```
> f := exp(x)
```

$$f := e^{x} \tag{1}$$

```
> T2 := taylor(f, x = 0, 3); T2 := convert(T2, polynom)
```

$$T2 := 1 + x + \frac{1}{2} x^{2} + O(x^{3})$$

$$T2 := 1 + x + \frac{1}{2} x^{2} \tag{2}$$

```
> T3 := taylor(f, x = 0, 4); T3 := convert(T3, polynom)
```

$$T3 := 1 + x + \frac{1}{2} x^{2} + \frac{1}{6} x^{3} + O(x^{4})$$

$$T3 := 1 + x + \frac{1}{2} x^{2} + \frac{1}{6} x^{3} \tag{3}$$

```
> T4 := taylor(f, x = 0, 5); T4 := convert(T4, polynom)
```

$$T4 := 1 + x + \frac{1}{2} x^{2} + \frac{1}{6} x^{3} + \frac{1}{24} x^{4} + O(x^{5})$$

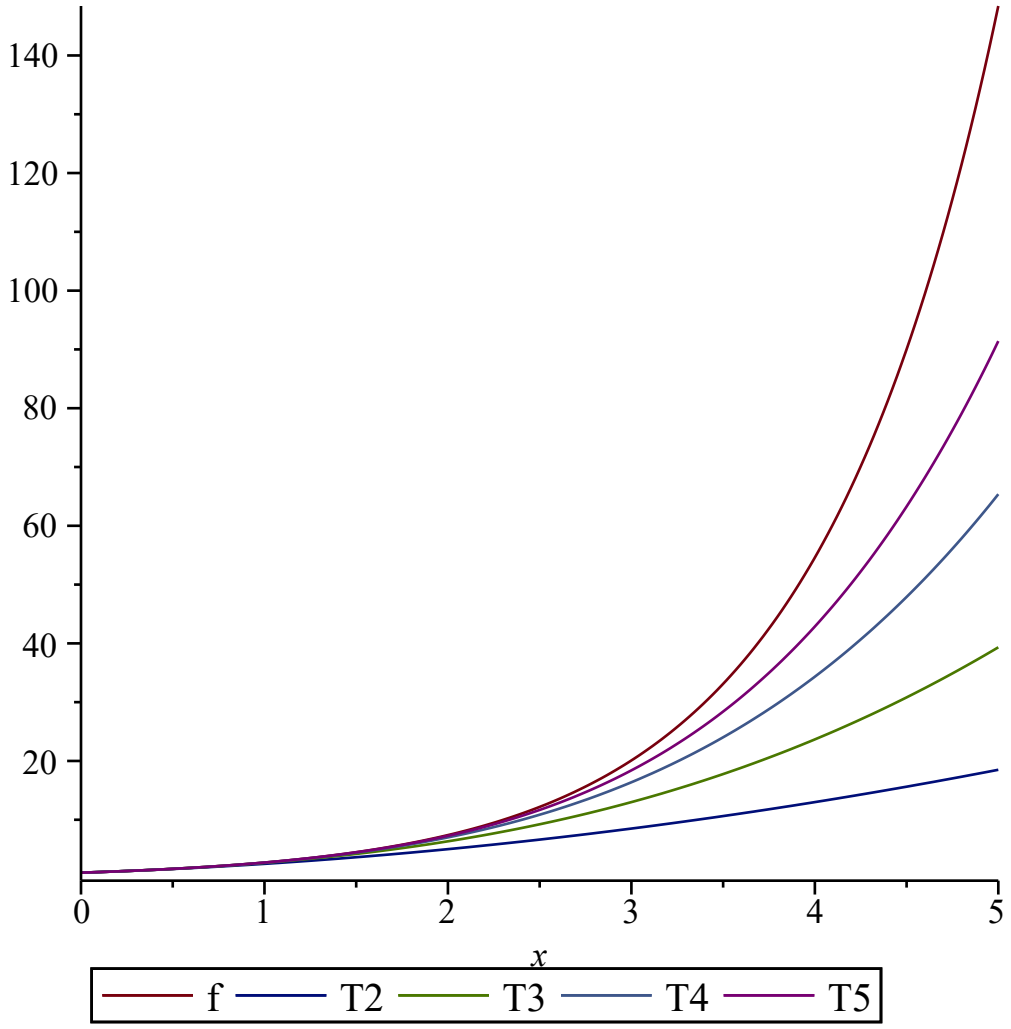
$$T4 := 1 + x + \frac{1}{2} x^{2} + \frac{1}{6} x^{3} + \frac{1}{24} x^{4} \tag{4}$$

```
> T5 := taylor(f, x = 0, 6); T5 := convert(T5, polynom)
```

$$T5 := 1 + x + \frac{1}{2} x^{2} + \frac{1}{6} x^{3} + \frac{1}{24} x^{4} + \frac{1}{120} x^{5} + O(x^{6})$$

$$T5 := 1 + x + \frac{1}{2} x^{2} + \frac{1}{6} x^{3} + \frac{1}{24} x^{4} + \frac{1}{120} x^{5} \tag{5}$$

```
> plot([f, T2, T3, T4, T5], x = 0..5, legend = ["f", "T2", "T3", "T4", "T5"])
```



> $f := \log(1+x)$

$$f := \ln(x+1) \tag{6}$$

> $T2 := taylor(f, x=0, 3); T2 := convert(T2, polynom)$

$$T2 := x - \frac{1}{2}x^2 + O(x^3)$$

$$T2 := x - \frac{1}{2}x^2 \tag{7}$$

> $T3 := taylor(f, x=0, 4); T3 := convert(T3, polynom)$

$$T3 := x - \frac{1}{2}x^2 + \frac{1}{3}x^3 + O(x^4)$$

$$T3 := x - \frac{1}{2}x^2 + \frac{1}{3}x^3 \tag{8}$$

> $T4 := taylor(f, x=0, 5); T4 := convert(T4, polynom)$

$$T4 := x - \frac{1}{2}x^2 + \frac{1}{3}x^3 - \frac{1}{4}x^4 + O(x^5)$$

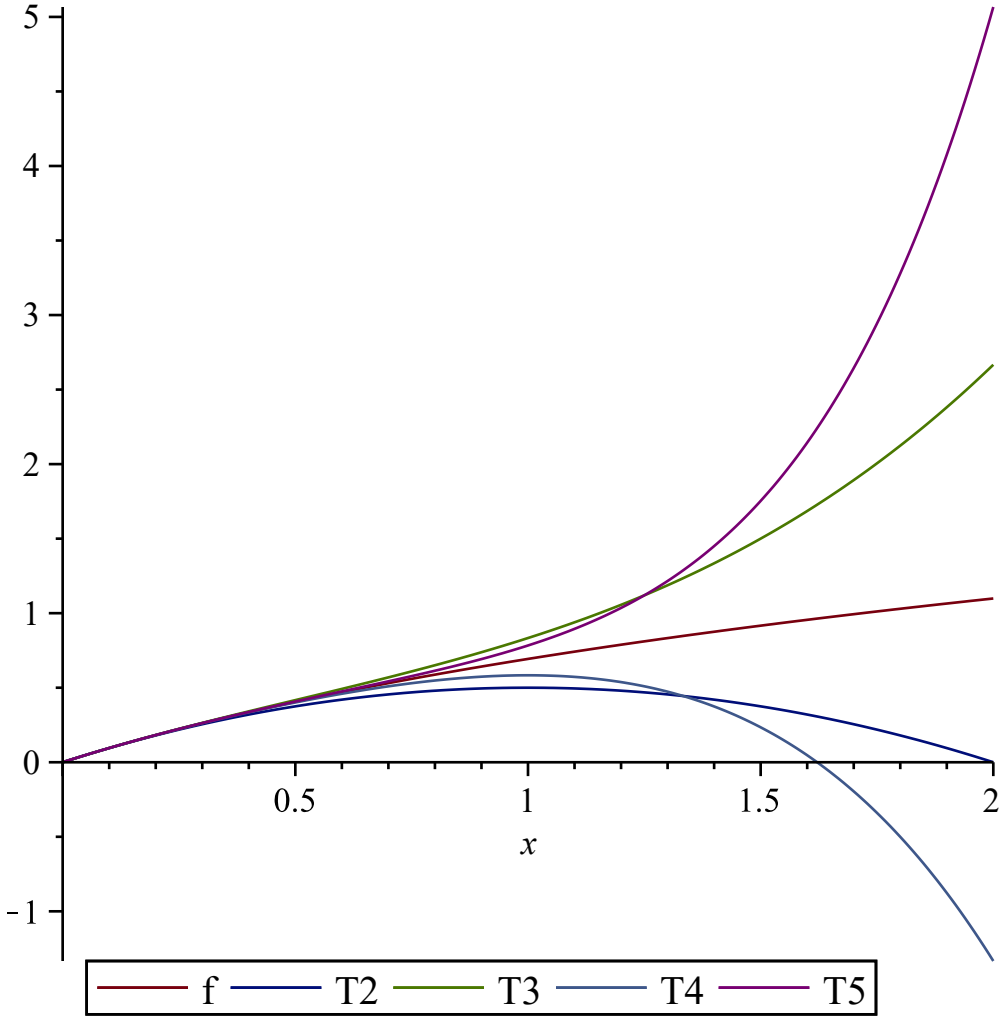
$$T4 := x - \frac{1}{2}x^2 + \frac{1}{3}x^3 - \frac{1}{4}x^4 \tag{9}$$

> $T5 := taylor(f, x=0, 6); T5 := convert(T5, polynom)$

$$T5 := x - \frac{1}{2}x^2 + \frac{1}{3}x^3 - \frac{1}{4}x^4 + \frac{1}{5}x^5 + O(x^6)$$

$$T5 := x - \frac{1}{2}x^2 + \frac{1}{3}x^3 - \frac{1}{4}x^4 + \frac{1}{5}x^5 \quad \textbf{(10)}$$

```
> plot( [f, T2, T3, T4, T5], x = 0 ..2, legend = ["f", "T2", "T3", "T4", "T5"])
```




```
>
>
```