Chapter 6, Solution 67.

$$v_o = -\frac{1}{RC}\int v_i\,dt,\ RC = 50 \times 10^3 \times 0.04 \times 10^{-6} = 2 \times 10^{-3}$$

$$v_o = \frac{-10^3}{2}\int 10\sin 50t\ dt$$

$$v_o = \mathbf{100\cos(50t)\ mV}$$