
Load the QuantumMechanics Package

```
<< QuantumMechanics`  
Application Quantum Mechanics  
? d
```

Used like the built-in function D,
but implements a better solution for embedded Conjugate calls,
provided the function depends on real parameters

A Few Sample Calls - d

New Functionality with Special Conjugate Handling

```
d[f[x]*, x]  
Conjugate[f'[x]]  
  
d[f[x]*, {x, 2}]  
Conjugate[f''[x]]  
  
d[(x^3)*, x]  
3 Conjugate[x]^2  
  
 $\rho = \psi[x, t] \psi[x, t]^*$   
d[ $\rho$ , x]  
Conjugate[ $\psi[x, t]$ ]  $\psi[x, t]$   
Conjugate[ $\psi^{(1,0)}[x, t]$ ]  $\psi[x, t]$  + Conjugate[ $\psi[x, t]$ ]  $\psi^{(1,0)}[x, t]$ 
```

Functionality Equivalent to D's Functionality

```
d[Sin[q]^2, q]  
2 Cos[q] Sin[q]  
  
d[Exp[-x^2], x]  
-2 e-x2 x  
  
z[x_, y_] := x y  
d[z[x, y], x]  
y  
  
d[z[x, y], x, y]  
1
```