

The Operational Amplifier Prelab

Name: _____

Lab Section: _____

TA: _____

1. Examples of feedback from daily life

i. This is what I call “driving Spider-man nuts effect” - most of you may have experienced this in large auditoriums. As the speaker is talking into the microphone, the sound from the mic may suddenly increase without bound and cause a high-pitched noise - enough to drive you (and especially Spider-man) nuts. Is this due to positive or negative feedback? Briefly explain what could be going on.

ii. When you are in a car, you may suddenly veer off the road to avoid an obstacle. However, you want to get back to the road as soon as possible. Are you applying positive or negative feedback when you are trying to get back on the road? Briefly explain why.

2. The Voltage Follower

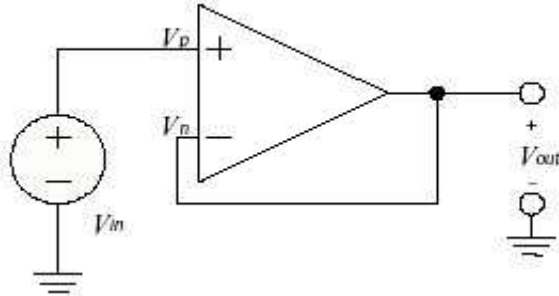


Figure 1. The Voltage Follower

The closed loop gain (V_{out}/V_{in}) of the voltage follower is _____. Justify your answer.

3. The Non-inverting amplifier

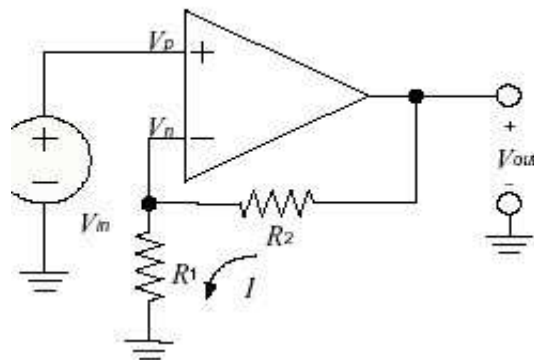


Figure 2. The non-inverting amplifier

The closed loop gain of the non-inverting amplifier is _____. Justify your answer.