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STYLE-WARNING: redefining MAIN-PROMPT in DEFUN
STYLE-WARNING: redefining TEX-STRIPDOLLAR in DEFUN
STYLE-WARNING: redefining TEX-MEXPT in DEFUN
STYLE-WARNING: redefining TEX-CHOOSE in DEFUN
STYLE-WARNING: redefining TEX-INT in DEFUN
STYLE-WARNING: redefining TEX-SUM in DEFUN
STYLE-WARNING: redefining TEX-LSUM in DEFUN

Maxima 5.17.1 http://maxima.sourceforge.net
Using Lisp SBCL 1.0.25
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Dedicated to the memory of William Schelter.
The function bug_report() provides bug reporting information.
(%i1) load(pdiff)
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(%o1) /usr/share/maxima/5.17.1/share/contrib/pdiff/pdiff.lisp

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(%i2) batch("test.mac");


batching /home/lq/test.mac
```

(%i3) K_1: $g(t,y)$

(%o3) $g(t,y)$

(%i4) A: taylor$(g(h_t+t,h_y+y),[h_t,h_y],0,4)$

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(%i2)
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(%o4) $$g(t,y)+\left(g_{(1,0)}(t,y)\,h_t+g_{(0,1)}(t,y)\,h_y\right)+\frac{g_{(2,0)}(t,y)\,h_t^2+2\,g_{(1,1)}(t,y)\,h_y\,h_t+g_{(0,2)}(t,y)\,h_y^2}{2}+\frac{g_{(3,0)}(t,y)\,h_t^3+3\,g_{(2,1)}(t,y)\,h_y\,h_t^2+3\,g_{(1,2)}(t,y)\,h_y^2\,h_t+g_{(0,3)}(t,y)\,h_y^3}{6}+\frac{g_{(4,0)}(t,y)\,h_t^4+4\,g_{(3,1)}(t,y)\,h_y\,h_t^3+6\,g_{(2,2)}(t,y)\,h_y^2\,h_t^2+4\,g_{(1,3)}(t,y)\,h_y^3\,h_t+g_{(0,4)}(t,y)\,h_y^4}{24}+\cdots$$

(%i5) ev1: $h_t=\mu_{21}\,h$

(%o5) $h_t=\mu_{21}\,h$

(%i6) ev2: $h_y=\mu_{21}\,h\,K_1$

(%o6) $h_y=\mu_{21}\,h\,g(t,y)$

(%i7) K_2: ev$(A,$ev1, ev2, ratexpand$)$

(%o7) $$\frac{\mu_{21}^4\,h^4\,g_{(4,0)}(t,y)}{24}+\frac{\mu_{21}^4\,h^4\,g(t,y)\,g_{(3,1)}(t,y)}{6}+\frac{\mu_{21}^3\,h^3\,g_{(3,0)}(t,y)}{6}+\frac{\mu_{21}^4\,h^4\,g(t,y)^2\,g_{(2,2)}(t,y)}{4}+\frac{\mu_{21}^3\,h^3\,g(t,y)\,g_{(2,1)}(t,y)}{2}+\frac{\mu_{21}^2\,h^2\,g_{(2,0)}(t,y)}{2}+\frac{\mu_{21}^4\,h^4\,g(t,y)^3\,g_{(1,3)}(t,y)}{6}+\frac{\mu_{21}^3\,h^3\,g(t,y)^2\,g_{(1,2)}(t,y)}{2}+\mu_{21}^2\,h^2\,g(t,y)\,g_{(1,1)}(t,y)+\mu_{21}\,h\,g_{(1,0)}(t,y)+\frac{\mu_{21}^4\,h^4\,g(t,y)^4\,g_{(0,4)}(t,y)}{24}+\frac{\mu_{21}^3\,h^3\,g(t,y)^3\,g_{(0,3)}(t,y)}{6}+\frac{\mu_{21}^2\,h^2\,g(t,y)^2\,g_{(0,2)}(t,y)}{2}+\mu_{21}\,h\,g(t,y)\,g_{(0,1)}(t,y)+g(t,y)$$

(%i8) ev1: $h_t=(\mu_{32}+\mu_{31})\,h$

(%o8) $h_t=(\mu_{32}+\mu_{31})\,h$

(%i9) taylor$(h\,(\mu_{32}\,K_2+\mu_{31}\,K_1),h,0,4)$

(%o9) $$(\mu_{32}+\mu_{31})\,g(t,y)\,h+\left(\mu_{21}\,\mu_{32}\,g_{(1,0)}(t,y)+\mu_{21}\,\mu_{32}\,g(t,y)\,g_{(0,1)}(t,y)\right)h^2+\frac{\left(\mu_{21}^2\,\mu_{32}\,g_{(2,0)}(t,y)+2\,\mu_{21}^2\,\mu_{32}\,g(t,y)\,g_{(1,1)}(t,y)+\mu_{21}^2\,\mu_{32}\,g(t,y)^2\,g_{(0,2)}(t,y)\right)h^3}{2}+\frac{\left(\mu_{21}^3\,\mu_{32}\,g_{(3,0)}(t,y)+3\,\mu_{21}^3\,\mu_{32}\,g(t,y)\,g_{(2,1)}(t,y)+3\,\mu_{21}^3\,\mu_{32}\,g(t,y)^2\,g_{(1,2)}(t,y)+\mu_{21}^3\,\mu_{32}\,g(t,y)^3\,g_{(0,3)}(t,y)\right)h^4}{6}+\cdots$$

(%i10) ev2: h_y = taytorat(%)
(%o10) $h_y =$

$$\left(\mu_{21}^3\,\mu_{32}\,g_{(3,0)}(t,y)+3\,\mu_{21}^3\,\mu_{32}\,g(t,y)\,g_{(2,1)}(t,y)+3\,\mu_{21}^3\,\mu_{32}\,g(t,y)^2\,g_{(1,2)}(t,y)+\mu_{21}^3\,\mu_{32}\,g(t,y)^3\,g_{(0,3)}(t,y)\right)h^4+\left(3\,\mu_{2}^{2}\right.$$

(%i11) ev(A, ev1, ev2)
⟨stack-overflow|#f|Stack overflow|#f|#f⟩

(%i13)