Decision Heuristic

- SAT instances may have (tens, hundreds of ?) thousands of variables
- Most SAT instances have clusters of variables: sets of variables that are semantically linked

**GOAL:** to force the SAT solver to work on one cluster at a time

- Each variable has an associated activity
- Each time it appears in a conflict analysis, its activity is incremented
- Recent activity should be given more importance:
  - Divide all activities by integer $K$ from time to time, or
  - Keep increasing the activity increment

- Decide chooses unassigned var with highest activity
- Note that heuristic does not depend on clauses: **CHEAP!**
- Value selection: take $false$, or last tried value for that variable (**last phase**)