Intro of Predicate Logic.

1. Why we have PL:
   1) Example: All cats are evil

   <u>Frisky is a cat.</u>

   ∴ Frisky is evil.

   ① Sentential Logic:

   P: All cats are evil ; Q: Frisky is a cat.

   R: Frisky is evil.

   $$\frac{\begin{array}{c}P\\Q\end{array}}{\therefore R} \quad (X)$$

   ① our sentential logic system is incomplete
   ② SL can't actually look at the logic within the sentence.

2. Sub-sentential Login: a relationship between subjects and predicates.

   1) Subjects: the particular thing we are talking.

   ① Singular Terms.

   e.g. proper names, definite descriptors, pronouns.

   ② General Terms.

   → Universally quantified terms

   → Existentially quantified terms.

   2) Predicates: the relationship between subjects.

① Single-Place

    e.g. __ is evil. __ is a student of UT.

② Two-Place

    e.g. __ likes __. __ talks to __.

③ Three-Place.

    e.g. __ visit __ on __.

3. Square of Opposite.

1) Universal Affirmative (A)

    All __ are __.

2) Existential Affirmative (I)

    Some __ are __

3) Universal Negative (E).

    No __ are __

4) Existential Negative (O)

    Some __ are not __.

5) Square.

All A' are B   (UA) A ←— contraries —→ (UN) E   No A's are B.

contradictions.

Some A's are B (PA)   I ←— subcontraries —→ O   (PN).   Some A's are not B.