Laporan PMC Quiz 4

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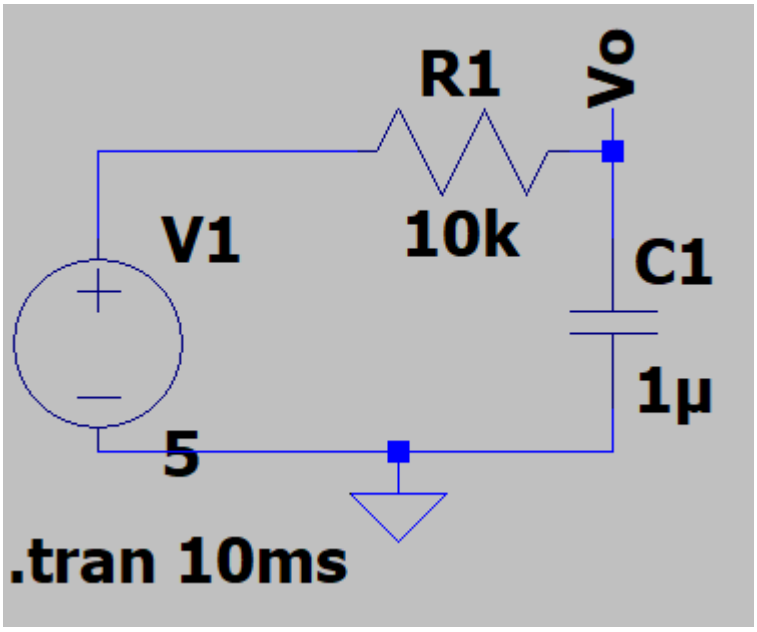
1. **Penurunan Rumus**



$$-V1 + Vr + Vo = 0$$

$$VR = IR$$

$$-V1 + CR\frac{dVo}{dt} + Vo = 0$$

Dapat didekati dengan

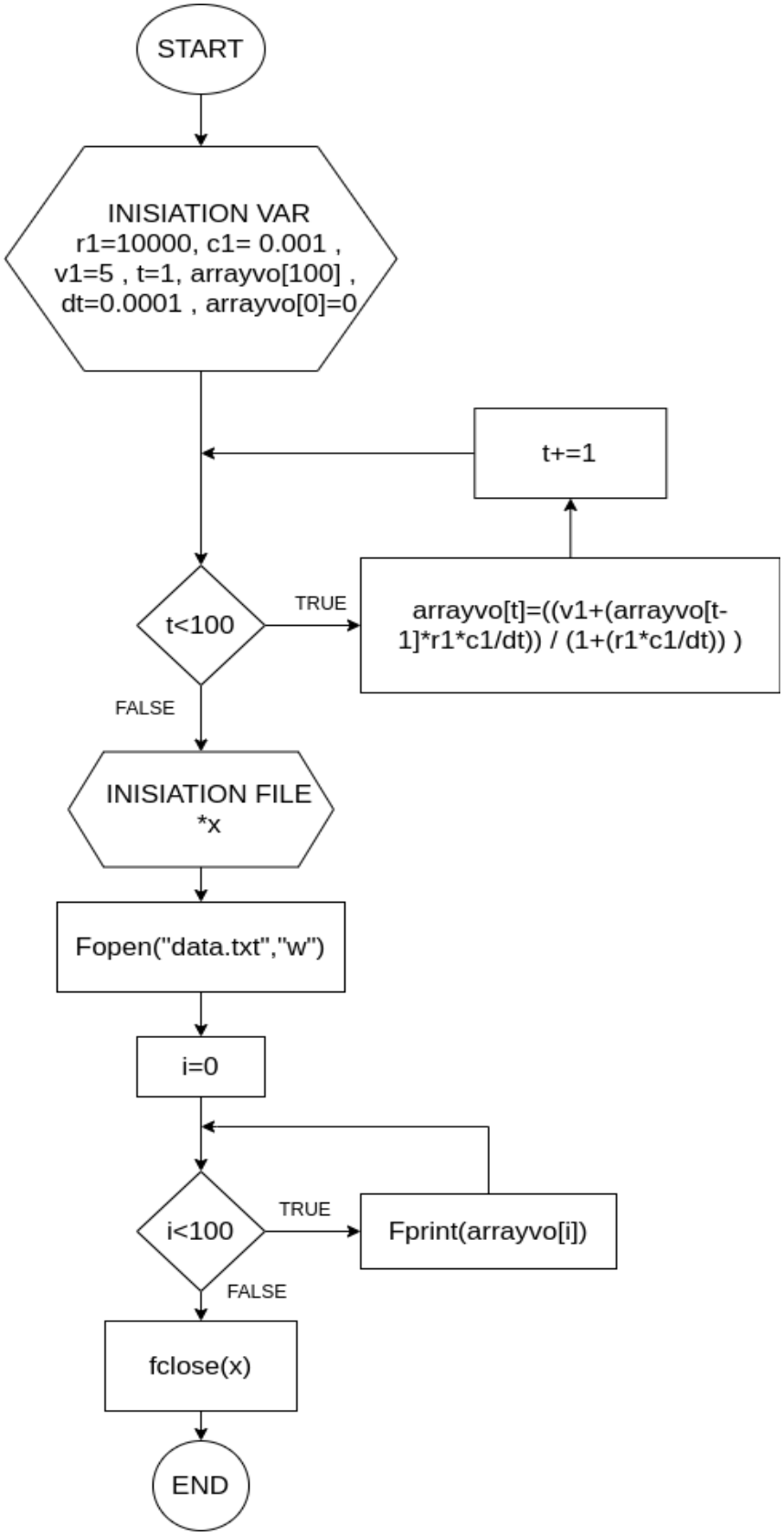
$$Vo(t) = V1 - \lim_{\Delta t \to 0} CR\frac{Vo(t) - Vo(t-1)}{\Delta t}$$

Untuk mendapat fungsi keluaran Vo(t) dengan input Vo(t-1),

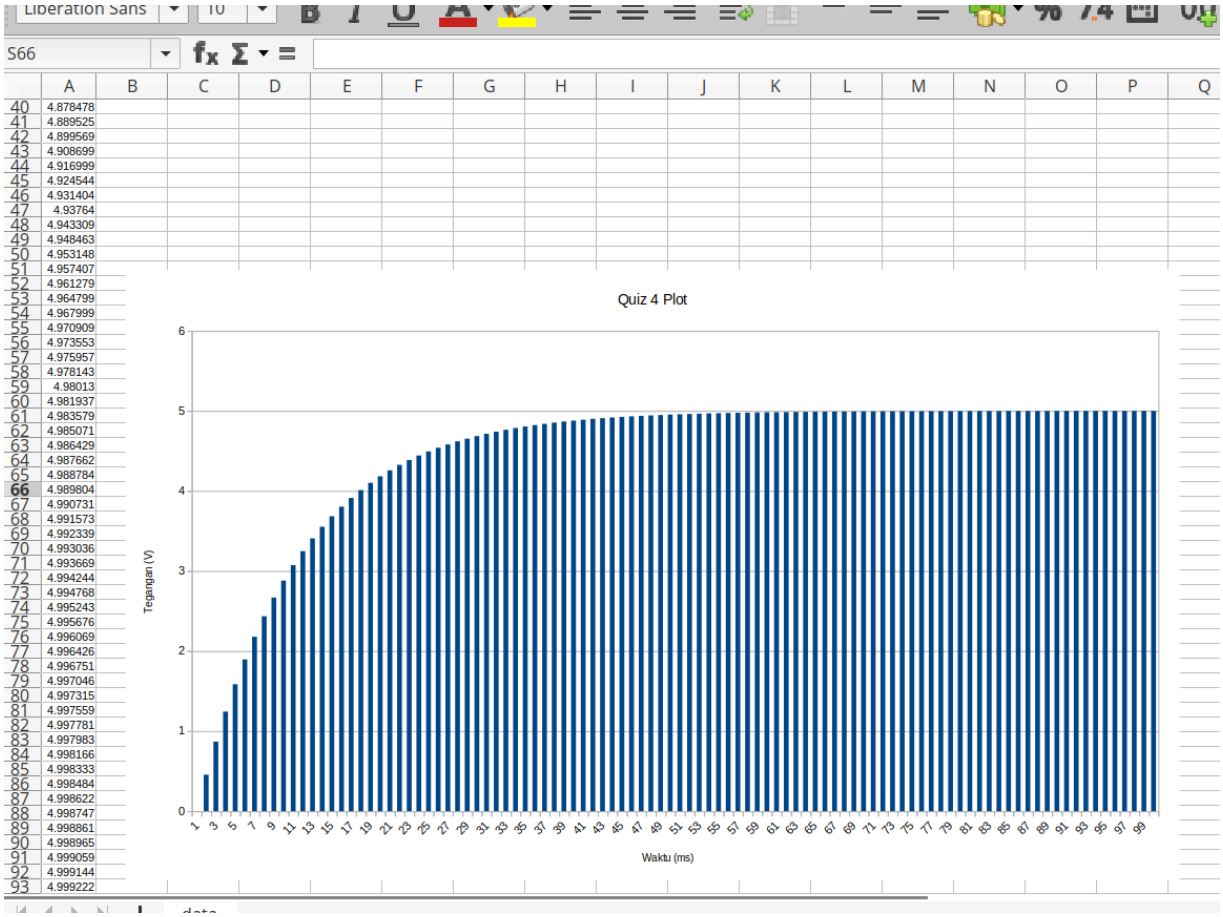
$$Vo(t)\left(1 + \frac{CR}{\Delta t}\right) = V1 + CR\frac{Vo(t-1)}{\Delta t}$$

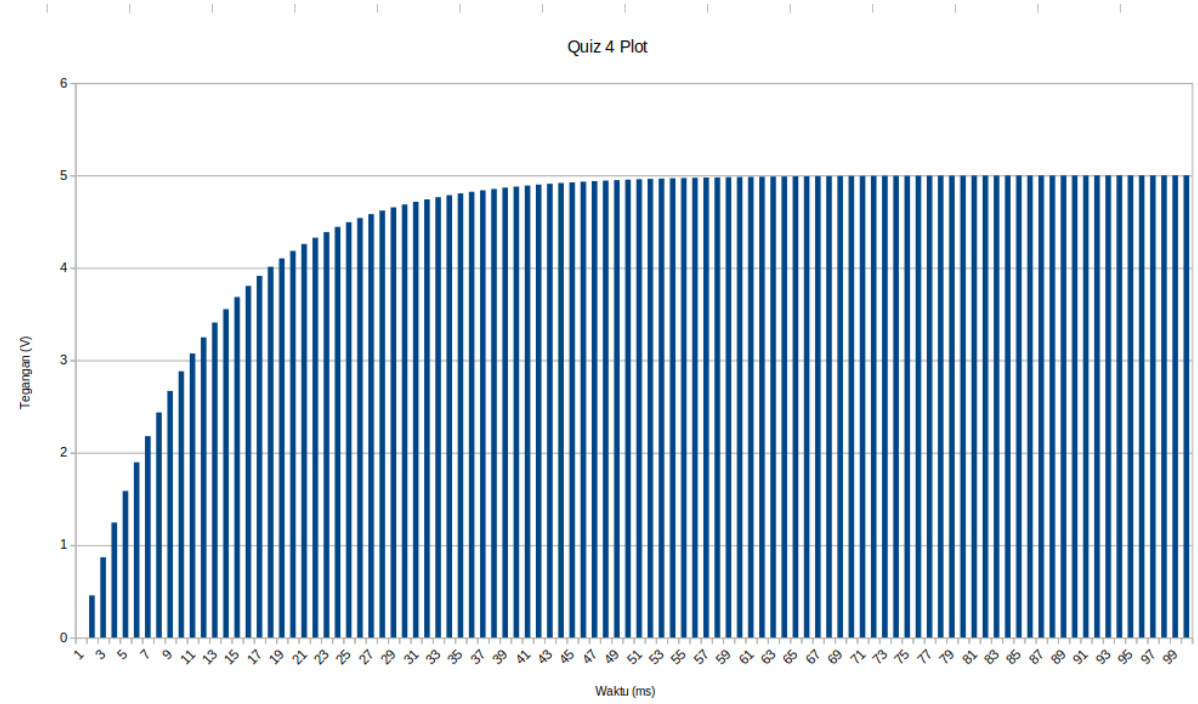
$$Vo(t) = \frac{V1 + CR\frac{Vo(t-1)}{\Delta t}}{\left(1 + \frac{CR}{\Delta t}\right)}$$

2. Flowchart


START
INISIATION VAR
r1=10000, c1= 0.001 ,
v1=5 , t=1, arrayvo[100] ,
dt=0.0001 , arrayvo[0]=0
t+=1
t<100
TRUE
arrayvo[t]=((v1+(arrayvo[t-
1]*r1*c1/dt)) / (1+(r1*c1/dt)))
FALSE
INISIATION FILE
*x
Fopen("data.txt","w")
i=0
i<100
TRUE
Fprint(arrayvo[i])
FALSE
fclose(x)
END

3. Grafik


Liberation Sans
10
S66
A B C D E F G H I J K L M N O P Q
40 4.878478
41 4.889525
42 4.899569
43 4.908699
44 4.916999
45 4.924544
46 4.931404
47 4.93764
48 4.943309
49 4.948463
50 4.953148
51 4.957407
52 4.961279
53 4.964799
54 4.967999
55 4.970909
56 4.973553
57 4.975957
58 4.978143
59 4.98013
60 4.981937
61 4.983579
62 4.985071
63 4.986429
64 4.987662
65 4.988784
66 4.989804
67 4.990731
68 4.991573
69 4.992339
70 4.993036
71 4.993669
72 4.994244
73 4.994768
74 4.995243
75 4.995676
76 4.996069
77 4.996426
78 4.996751
79 4.997046
80 4.997315
81 4.997559
82 4.997781
83 4.997983
84 4.998166
85 4.998333
86 4.998484
87 4.998622
88 4.998747
89 4.998861
90 4.998965
91 4.999059
92 4.999144
93 4.999222
Quiz 4 Plot
Tegangan (V)
Waktu (ms)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