

File created: 30-Sep-86 18:49:53 {ERIS}<LISPCORE>INTERNAL>TYPEHAX.;4

changes to: (VARS TYPEHAXCOMS)
(FUNCTIONS COLLECT-SUPER-CHAIN TEST-TYPEP ALLOCATE-WITH-NAME ALLOCATE-SUPER-CHAIN
ALLOCATE-11-BIT-TYPES ALLOCATE-TO-TYPE-NUMBER)

previous date: 30-Sep-86 15:05:33 {ERIS}<LISPCORE>INTERNAL>TYPEHAX.;1

Read Table: OLD-INTERLISP-FILE

Package: INTERLISP

Format: XCCS

```
(RPAQQ TYPEHAXCOMS ((FUNCTIONS ALLOCATE-11-BIT-TYPES ALLOCATE-SUPER-CHAIN ALLOCATE-TO-TYPE-NUMBER  
ALLOCATE-WITH-NAME COLLECT-SUPER-CHAIN TEST-TYPEP)))
```

```
(DEFUN ALLOCATE-11-BIT-TYPES NIL (ALLOCATE-TO-TYPENUMBER 1023)
```

;;; allocates typenumber 1023, then allocates a type named "realbig", and checks it's instances

```
(ALLOCATE-WITH-NAME (QUOTE REALBIG))  
(CL:SETQ AREALBIG (NCREATE (QUOTE REALBIG)))  
(TYPENAMEP AREALBIG (QUOTE REALBIG))  
(EQ (NTYPX AREALBIG  
1024))
```

```
(DEFUN ALLOCATE-SUPER-CHAIN (DEPTH &OPTIONAL (SUPER* (QUOTE SUPER*-TYPE))  
(ROOT (QUOTE ROOT-TYPE)))
```

;;; Allocates datatypes up to datatype x inclusive.

```
(LET [(SUPER (CAAR (DECLAREDATATYPE SUPER* (QUOTE (POINTER))  
NIL NIL NIL])  
[DOTIMES (I (- DEPTH 1))  
(SETQ SUPER (CAAR (DECLAREDATATYPE (GENSYM (QUOTE TEST))  
(QUOTE (POINTER))  
NIL NIL SUPER])  
(DECLAREDATATYPE ROOT (QUOTE (POINTER))  
NIL NIL SUPER))])
```

```
[DEFUN ALLOCATE-TO-TYPE-NUMBER (X)
```

;;; Allocates datatypes up to datatype x inclusive.

```
(LET ((REMAINING (- X \MaxTypeNumber)))  
(CL:IF (< REMAINING 1)  
(CL:ERROR "There are already ~D datatypes." \MaxTypeNumber)  
(PROGN (DECLAREDATATYPE (QUOTE TEST-SUPER)  
(QUOTE (POINTER))  
NIL NIL)  
;; declare a super for the rest of the types.
```

```
(DOTIMES (I REMAINING)  
(DECLAREDATATYPE (GENSYM (QUOTE TEST))  
(QUOTE (POINTER))  
NIL NIL (QUOTE TEST-SUPER])
```

```
[DEFUN ALLOCATE-WITH-NAME (TYPENAME &OPTIONAL (SUPER (QUOTE TEST-SUPER)))  
(ETYPESCASE TYPENAME (SYMBOL (DECLAREDATATYPE TYPENAME (QUOTE (POINTER))  
NIL NIL SUPER])
```

```
(DEFUN COLLECT-SUPER-CHAIN (ROOT)  
(CL:DO* ((TYPE ROOT SUPER)  
(SUPER (GETSUPERTYPE TYPE)  
(GETSUPERTYPE TYPE))  
(SUPER-CHAIN NIL))  
(NULL SUPER)  
SUPER-CHAIN)  
(CL:PUSH SUPER SUPER-CHAIN)))
```

```
[DEFUN TEST-TYPEP (TYPE)
```

;;; ensures that instances of TYPE are instances of all its supertypes.

```
(LET ((INSTANCE (NCREATE TYPE)))  
(CL:MAPCAR (CL:FUNCTION (CL:LAMBDA (TYPE)  
(TYPEP INSTANCE TYPE)))  
(COLLECT-SUPER-CHAIN TYPE])
```

{MEDLEY}<internal>TYPEHAX.;1 30-Oct-2024 19:50:14
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