```
using SymPy
```

```
using Plots
```

Definicao de variaveis

(t)

```
@syms t
```

i0 = 10

```
i0 = 10
```

R1 = 1

```
R1 = 1
```

R2 = 3

```
R2 = 3
```

L = 0.25

```
L = 1/4
```

V0 = 20

```
V0 = 20
```

Aplicando Thevenin

R_th = 4

```
R_th = R1 + R2
```

i_inf = 5.0

```
i_inf = V0 / R_th
```

τ = 0.0625

```
τ = L / R_th
```

i_t (generic function with 1 method)

```
i_t(t) = i_inf + (i0- i_inf) * exp(-t / τ)
```

di_dt (generic function with 1 method)

```
di_dt(t) = diff(i_t(t), t)
```

v0_t (generic function with 1 method)

```
v0_t(t) = R2 * i_t(t) + L * di_dt(t)
```

Resposta

`v0_t_solved =`

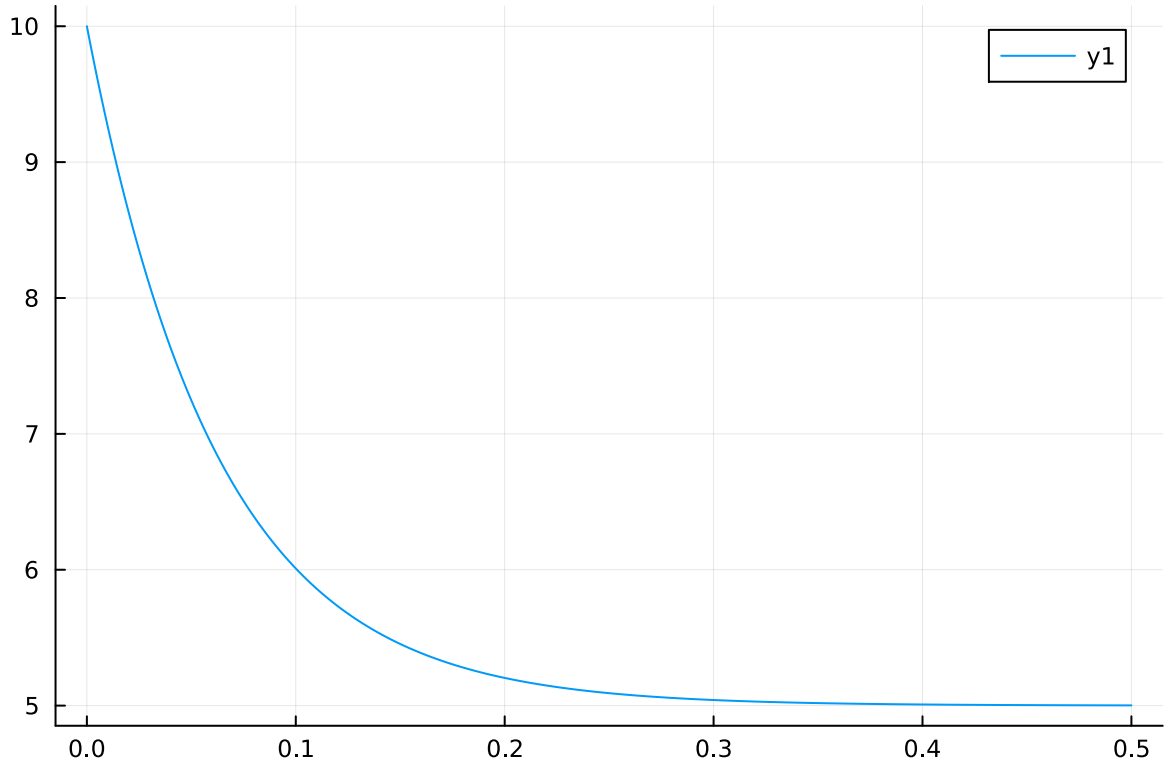
$$15.0 - 5.0e^{-16.0t}$$

```
1 v0_t_solved = simplify(v0_t(t))
```

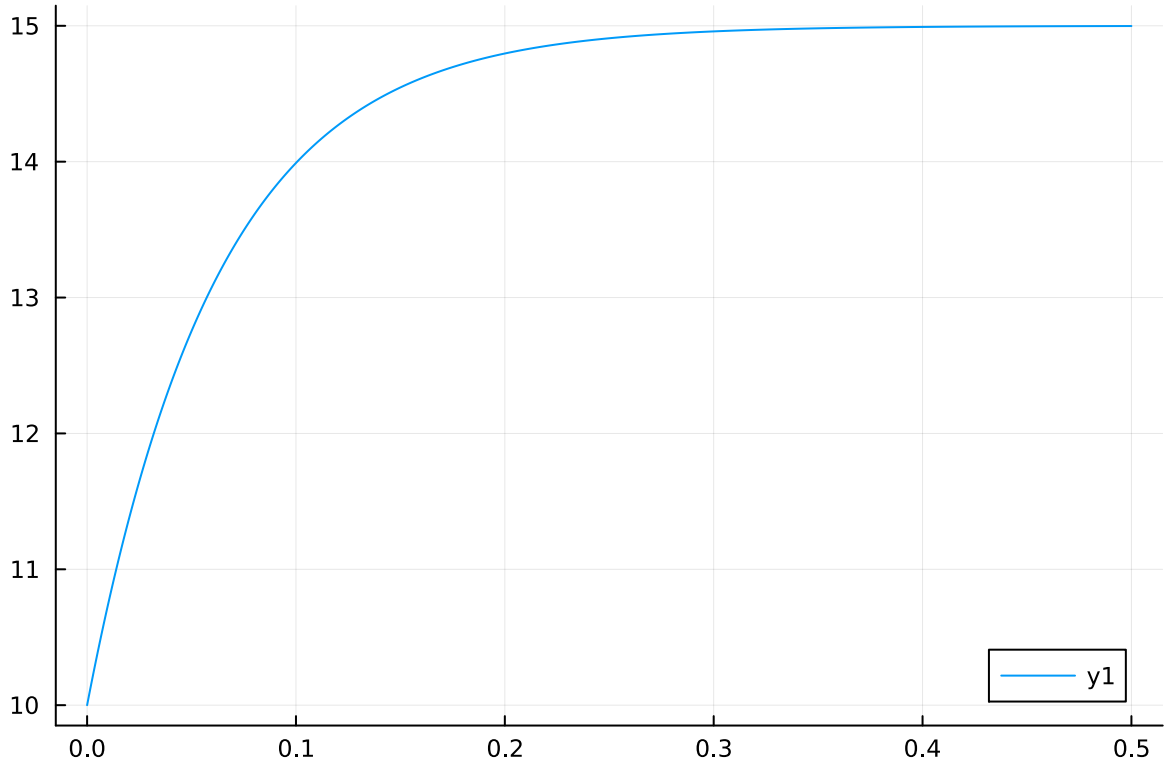
Gráfico

`tempo = 0.0:0.001:0.5`

```
1 tempo = 0:0.001:0.5
```




```
1 plot(tempo, i_t.(tempo))    #Grafico de corrente
```




```
plot(tempo, v0_t_solved.(tempo))    #Grafico de tensao
```