fair-fifo^{0,22}

FairFifo

$\equiv_{\text{def}}$ $(\forall i{:}\text{Id},\ t{:}\mathbb{N},\ l{:}\text{IdLnk}.\ \neg\text{source}(l) = i \Rightarrow \text{onlnk}(l;\text{m}(i;t)) = \text{nil})$

& $(\forall i{:}\text{Id},\ t{:}\mathbb{N}.\ \text{isnull}(\text{a}(i;t)) \Rightarrow (\forall x{:}\text{Id}.\ \text{s}(i;t{+}1).x = \text{s}(i;t).x)\ \&\ \text{m}(i;t) = \text{nil})$

& $(\forall i{:}\text{Id},\ t{:}\mathbb{N},\ l{:}\text{IdLnk}.$

$\text{isrcv}(l;\text{a}(i;t))$

$\Rightarrow \text{destination}(l) = i\ \&\ \|\text{queue}(l;t)\|{\geq}1\ \&\ \text{hd}(\text{queue}(l;t)) = \text{msg}(\text{a}(i;t)))$

& $(\forall l{:}\text{IdLnk},\ t{:}\mathbb{N}.\ \exists t'{:}\mathbb{N}.\ t{\leq}t'\ \&\ \text{isrcv}(l;\text{a}(\text{destination}(l);t'))\ \vee\ \text{queue}(l;t') = \text{nil})$

& w-machine-constraint(w)

& w-atom-constraint(w)

clarification:

fair-fifo{i:l}

(w)

$\equiv_{\text{def}}$ $(\forall i{:}\text{Id},\ t{:}\mathbb{N},\ l{:}\text{IdLnk}.$

$\neg\text{source}(l) = i \in \text{Id} \Rightarrow \text{onlnk}(l;\text{w-m}(w;\ i;\ t)) = \text{nil} \in \text{w-Msg}(w)\ \text{List})$

& $(\forall i{:}\text{Id},\ t{:}\mathbb{N}.$

$\text{w-isnull}(w;\ \text{w-a}(w;\ i;\ t))$

$\Rightarrow (\forall x{:}\text{Id}.\ \text{w-s}(w;\ i;\ (t{+}1);\ x) = \text{w-s}(w;\ i;\ t;\ x) \in \text{w-vartype}(w;\ i;\ x))$

& $\text{w-m}(w;\ i;\ t) = \text{nil} \in \text{w-Msg}(w)\ \text{List})$

& $(\forall i{:}\text{Id},\ t{:}\mathbb{N},\ l{:}\text{IdLnk}.$

$\text{w-isrcvl}(w;\ l;\ \text{w-a}(w;\ i;\ t))$

$\Rightarrow \text{destination}(l) = i \in \text{Id}$

& $\|\text{w-queue}(w;\ l;\ t)\|{\geq}1$

& $\text{hd}(\text{w-queue}(w;\ l;\ t)) = \text{w-msg}(w;\ \text{w-a}(w;\ i;\ t)) \in \text{w-Msg}(w))$

& $(\forall l{:}\text{IdLnk},\ t{:}\mathbb{N}.$

$\exists t'{:}\mathbb{N}.$

$t{\leq}t'$

& $\text{w-isrcvl}(w;\ l;\ \text{w-a}(w;\ \text{destination}(l);\ t'))$

$\vee\ \text{w-queue}(w;\ l;\ t') = \text{nil} \in \text{w-Msg}(w)\ \text{List})$

& w-machine-constraint(w)

& w-atom-constraint{i:l}

(w)

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http://www.cs.cornell.edu/Info/Projects/NuPrl/FDLcontent/p0_286125_/p38_486470_{fair-fifo}.html