| syntax and semantics | compactness property | sound and complete Hilbert proof systems | Löwenheim-Skolem theorems - upward LS "from finite to infinite" - upward LS "from infinite to larger" - downward LS | definability - finite structures - natural numbers - countable structures |
|--|----------------------|---|--|--|
| FOL | | | | |
| $\mathrm{FOL}ig(ig\wedgeig)$ | | | | |
| $\mathbf{FOL}ig(egin{array}{c} \infty \ \exists \ \end{pmatrix}$ | | | | |
| $\mathbf{FOL}\left(\stackrel{2^{\mathbb{N}}}{\exists} \right)$ | | | | |
| SOL | | | | |
| weak SOL | | | | |