P1 Determine $v_{out}(t)$:

707Ω

$v_{in}(t) =$
5 cos(1000t)

1µF   1µF

1.414kΩ
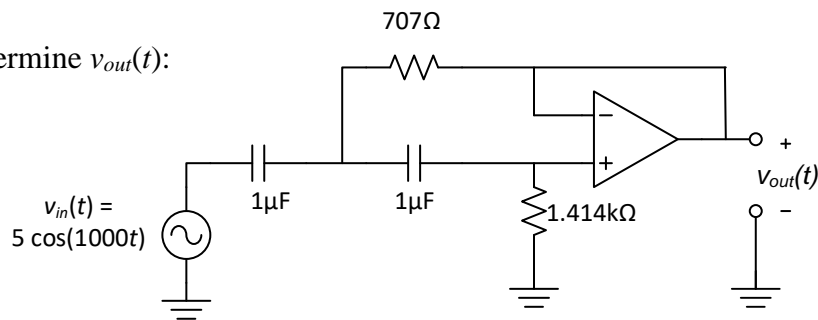
$v_{out}(t)$

Hint: Answer's phase should be close to 90°.

P2   What is $V_{out}(t)$ if we change $v_{in}(t)$ to 5V (i.e. a **DC** signal of ω= 0 rad/s)

P3   Plot the magnitude of $v_{out}(t)$ as the input frequency changes from 10 to 10kHz using LTspice. This is an example of a *filter*. Does it pass low or high frequencies?