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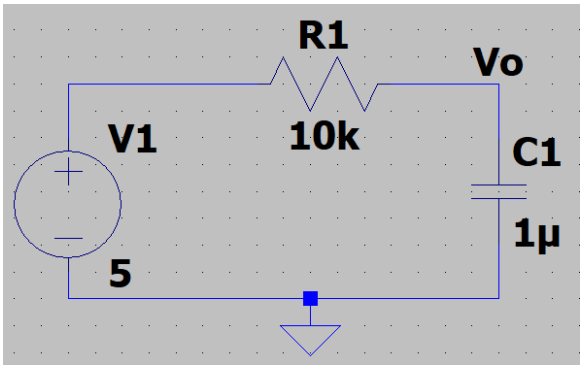
Laporan Kuis 4

Pemecahan Masalah dengan C

1. Penurunan Rumus



Dengan menggunakan analisis nodal pada Vo, diperoleh:

$$C\frac{dVo}{dt} = \frac{Vi - Vo}{R}$$

$$\frac{\triangle Vo}{\triangle t} = \frac{Vi - Vo}{RC}$$

$$\frac{Vo - \left(Vo(t - \triangle t)\right)}{\triangle t} = \frac{Vi - Vo}{RC}$$

$$\left(Vo - \left(Vo(t - \triangle t)\right)\right) RC = (Vi - Vo) \triangle t$$

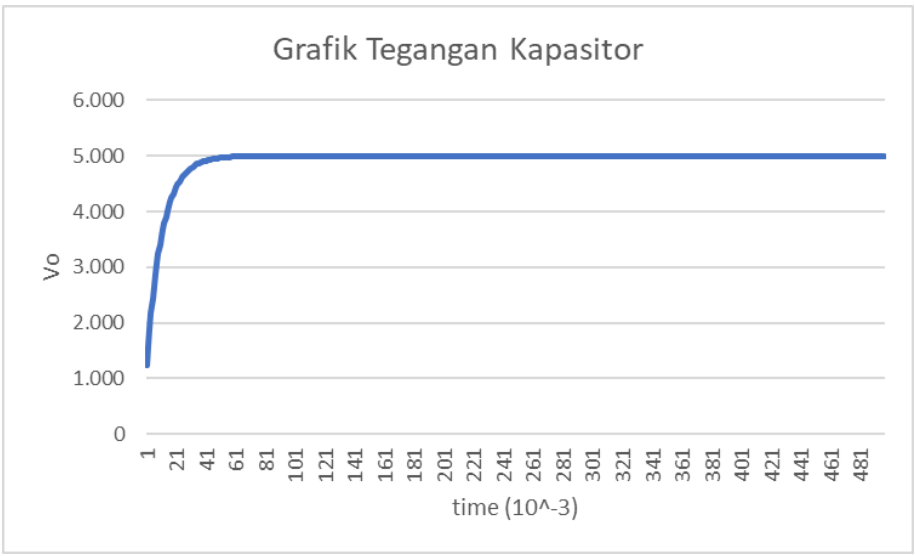
$$VoRC - (Vo(t - \triangle t)RC) = Vi \triangle t - Vo \triangle t$$

$$VoRC + Vo \triangle t = Vi \triangle t + (Vo(t - \triangle t)RC)$$

$$Vo(RC + \triangle t) = Vi \triangle t + (Vo(t - \triangle t)RC)$$

$$Vo = \frac{Vi \triangle t + (Vo(t - \triangle t)RC)}{RC + \triangle t}$$

2. Grafik



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3. Flowchart