

Phase 19 Demo : Finite Set Types

Example 1 : F (finite sets)

$F X$ denotes all finite subsets of X :

$[SongId, UserId]$

$| \quad songs : \mathbb{F} \ SongId$

Example 2 : F1 (non - empty finite sets)

$F1 X$ denotes all non-empty finite subsets of X :

$| \quad activeUsers : \mathbb{F}_1 \ UserId$

$| \quad activeUsers \subsetneq users$

Example 3 : Combined with function types

Using F and $F1$ with partial functions:

$[PlaylistId, Playlist]$

$| \quad playlists : PlaylistId \rightarrow Playlist$

$| \quad playlistOwner : PlaylistId \rightarrow UserId$

$| \quad playlistSubscribers : PlaylistId \rightarrow \mathbb{F}$

Example 4 : Comparison with P (power set)

$F X$ is a subset of $P X$ (all finite subsets are subsets):

$| \quad \overline{\mathbb{F} \ users \subsetneq \mathbb{P} \ users}$