

Logic Normal Forms

William Schultz

November 4, 2021

- **Conjunctive normal form (CNF):** a conjunction of disjunctions. More precisely, a conjunction of *clauses*, where a clause is a disjunction of literals e.g.

$$(a \vee b) \wedge (b \vee \neg c) \wedge (a \vee d)$$

Also called *product of sums* form.

- **Disjunctive normal form (DNF):** a disjunction of conjunctions. Also described as a disjunction of *cubes*, where a cube is a conjunction of literals. e.g.

$$(a \wedge b) \vee (b \wedge \neg c) \vee (a \wedge d)$$

Also called *sum of products* form.