> restart

> with(PDETools) : depvar := u(x, y, z, t)

$$depvar := u(x, y, z, t) \tag{1}$$

> with(DifferentialGeometry) : with(JetCalculus) :

> DGsetup([x, y, z, t], [u], E, 3)

frame name: E **(2)**

E > alias(M=M(x, y, z, t, u[ ], u[1], u[2], u[3], u[4]))

$$M \tag{3}$$

E > PDEtools[declare](M(x, y, z, t, u[ ], u[1], u[2], u[3], u[4])quiet)

$M(x, y, z, t, u_{[\,]}, u_1, u_2, u_3, u_4)$ will now be displayed as M **(4)**

>

E > $diff(M, u)\cdot(u_{4,4} - u_{1,1} - u_{2,2} - u_{3,3}) - (u_{4,4} - u_{1,1} - u_{2,2} - u_{3,3})$
$\cdot TotalDiff(diff(M(x, y, z, t, u_{[\,]}, u_1, u_2, u_3, u_4), u_1), x) - diff(M, u_1)$
$\cdot TotalDiff((u_{4,4} - u_{1,1} - u_{2,2} - u_{3,3}), x)$

$$M_u\,(u_{4,4} - u_{1,1} - u_{2,2} - u_{3,3}) \tag{5}$$

E > $TotalDiff(diff(M, u_1), x)$

$$0 \tag{6}$$

E > $diff(M(x, y, z, t, u_{[\,]}, u_1, u_2, u_3, u_4), u_1)$

$$0 \tag{7}$$

E >