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EE 316 Lab 2: Pre-Lab Assignment.

Due date: 08/29/22.

Assignment details:

Read Lab 2 manual and understand how inverting and non-inverting operational amplifier circuits work. Fill the "Theoretical Results" columns from Table 2.1 through 2.4.

DC source:
Vin = 1V, Rin = 1K

Table 2.1 (Inverting Amplifier)

	Theoretical Results		Multisim Results		Lab Results	
R_F (K)	V_{OUT} (V)	Gain	V_{OUT} (V)	Gain	V_{OUT} (V)	Gain
0.5	-0.5	-0.5	-0.498			
1	-1	-1	-0.998			
2	-2	-2	-1.997			
3	-3	-3	-2.996			
4	-4	-4	-3.994			

Table 2.2 (Non-Inverting Amplifier)

	Theoretical Results		Multisim Results		Lab Results	
R_F (K)	V_{OUT} (V)	Gain	V_{OUT} (V)	Gain	V_{OUT} (V)	Gain
0.5	1.5	1.5				
1	2	2				
2	3	3				
3	4	4				
4	5	5				

AC source:
Vin = 2Vpp, Rin = 1K

Table 2.3 (Inverting Amplifier)

	Theoretical Results		Multisim Results		Lab Results	
R_F (K)	**V_{OUT} (V)**	**Gain**	**V_{OUT} (V)**	**Gain**	**V_{OUT} (V)**	**Gain**
0.5	-1	-0.5	0.997	0.5		
1	-2	-1	2	1		
2	-4	-2	3.98	1.99		
3	-6	-3	5.99	2.99		
4	-8	-4	7.99	3.99		

Table 2.4 (Non-Inverting Amplifier)

	Theoretical Results		Multisim Results		Lab Results	
R_F (K)	**V_{OUT} (V)**	**Gain**	**V_{OUT} (V)**	**Gain**	**V_{OUT} (V)**	**Gain**
0.5	1.5	3	3	1.5		
1	2	4	3.98	1.99		
2	3	6	5.98	3		
3	4	8	7.99	4		
4	5	10	9.99	5		