

SOEN331: Introduction to Formal Methods
for Software Engineering

Assignment 2 on Object-Z specification

Tarek Ait Hamouda (40044119), Abhijit Gupta (40066502),
Ethel Narra Pangan (40061530)

February 24, 2019

1 Map

Map

$[Description, Coordinate]$

$Point == Coordinate \times Coordinate$

$Message ::= ok \mid location_already_known \mid no_location_found$

$locations : Description \rightarrow Point$

$\forall l1, l2 : locations \bullet (l1.description \neq l2.description)$

INIT

$locations = \{\}$

AddLocationOK

$\Delta(locations)$

$newDescription? : Description$

$newPoint? : Point$

$newDescription? \notin dom\ locations$

$locations' = locations \cup \{newDescription? \rightarrow newPoint?\}$

DeleteLocationOK

$\Delta(annotations)$

$who? : Description$

$who? \in dom\ annotations$

$annotations' = \{who\} \triangleleft annotations$

ModifyLocationsOK

$\Delta(annotations)$

$description? : Description$

$coordinates? : Point$