

Assignment 2: Verification

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1 Part A

Given

$$pre \triangleq D.len \geq \max(\{A.len, B.len, C.len\})$$

and

$$\begin{aligned} post &\triangleq (D = A \cap B \cap C) \\ &\wedge i \in [0, A.len] \wedge j \in [0, B.len] \wedge k \in [0, C.len] \wedge D \in [0, D.len] \\ &\wedge (i = A.len \vee j = B.len \vee k = C.len) \end{aligned}$$

$$i, j, k, r, D : [pre, post]$$

$$\sqsubseteq \{ \text{Composition: middle predicate is } inv \}$$

$$i, j, k, r, D : [pre,]; i, j, k, r, D : [in, post]$$