Relational Predicates Translation I Handout

I. Prove:

    1. Bob is taller than Charles.
    2. Andrew is taller than Bob.
    3. For any x, y and z, if x is taller than y and y is taller than z, then x is taller than z.
    Therefore, Andrew is taller than Charles.

II. Translate each

    1. John loves Mary. (Lxy: x loves y)

    2. Tokyo isn't smaller than New York. (Sxy: x is smaller than y)

    3. Marco was introduced to Erika by Paco. (Ixyz: x introduced y to z)

    4. America took California from Mexico. (Txyz: x was taken by y from z)

III. Introducing quantifiers

    1. Joe is bigger than something. (Bxy: x is bigger than y)

    2. Something is bigger than Joe.

    3. Joe is bigger than everything.

    4. Everything is bigger than Joe.

    5. Everything loves something. (Lxy: x loves y)

    6. Something loves everything.

IV. More complex examples

1. Something taught Plato. (Txy: x taught y)

2. Someone taught Plato.

3. Plato taught everyone.

4. Everyone knows something. (Kxy: x knows y)

5. Everyone is wiser than someone. (Wxy: x is wiser than y)

6. Someone is wiser than everyone.

7. Some financier is richer than everyone. (Fx, Rxy: x is richer than y)

8. No deity is weaker than some human. (Dx, Hx, Wxy: x is weaker than y)

9. Honest candidates are always defeated by dishonest candidates. (Hx, Cx, Dxy: x defeats y)

10. No mouse is mightier than himself. (Mx, Mxy: x is mightier than y)

11. Everyone buys something from some store. (Px, Sx, Bxyz: x buys y from z)

12. There is a store from which everyone buys something.

13. No store has everyone for a customer.