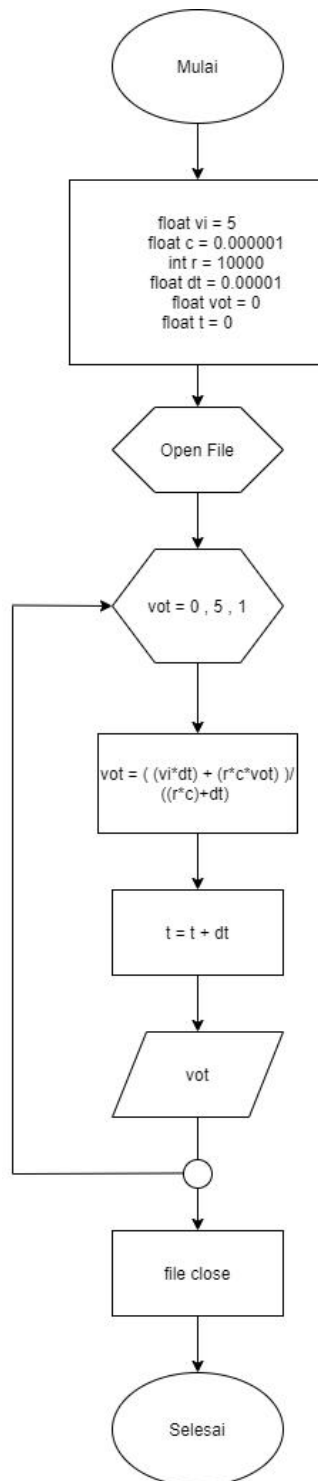


Flowchart :



Penurunan Rumus :

$$\frac{V_i - V_c(t)}{R} = C \frac{dV_c}{dt}$$

$$\frac{V_i}{R} - \frac{V_c(t)}{R} = C \frac{dV_c}{dt}$$

$$(V_i * dt) - (V_c(t) * dt) = RC(V_c(t) - V_c(t-1))$$

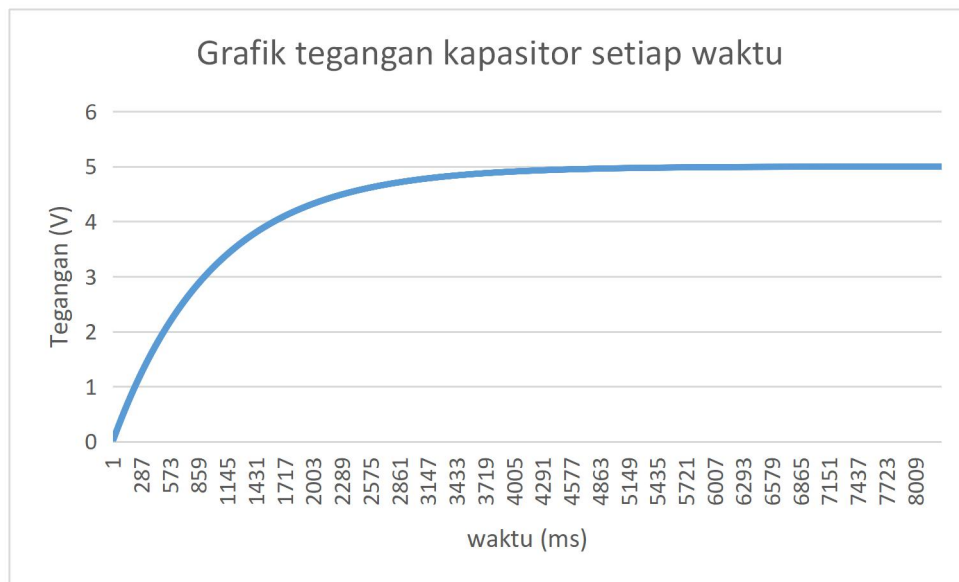
$$(V_i * dt) - (V_c(t) * dt) = (R * C * V_c(t)) - (R * C * V_c(t-1))$$

$$(V_c(t) * R * C) + (V_c(t) * dt) = (V_i * dt) + (R * C * V_c(t-1))$$

$$V_c(t)((R * C) - dt) = (V_i * dt) + (R * C * V_c(t-1))$$

$$V_c(t) = \frac{(V_i * dt) + (R * C * V_c(t-1))}{((R * C) - dt)}$$

Grafik yang diperoleh



Code :

```
1  #include <stdio.h>
2
3  int main(){
4
5      float vot, vi, dt;
6
7      vi = 5;
8      float c = 0.000001;
9      int r = 10000;
10     dt = 0.00001;
11     vot = 0;
12
13     printf("vot = %f\n", vot);
14
15     FILE *fp;
16
17     fp = fopen("rc.txt", "w+");
18     float t = 0;
19     while( vot<=5-0.001 ){
20         vot = ( (vi*dt) + (r*c*vot) )/ ((r*c)+dt) ;
21
22         t+=dt;
23
24         printf("vot = %f\n", vot);
25         fprintf(fp, "%f \t%f\n", vot, t);
26         //fputs("%f", fp, vot);
27     }
28     fclose(fp);
29
30
31 }
32
```