

File created: 27-Jul-90 07:54:13 {DSK}<usr>local>lde>loops>src>SYSTEM>LOOPS-PATCH.;2

changes to: (VARS LOOPS-PATCHCOMS)

previous date: 27-Jun-88 12:03:25 {DSK}<usr>local>lde>loops>src>SYSTEM>LOOPS-PATCH.;1

Read Table: XCL

Package: INTERLISP

Format: XCCS

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(RPAQQ **LOOPS-PATCHCOMS**

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::: Some simple optimizations missing from the compiler.

::

:: Shift by a constant.

:: Unfortunately, these cause the compiler to generate spurious warning messages about "Unknown function IL:LLSH1 called from ..." It's not often you come across a place where COMPILER-LET is really needed.

```
(VARIABLES XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION*)
(FUNCTIONS LRSH1 LRSH8 LLSH1 LLSH8)
(OPTIMIZERS (LRSH :OPTIMIZED-BY RIGHT-SHIFT-BY-CONSTANT)
            (LLSH :OPTIMIZED-BY LEFT-SHIFT-BY-CONSTANT))
```

::

::)

::: Some simple optimizations missing from the compiler.

::

:: Shift by a constant.

:: Unfortunately, these cause the compiler to generate spurious warning messages about "Unknown function IL:LLSH1 called from ..." It's not often you come across a place where COMPILER-LET is really needed.

(CL:DEFVAR **XCL-USER::\*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION\*** NIL

"Marker used for informing the shift-by-constant optimizers that they are in the shift function, and should not optimize.")

(CL:DEFUN **LRSH1** (XCL-USER::X)

```
(CL:COMPILER-LET ((XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION* T))
  (LRSH XCL-USER::X 1)))
```

(CL:DEFUN **LRSH8** (XCL-USER::X)

```
(CL:COMPILER-LET ((XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION* T))
  (LRSH XCL-USER::X 8)))
```

(CL:DEFUN **LLSH1** (XCL-USER::X)

```
(CL:COMPILER-LET ((XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION* T))
  (LLSH XCL-USER::X 1)))
```

(CL:DEFUN **LLSH8** (XCL-USER::X)

```
(CL:COMPILER-LET ((XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION* T))
  (LLSH XCL-USER::X 8)))
```

(DEFOPTIMIZER **LRSH** RIGHT-SHIFT-BY-CONSTANT

(XCL-USER::X XCL-USER::N &ENVIRONMENT XCL-USER::ENV)

(CL:IF (AND (CL:CONSTANTP XCL-USER::N)

(NOT XCL-USER::\*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION\*))

(LET ((XCL-USER::SHIFT-FACTOR (CL:EVAL XCL-USER::N)))

(COND

((NOT (CL:NUMBERP XCL-USER::SHIFT-FACTOR))

(CL:ERROR "Non-numeric arg to ~S, ~S" 'LRSH XCL-USER::SHIFT-FACTOR))

((= XCL-USER::SHIFT-FACTOR 0)

XCL-USER::X)

((< XCL-USER::SHIFT-FACTOR 0)

`(LLSH ,XCL-USER::X ,(- XCL-USER::SHIFT-FACTOR)))

((< XCL-USER::SHIFT-FACTOR 8)

`(LRSH (**LRSH1** ,XCL-USER::X

, (CL:1- XCL-USER::SHIFT-FACTOR)))

(T `(LRSH (**LRSH8** ,XCL-USER::X

, (- XCL-USER::SHIFT-FACTOR 8))))))

'COMPILER:PASS))

(DEFOPTIMIZER **LLSH** LEFT-SHIFT-BY-CONSTANT

```

(XCL-USER::X XCL-USER::N &ENVIRONMENT XCL-USER::ENV)
(CL:IF (AND (CL:CONSTANTP XCL-USER::N)
            (NOT XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION*))
  (LET ((XCL-USER::SHIFT-FACTOR (CL:EVAL XCL-USER::N)))
    (COND
      ((NOT (CL:NUMBERP XCL-USER::SHIFT-FACTOR))
        (CL:ERROR "Non-numeric arg to ~S, ~S" 'LLSH XCL-USER::SHIFT-FACTOR))
      ((= XCL-USER::SHIFT-FACTOR 0)
        XCL-USER::X)
      ((< XCL-USER::SHIFT-FACTOR 0)
        `(LRSH ,XCL-USER::X ,(- XCL-USER::SHIFT-FACTOR)))
      ((< XCL-USER::SHIFT-FACTOR 8)
        `(LLSH (LLSH1 ,XCL-USER::X
                    , (CL:1- XCL-USER::SHIFT-FACTOR)))
          , (- XCL-USER::SHIFT-FACTOR 8))))
      (T `(LLSH (LLSH8 ,XCL-USER::X
                    , (- XCL-USER::SHIFT-FACTOR 8))))))
'COMPILER:PASS))

```

```

;;
(PUTPROPS LOOPS-PATCH COPYRIGHT ("Venue & Xerox Corporation" 1988 1990))

```

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**FUNCTION INDEX**

LLSH1 .....1    LLSH8 .....1    LRS1 .....1    LRS8 .....1

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**LLSH INDEX**

LEFT-SHIFT-BY-CONSTANT ..1    :OPTIMIZED-BY .....1

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**LRS INDEX**

:OPTIMIZED-BY .....1    RIGHT-SHIFT-BY-CONSTANT .1

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**VARIABLE INDEX**

XCL-USER::\*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION\* ...1

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