

FIFO^{11,40}

FIFO

\equiv_{def} $C:\text{Type}$
× $(T:\text{Type}$
× $S:(C \rightarrow C \rightarrow E \rightarrow \mathbb{P})$
× $R:(C \rightarrow E \rightarrow \mathbb{P})$
× $\text{codes}:(j,i:C \rightarrow e:\{x:E \mid S(j,i,x)\} \rightarrow \text{state@loc}(e) \rightarrow T)$
× $(\text{decodes}:(i:C \rightarrow e:\{x:E \mid R(i,x)\} \rightarrow \text{state@loc}(e) \rightarrow T)$
× for clients C sends FIFO
 from j to i via $(S[j,i], \text{codes})$
 receives at i via $(R[i], \text{decodes}))$

clarification:

FIFO $\{i:l\}$

(es)
 \equiv_{def} $C:\text{Type}\{i\}$
× $(T:\text{Type}\{i\}$
× $S:(C \rightarrow C \rightarrow \text{es-E}(es) \rightarrow \mathbb{P}\{i\})$
× $R:(C \rightarrow \text{es-E}(es) \rightarrow \mathbb{P}\{i\})$
× $\text{codes}:(j:C \rightarrow i:C \rightarrow e:\{x:\text{es-E}(es) \mid S(j,i,x)\} \rightarrow \text{es-state}(es;\text{es-loc}(es; e)) \rightarrow T)$
× $(\text{decodes}:(i:C \rightarrow e:\{x:\text{es-E}(es) \mid R(i,x)\} \rightarrow \text{es-state}(es;\text{es-loc}(es; e)) \rightarrow T)$
× $\text{fifo}(es;\text{codes};\text{decodes};C;S;R;T))$