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Module #9 (Quantificational Logic I) Check-in
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Let the domain of discourse be members of the class and let $L(x, y)$ be the proposition "x likes y." Write the following colloquial English sentences using quantificational formulas. The sentences are not necessarily unambiguous. If a sentence has more than one possible meaning, explain the ambiguity and which interpretation you have chosen.

1. Everyone in the class likes some other member of the class.
   $\forall x \exists y, (x \neq y \wedge L(x, y))$

2. Someone doesn't like anybody and nobody likes that person.
   $\exists x \forall y, (x \neq y \wedge \neg L(x, y) \wedge \neg L(y, x))$

3. At least three different people like the same person.
   $\exists w \exists x \exists y \exists z, (w \neq z \wedge x \neq z \wedge y \neq z \wedge L(w, z) \wedge L(x, z) \wedge L(y, z))$