7.3 Let $n$ be a natural constant. Let $S: n^n{nat}$ be an implementer's variable. It is being reimplemented by $R: n^n{nat}$ representing the same $n$ naturals but in the reverse order.

(a) What is the data transformer?

\[ D = \forall j: 0,..n \cdot S_j = R_{n-j} \]

(b) A user has variable $i: {nat}$ and the operation

\[ \text{get } = i := S_i \]

How does your transformer from part (a) apply to get? (Just show the formula for transforming this operation with this transformer.)

\[ \forall S: D \Rightarrow \exists S': D' \land \text{get} \]

\[ = \forall S': (\forall j: 0,..n \cdot S_j = R_{n-j}) \Rightarrow \exists S': (\forall j: 0,..n \cdot S'_j = R'_{n-j}) \land (i := S_i) \]

(c) What is the final result of transforming the operation?

\[ \text{get } = i := R_{n-i} \]