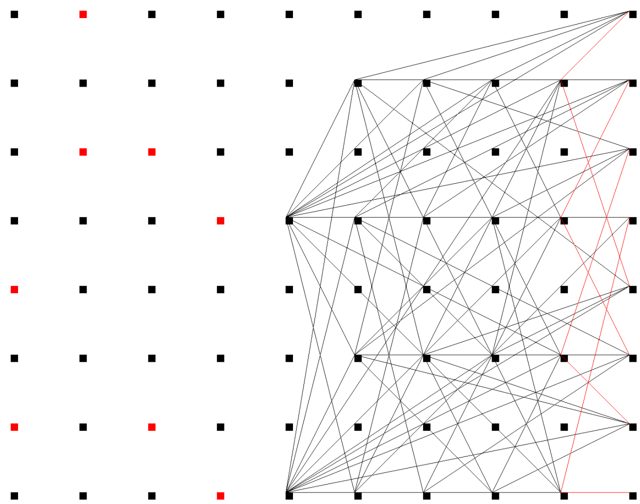

Figure 4: No edge is seen from the fourth clause type set anymore.

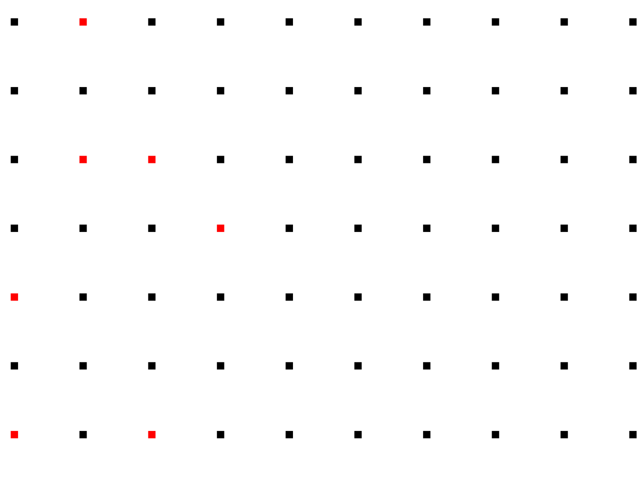

Figure 5: After processing the fourth clause type set, all edges vanished.