

Introduction to Maple

Maple is a computer algebra system, which was first developed in 1980 out of the at the University of Waterloo in Canada.

Maple can handle numerical, symbolic, and graphical representations. Exploring these representations and an introduction to this technology is one of the course goals of Calc II.

In the following example, execute the command code by hitting return at the end of the line. Int displays the integral while int computes it:

```
> Int(x^3*ln(x), x); int(x^3*ln(x), x);
```

$$\int x^3 \ln(x) dx$$

$$\frac{1}{4} x^4 \ln(x) - \frac{1}{16} x^4 \quad (1)$$

Please note that it should be + c at the end, but Maple leaves that off!

Maple can also compute the definite integral:

```
> int(x^3*ln(x), x=0..1);
```

$$-\frac{1}{16} \quad (2)$$

We can also plot the function, and see the geometric representation of the area under the curve that Maple just solved for.

```
> plot(x^3*ln(x), x=0..1);
```

