Prenex form.

A sentence is in *prenex form* if all its quantifiers come at the very start. i.e., no quantifiers are within the scope of a truth-functional connective.

Prenexing rules.

Let $P$ be a sentence in which the variable $x$ does not occur. (If $x$ occurs in $P$, but $P$ is not in the scope of $(Qx)$, then the sentence $P'$ that results from replacing $x$ throughout $P$ with a different variable is equivalent to $P$.) Then the following pairs of sentences are interderivable.

1. $\neg(x)Fx$ \quad $(\exists x) - Fx$
2. $\neg(\exists x)Fx$ \quad $(x) - Fx$
3. $P \land (x)Fx$ \quad $(x)(P \land Fx)$
4. $P \lor (x)Fx$ \quad $(x)(P \lor Fx)$
5. $P \land (\exists x)Fx$ \quad $(\exists x)(P \land Fx)$
6. $P \lor (\exists x)Fx$ \quad $(\exists x)(P \lor Fx)$
7. $P \rightarrow (\exists x)Fx$ \quad $(\exists x)(P \rightarrow Fx)$
8. $P \rightarrow (x)Fx$ \quad $(x)(P \rightarrow Fx)$
9. $(\exists x)Fx \rightarrow P$ \quad $(x)(Fx \rightarrow P)$
10. $(x)Fx \rightarrow P$ \quad $(\exists x)(Fx \rightarrow P)$