Introduction to predicate logic

1. Well formed formulas

2. Free and bound variables

3. Sentences

Translation

1. Some celebrities are not logicians. (Lx, Cx)

2. All rich logicians are computer scientists. (Rx, Lx, Cx)

3. No logician is rich, unless she is a computer scientist. (Rx, Lx, Cx)

4. Some logicians are rich computer scientists. (Rx, Lx, Cx)

5. No pets except service animals are permitted indoors. (Px, Sx, Dx)

Universal elimination

1. $\forall x Fx \land \forall x Gx \vdash Fa \land Ga$

2. $\forall x Fx \vdash Fa \land Fb$

3. $\forall x \neg Fx \vdash \neg \forall x Fx$

4. $\forall x (Fx \to Gx), \neg Ga \vdash \neg \forall x Fx$