

File created: 21-Mar-2024 13:31:40 {DSK}<home>larry>il>medley>sources>XCL-HASH-LOOP.;9

edit by: lmm

changes to: (FUNCTIONS TEST-HASH-LOOP)

previous date: 21-Mar-2024 11:19:24 {DSK}<home>larry>il>medley>sources>XCL-HASH-LOOP.;8

Read Table: INTERLISP

Package: INTERLISP

Format: XCCS

```
(RPAQQ XCL-HASH-LOOPCOMS ((FUNCTIONS HASH-TABLE-ITERATOR HASH-TABLE-ITERATOR-1 TEST-HASH-LOOP
                           CL:WITH-HASH-TABLE-ITERATOR)
                          (DECLARE%: EVAL@COMPILE DONTCOPY (FILES (LOADCOMP)
                                                                    LLARRAYELT))
                          (PROP FILETYPE XCL-HASH-LOOP)))
```

```
(CL:DEFUN HASH-TABLE-ITERATOR (HASH-TABLE-LIST) ; Edited 21-Mar-2024 09:49 by lmm
  [LET ((TABLES (MKLIST HASH-TABLE-LIST)))
    (COND
     ((NULL TABLES)
      NIL)
     ((NULL (CDR TABLES))
      (HASH-TABLE-ITERATOR-1 (CAR TABLES)))
     (T (LET [(ITERATOR (HASH-TABLE-ITERATOR-1 (CL:POP TABLES)
                                                #'(CL:LAMBDA NIL (CL:LOOP (CL:MULTIPLE-VALUE-BIND (MORE KEY VALUE)
                                                                 (CL:FUNCALL ITERATOR)
                                                                 (COND
                                                                  (MORE (RETURN (CL:VALUES MORE KEY VALUE)))
                                                                  [TABLES (CL:SETQ ITERATOR (HASH-TABLE-ITERATOR-1 (CL:POP
                                                                 TABLES
                                                                 ]
                                                                 (T (RETURN NIL))))))
                                                                 ]))
              ]))
```

```
(CL:DEFUN HASH-TABLE-ITERATOR-1 (TABLE) ; Edited 19-Mar-2024 12:31 by lmm
  [LET* ((SLOT (fetch HARRAYPBASE of TABLE))
         [LASTSLOT (fetch (HASHSLOT NEXTSLOT) of (\HASHSLOT SLOT (fetch (HARRAYP LASTINDEX) of TABLE)
                               NULLVALUE \HASH.NULL.VALUE)
         K V)
        #'(CL:LAMBDA NIL (CL:BLOCK ITERATOR
                          (CL:LOOP (SETQ K (fetch (HASHSLOT KEY) of SLOT))
                                    (SETQ V (fetch (HASHSLOT VALUE) of SLOT))
                                    (CL:WHEN V
                                      ;; first non-empty slot
                                      (RETURN))
                                    (SETQ SLOT (fetch (HASHSLOT NEXTSLOT) of SLOT))
                                    (CL:WHEN (EQ SLOT LASTSLOT)
                                      ;; Out of slots to scan
                                      (CL:RETURN-FROM ITERATOR NIL)))
                          ;; SLOT is set and not at end
                          [CL:RETURN-FROM ITERATOR (CL:MULTIPLE-VALUE-PROG1 (CL:VALUES T K
                                                                              (AND (NEQ NULLVALUE V)
                                                                              V))
                                                                              (SETQ SLOT (fetch (HASHSLOT NEXTSLOT) of SLOT))]))
```

```
(CL:DEFUN TEST-HASH-LOOP (&OPTIONAL HA) ; Edited 21-Mar-2024 10:39 by lmm
  [IF (NOT HA)
    THEN (SETQ HA (HARRAY 7))
         (LET [(TRIALDATA '(1 2 A B "C" "D" 'EEEE 'FFFF (G)
                          (H)
                          (CL:LOOP FOR X ON TRIALDATA BY #'CDDR DO (CL:SETF (GETHASH (CL:FIRST X)
                                                                              HA)
                                                                              (CL:SECOND X)
                                                                              (LET (RESULT LOOPRESULT)
                    [MAPHASH HA #'(LAMBDA (V K)
                      (PUSH RESULT (LIST K V))
                      (SETQ RESULT (REVERSE RESULT))
                      (SETQ LOOPRESULT (CL:LOOP FOR X BEING EACH HASH-KEY OF HA USING (HASH-VALUE V)
                                               COLLECT
                                               (LIST X V)))
                      (OR (EQUAL RESULT LOOPRESULT)
                          (COMPARELISTS RESULT LOOPRESULT))))
```

```
(DEFMACRO CL:WITH-HASH-TABLE-ITERATOR ((NAME HASH-TABLE-FORM)
                                        &BODY BODY) ; Edited 18-Mar-2024 09:38 by larry
  [LET ((ITERATOR (CL:GENSYM)))
    `(LET [(ITERATOR (HASH-TABLE-ITERATOR ,HASH-TABLE-FORM)
           (DECLARE (IGNORABLE ,ITERATOR))
```

```
{MEDLEY}<sources>XCL-HASH-LOOP.;1 (CL:WITH-HASH-TABLE-ITERATOR cont.)
```

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```
(CL:MACROLET [ (,NAME NIL ' (CL:FUNCALL , ITERATOR]
              ,@BODY])
```

```
(DECLARE%: EVAL@COMPILE DONTCOPY
```

```
(FILESLOAD (LOADCOMP)
            LLARRAYELT)
)
```

```
(PUTPROPS XCL-HASH-LOOP FILETYPE CL:COMPILE-FILE)
```

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**FUNCTION INDEX**

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**MACRO INDEX**

CL:WITH-HASH-TABLE-ITERATOR .....1

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