

Phase 4 : Z Notation Basics

Example 1 : Given Types

[*Person*, *Company*]

Example 2 : Free Types

StatusQ ::= *active* | *inactive* | *suspended*

Answer ::= *yesQ* | *no*

Example 3 : Abbreviations

MaxCapacity == 100

DefaultSize == 10

Example 4 : Axiomatic Definitions

$$\frac{\begin{array}{l} \text{population : } \mathbb{N} \\ \text{capacity : } \mathbb{N} \end{array}}{\begin{array}{l} \text{population} \leq \text{capacity} \\ \text{capacity} > 0 \end{array}}$$

Example 5 : Schema Definitions

$$\boxed{\begin{array}{l} \text{Library} \\ \hline \text{books : } \mathbb{N} \\ \text{members : } \mathbb{N} \\ \hline \text{books} > 0 \\ \text{members} \geq 0 \end{array}}$$

$$\boxed{\begin{array}{l} \text{BankAccount} \\ \hline \text{balance : } \mathbb{N} \\ \text{overdraft : } \mathbb{N} \\ \hline \text{balance} \geq 0 \\ \text{overdraft} \geq 0 \end{array}}$$