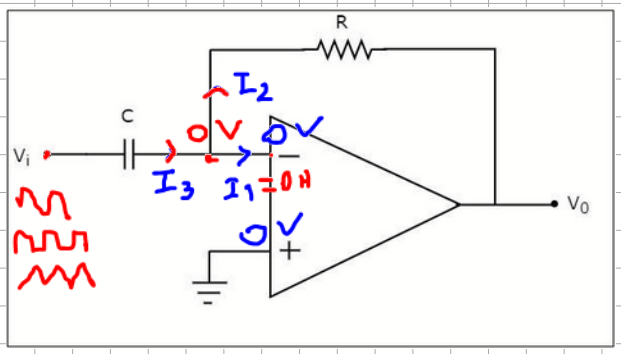
6) Differentiator Amplifier (Türev Alıcı)



$$I_3 = I_2 + \cancel{I_1}^{\,0} \Rightarrow \boxed{I_3 = I_2}$$

$$I_2 \rightarrow -\frac{V_0}{R}$$

for C;

$$\boxed{Q = C \times V}$$

$$I_3 = \frac{dQ}{dt} = \frac{C \times dV_i}{dt}$$

$$\frac{C \times dV_i}{dt} = -\frac{V_0}{R} \Rightarrow \boxed{V_0 = -R \times C \times \frac{dV_i}{dt}}$$

V_0 signal ✓ //