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MACHINE data_show_reserv
SETS DataShows /* abstract set of datashows */
;
reserved = {ok, ko} /* datashow used or not */
CONSTANTS max_Rsrc /* limit */
PROPERTIES max_Rsrc : 1..MAXINT
VARIABLES reservedDataShows /* reserved datashows */
INVARIANT reservedDataShows <: DataShows /*subset*/
& card(reservedDataShows) <= card(DataShows)
INITIALISATION reservedDataShows := {}
OPERATIONS
reserve(ds) =
PRE ds : DataShows
& card(reservedDataShows) < card(DataShows)
THEN
reservedDataShows := DataShows \ / {ds}
END ;
free(ds) =
PRE ds : reservedDataShows & card(DataShows) > 1
THEN
reservedDataShows := reservedDataShows - {ds}
END ;
bb <-- isReservedDatashow(ds) =
PRE ds : DataShows
THEN
bb := bool(ds : (reservedDataShows))
END ;
END

/* data_show_reserv_i
* Author: Hichem
* Creation date: 4/5/2023
*/

IMPLEMENTATION data_show_reserv_i
REFINES data_show_reserv
DEFINITIONS NBR_Rsrc == 0..100 /* a range for implementing the
number of datashows */
VALUES DataShows = NBR_Rsrc
; max_Rsrc = 100 /* some value */
CONCRETE_VARIABLES c_reservedDataShows
INVARIANT c_reservedDataShows : NBR_Rsrc --> reserved
& reservedDataShows = c_reservedDataShows~[{ok}]
/* linkage invariant */
INITIALISATION c_reservedDataShows := (NBR_Rsrc)*{ko};

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OPERATIONS
reserve (ds) =
BEGIN
c_reservedDataShows(ds) := ok ;
END ;
free ( ds ) =
BEGIN
c_reservedDataShows(ds) := ko
END ;
bb <-- isReservedDatashow ( ds ) =
BEGIN
VAR okko IN
okko := c_reservedDataShows(ds);
IF okko = ok THEN bb := TRUE ELSE bb := FALSE END
END
END ;
END
```