Integral

`integral(f,x)` returns the integral of f with respect to x. The x can be omitted for expressions in x. The argument list can be extended for multiple integrals.

```
integral(x^2)
```

$\frac{1}{3}x^3$

```
f = x y
integral(f,x,y)
```

$\frac{1}{4}x^2y^2$

`defint(f,x,a,b)` computes the definite integral of f with respect to x evaluated from a to b. The argument list can be extended for multiple integrals. The following example computes the integral of $f = x^2$ over the domain of a semicircle. For each x along the abscissa, y ranges from 0 to $\sqrt{1-x^2}$.

```
defint(x^2, y, 0, sqrt(1 - x^2), x, -1, 1)
```

$\frac{1}{8}\pi$

Alternatively, `eval` can be used to compute a definite integral step by step.

```
I = integral(x^2,y)
I = eval(I,y,sqrt(1 - x^2)) - eval(I,y,0)
I = integral(I,x)
eval(I,x,1) - eval(I,x,-1)
```

$\frac{1}{8}\pi$