Global Notational Conventions

Objects of type 0:

\( a, b, \ldots, e, i, j, \ldots, w \)

- natural numbers = elements of \( \omega \)

Objects of type 1:

\( \alpha, \beta, \gamma, \delta, \epsilon \)
\( f, g, h, E, F, \ldots, K \)
\( A, B, C, D, M, N, O, W \)
\( P, Q, \ldots, V \)

- total unary functions \( \omega \rightarrow \omega = \text{elements of } ^\omega \omega \)
- partial functions \( ^* \omega \rightarrow \omega \)
- sets of natural numbers = subsets of \( \omega \)
- \( k \)-ary relations on \( \omega = \text{subsets of } ^* \omega \)

Objects of type 2:

\( E, F, \ldots, K \)
\( A, B, C, D, M, N, W \)
\( P, Q, \ldots, V \)

- partial functionals \( ^k \omega \rightarrow \omega \)
- sets of (total unary) functions = subsets of \( ^\omega \omega \)
- \( (k, l) \)-ary relations = subsets of \( ^{k, l} \omega \)

Objects of type 3:

\( \mathfrak{E}, \mathfrak{F}, \ldots, \mathfrak{K} \)
\( \mathfrak{A}, \mathfrak{B}, \mathfrak{C}, \mathfrak{D}, \mathfrak{M}, \mathfrak{N}, \mathfrak{W} \)
\( \mathfrak{P}, \mathfrak{Q}, \ldots, \mathfrak{V} \)

- partial functionals \( ^{k, l', r} \omega \rightarrow \omega \)
- sets of total unary functionals = subsets of \( ^{\omega} \omega \)
- \( (k, l, l') \)-ary relations = subsets of \( ^{k, l, l'} \omega \)

Objects of type 4:

\( \mathfrak{g}, \mathfrak{p}, \ldots, \mathfrak{r} \)
\( \mathfrak{q}, \mathfrak{a}, \ldots, \mathfrak{v} \)

- partial functionals \( ^{k, l', r} \omega \rightarrow \omega \)
- \( (k, l, l', l'') \)-ary relations = subsets of \( ^{k, l, l', l''} \omega \)

Other:

\( \kappa, \lambda, \mu, \nu, \pi, \rho, \sigma, \tau, \upsilon \)
\( \Gamma, \Delta, \Theta, \Omega \)
\( \mathcal{L} \)
\( \mathcal{F} \)
\( \mathfrak{A}, \mathfrak{B}, \mathfrak{C} \)
\( \mathfrak{M}, \mathfrak{N}, \mathfrak{I} \)
\( x, y, z \)
\( \mathcal{X}, \mathcal{Y}, \mathcal{Z} \)
\( \varphi, \psi, \chi, \theta \)

- ordinal numbers
- inductive operators
- formal language
- formal theory
- formulas of a formal language
- structures, models
- arbitrary objects
- arbitrary sets
- arbitrary functions

The last three categories are often subject to local conventions

In most instances a bold-face letter denotes a finite sequence of objects of the type denoted by the light-face letter. Exceptions: \( \Sigma, \Pi, \Delta, \nabla, \kappa, \omega, [-] \).