Dan Otieno

EE 316 Lab 3: Pre-Lab Assignment.

Due date: 09/11/22.

Assignment details:

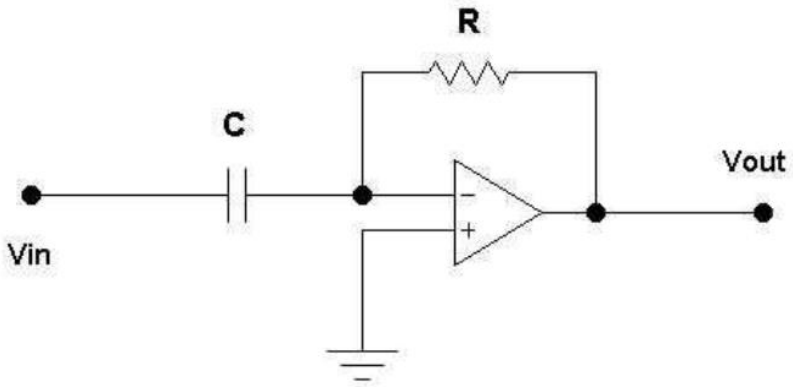
Read Lab 3 manual and calculate output voltage for figure 3.2 given the following conditions:

R = 1 ohm.

C = 1 F.

Vin = sin(t).

Given the figure below:



We know that:

$$V_{OUT}(t) = -RC\frac{dV_{IN}(t)}{dt}$$

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$R = 1\,\Omega.$

$C = 1\,F.$

$V_{in} = \sin(t).$

$V_{out}(t) = -(1)(1)(\sin(t)) \; * \; d/dt(\sin(t) = \cos(t).$

$\therefore V_{out}(t) = \boxed{-\cos(t)}$