Example 1: People and Songs

Let $U$ be a universe containing people and songs. Let $L$ be a language with the following predicates:

- $\text{C(p,s)}$ — Predicate. Person $p$ composed song $s$.
- $\text{L(p,s)}$ — Predicate. Person $p$ likes song $s$.
- $\text{S(p,s)}$ — Predicate. Person $p$ sings song $s$.
- $\text{M(s)}$ — Predicate. Song $s$ is in a major key.


Amy has composed a song.
$\exists s \text{C}(A,s)$.

Barry only sings song that he wrote himself.
$\forall s \text{S}(B,s) \Rightarrow \text{C}(B,s)$.

David likes some (i.e. at least one) of the songs that Amy has written.
$\exists s \text{L}(D,s) \land \text{C}(A,s)$.

David does not like any of the songs that Amy has written in a major key.
$\neg \exists s \text{L}(D,s) \land \text{C}(A,s) \land \text{M}(s)$.

Anyone who likes any songs at all likes Yesterday.
$\forall p \left[ \exists s \text{L}(p,s) \right] \Rightarrow \text{L}(p,Y)$.

There is someone who likes all the songs that Barry sings.
$\exists p \forall s \text{S}(B,s) \Rightarrow \text{L}(p,s)$.

Everyone likes all the songs that they themselves composed.
$\forall p,s \text{C}(p,s) \Rightarrow \text{L}(p,s)$.

Example 2: People, articles, and journals

Let $U$ be a universe containing people, articles, and journals. Let $L$ be a language with the following predicates:

- $\text{W(p,a)}$. Predicate: Person $p$ wrote article $a$.
- $\text{P(a,j)}$. Predicate: Article $a$ was published in journal $j$.
- $\text{C(a1,a2)}$. Predicate: Article $a1$ cites article $a2$.


Alfred and Bonnie wrote “Feeding Muskrats”.
$\text{W}(A,M) \land \text{W}(B,M)$.

Alfred has written an article that was published in Rodents.
$\exists a \text{W}(A,a) \land \text{P}(a,R)$.

No articles have been published in both Rodents and Artic Gardening.
$\neg \exists a \text{P}(a,R) \land \text{P}(a,G)$.

All the articles Bonnie has written have been published.
$\forall a \text{W}(C,a) \Rightarrow \exists j \text{P}(a,j)$.

Bonnie wrote an article that has been cited by every article ever published in Artic Gardening.
$\exists a \text{W}(B,a) \land \forall a2 \text{P}(a2,G) \Rightarrow \text{C}(a2,a)$.