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In [1]: import sympy as sy
sy.init_printing()
x, y, z, theta = sy.symbols("x,y,z,\\theta")
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In [2]: expr = sy.sin(theta)*sy.exp(y)*sy.log(z)*(x+y*theta)**4
expr = sy.Integral(expr, (x, 0, 2))
expr = sy.Integral(expr, (y, -1, 1))
expr = sy.Integral(expr, (z, -2, 0))
expr = sy.Derivative(expr, theta)
expr
```

Out[2]: $\frac{d}{d\theta} \int_{-2}^0 \int_{-1}^1 \int_0^2 (\theta y + x)^4 e^y \log(z) \sin(\theta) dx dy dz$