

Practical 1

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1 Question 1: Signature

1.1 Sorts $S=INT = \{ \dots, -1, 0, 1, 2, 3, \dots \}$

1.2 Sorts $S=BOOL = \{ \text{true}, \text{false} \}$

1.3 Operational Symbols $= \Sigma = \{ -, \# \}$

OP-TYPE

1.4 $\# : (INT) \rightarrow BOOL$

1.5 $- : (INT, BOOL) \rightarrow INT$

2 Question 2: Interpretation

2.1 Sort $Interp = A = A^{INT} = \{ \dots, \text{zero}, \text{one}, \text{two}, \text{three}, \dots \}$

2.2 Sort $Interp = A = A^{BOOL} = \{ \text{true}, \text{false} \}$

2.3 Operations $= OPS = \{ \text{IsEven}, \text{ConditionalIncrement} \}$

3 Question 3: Type-Preserving Mapping

3.1 $\alpha (-) = \text{IsEven}$

3.2 $\alpha (\#) = \text{ConditionalIncrement}$