

## Maple versus Mathematica syntax

All Mathematica functions start with a capital letter, e.g., Cos[x], Sqrt[x], etc.

	Maple	Mathematica
Enter expression	<code>Enter</code>	<code>Shift-Enter</code>
New line	<code>Shift-Enter</code>	<code>Enter</code>
Help	<code>?cmd</code>	<code>?cmd</code>
End of line	<code>;</code>	None
Silent execution	<code>:</code>	<code>;</code>
Assign value	<code>x:=2;</code>	<code>x=2</code>
Delayed assignment	None	<code>:=</code>
Equality	<code>=</code>	<code>==</code>
Boolean equality	<code>evalb(a=b);</code>	<code>a===b</code>
$\pi$	<code>Pi</code>	<code>Pi</code>
$\sqrt{x}$	<code>sqrt(x);</code>	<code>Sqrt[x]</code> or <code>Ctrl-2</code>
Function	<code>f:=x-&gt;x^2;</code>	<code>f[x_]:=x^2</code>
Procedure	<code>f:=proc(x)   local vars;   ... end proc;</code>	<code>f[x_]:=Module[{vars},   ... ]</code>
2D plot	<code>plot(f(x),x=a..b);</code>	<code>Plot[f[x],{x,a,b}]</code>
3D plot	<code>plot3d(f(x,y),x=a..b,y=c..d);</code>	<code>Plot3D[f[x,y],{x,a,b},{y,c,d}]</code>
Floats	<code>evalf[n](x);</code>	<code>N[x,n]</code>
Number of digits	<code>length(x);</code>	<code>IntegerLength[x]</code>
Exact solver	<code>solve(f(x)=0,x);</code>	<code>Solve[f[x]==0,x]</code>
Numerical solver	<code>fsolve(f(x)=0,x); fsolve(f(x)=0,x=a..b);</code>	<code>NSolve[f[x]==0,x] FindRoot[f[x]==0,{x,x0,a,b}]</code>
Derivative	<code>diff(f(x),x);</code>	<code>D[f[x],x]</code>
Integral	<code>int(f(x),x=a..b);</code>	<code>Integrate[f[x],{x,a,b}]</code>
Prime test	<code>isprime(n);</code>	<code>PrimeQ[n]</code>
<i>i</i> th prime	<code>ithprime(i);</code>	<code>Prime[i]</code>
Remainder	<code>irem(x,d)</code>	<code>Mod[x,d]</code>
Expand polynomial	<code>expand(p);</code>	<code>Expand[p]</code>
Factor polynomial	<code>factor(p);</code>	<code>Factor[p]</code>
Lists	<code>[seq(...,i=a..b)];</code>	<code>Table[...,{i,a,b}]</code>
Do-loop	<code>for i from a to b by d do   ... end do;</code>	<code>Do[...,{i,a,b,d}]</code>
If statement	<code>If cond then t else f end if;</code>	<code>If[cond,t,f]</code>
Vector	<code>&lt;a,b,c&gt;;</code>	<code>{a,b,c}</code> No specific notation
Matrix	<code>&lt;&lt;a,b&gt; &lt;c,d&gt;&gt;;</code>	<code>{{a,b},{c,d}}</code> for vector or matrix