Examples of the ``Risch" integration algorithm.

```
> f := ln(x)^2;
```

$$f := \ln(x)^2$$

```
> int(f,x);
```

$$\ln(x)^2 x - 2 x \ln(x) + 2 x$$

```
> f := (1-x^2*ln(x)^3+(-x^2+1)*ln(x)^2+(3-x)*ln(x))*exp(-x)
    /(x*ln(x)+1)^2;
```

$$f := \frac{\left(1 - x^2 \ln(x)^3 + \left(-x^2 + 1\right) \ln(x)^2 + (3 - x) \ln(x)\right) e^{-x}}{(x \ln(x) + 1)^2}$$

```
> int(f,x);
```

$$e^{-x} \ln(x) + \frac{(x - 1) e^{-x}}{x} - \frac{e^{-x} (x - 1)}{(x \ln(x) + 1) x}$$

```
> int(int(f,x),x);
```

$$-e^{-x} \ln(x) - e^{-x} + \int \left(-\frac{e^{-x} (x - 1)}{(x \ln(x) + 1) x} \right) dx$$

```
> ∫ e^x/ln(x) dx
```

$$\int \frac{e^x}{\ln(x)}\, dx$$

```
> ∫ e^(-x)/x dx
```

$$-\mathrm{Ei}(1, x)$$

```
> ?Ei
```

```
> ∫ e^(-x^2) dx
```

$$\frac{1}{2} \sqrt{\pi}\ \mathrm{erf}(x)$$

```
> ?erf
```