Inspiring Excellence

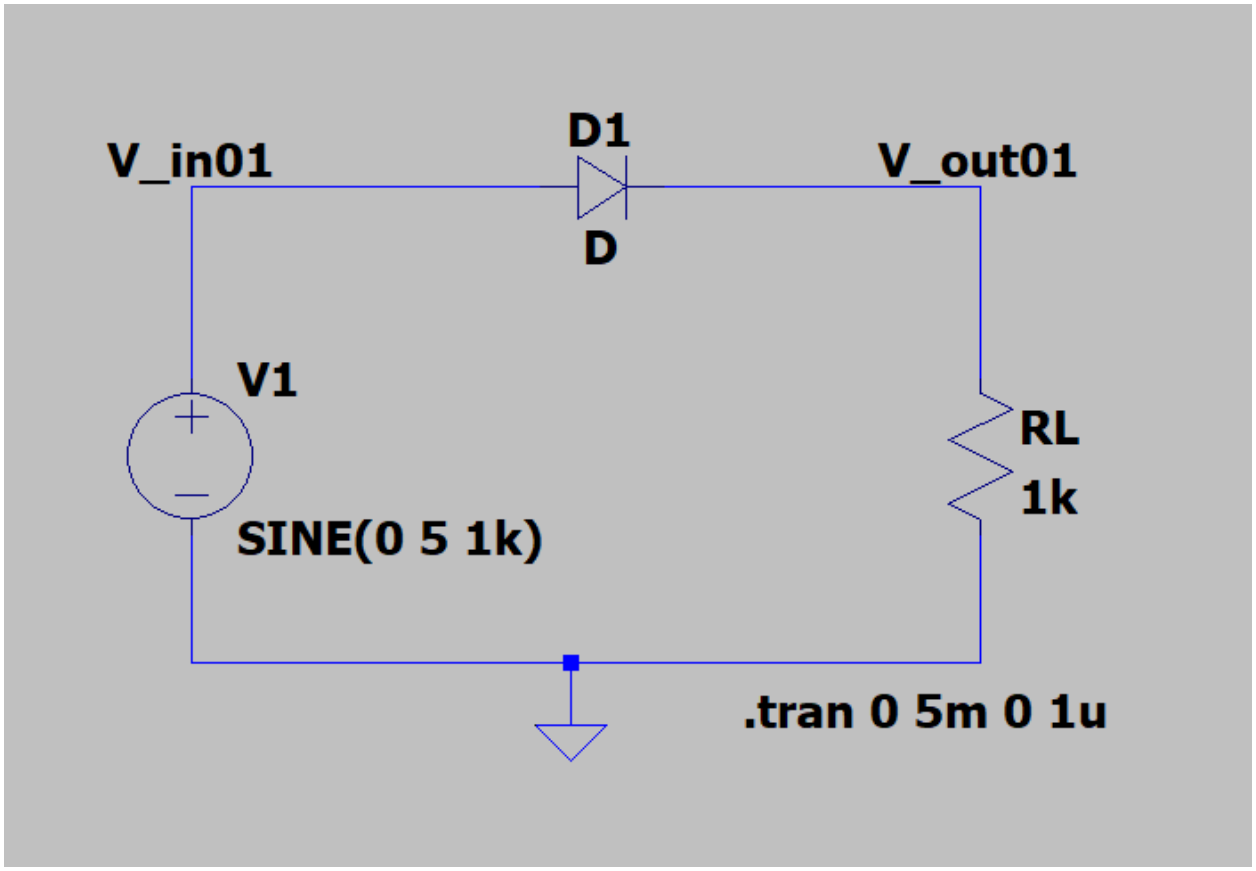
Electronic Devices & Circuits (CSE251)

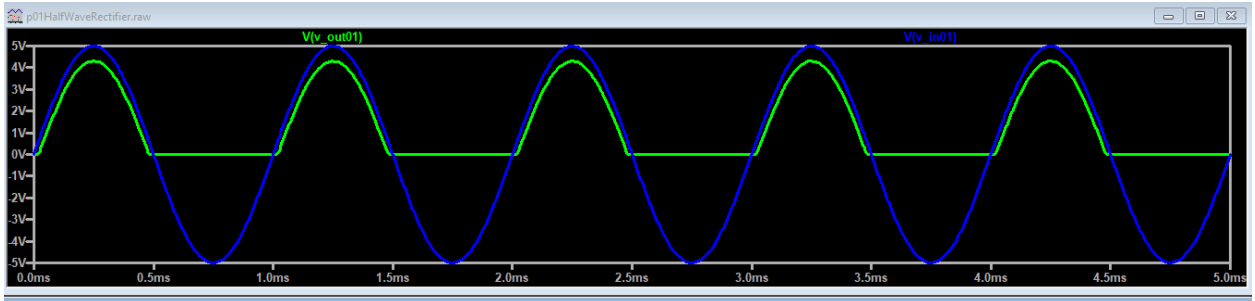
Submission by: **Tahmid Iqbal**
Student ID: **21201701**
Section: 06
Submission Date: 09.10.23

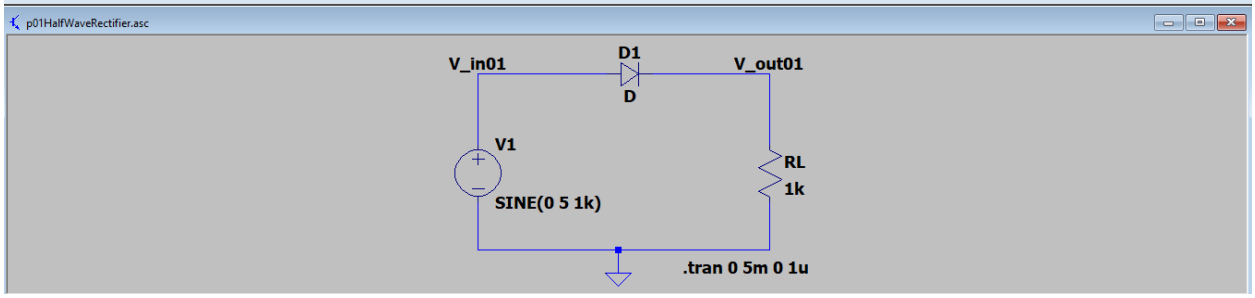
Group no: 04

Classwork

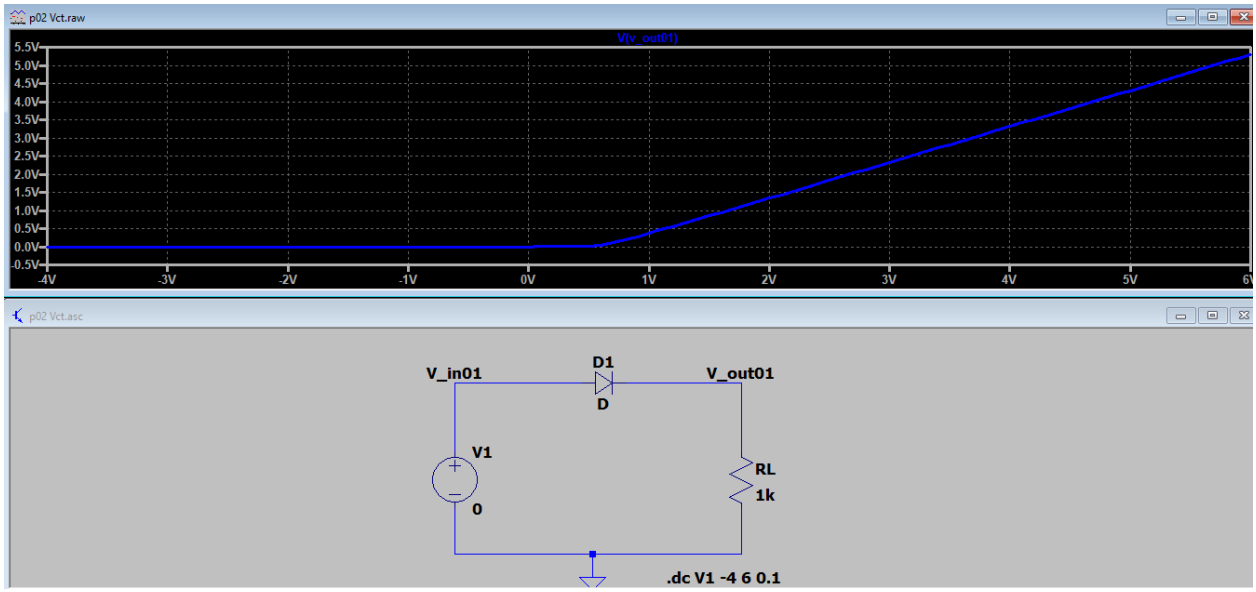
1. **p01HalfWaveRectifier**



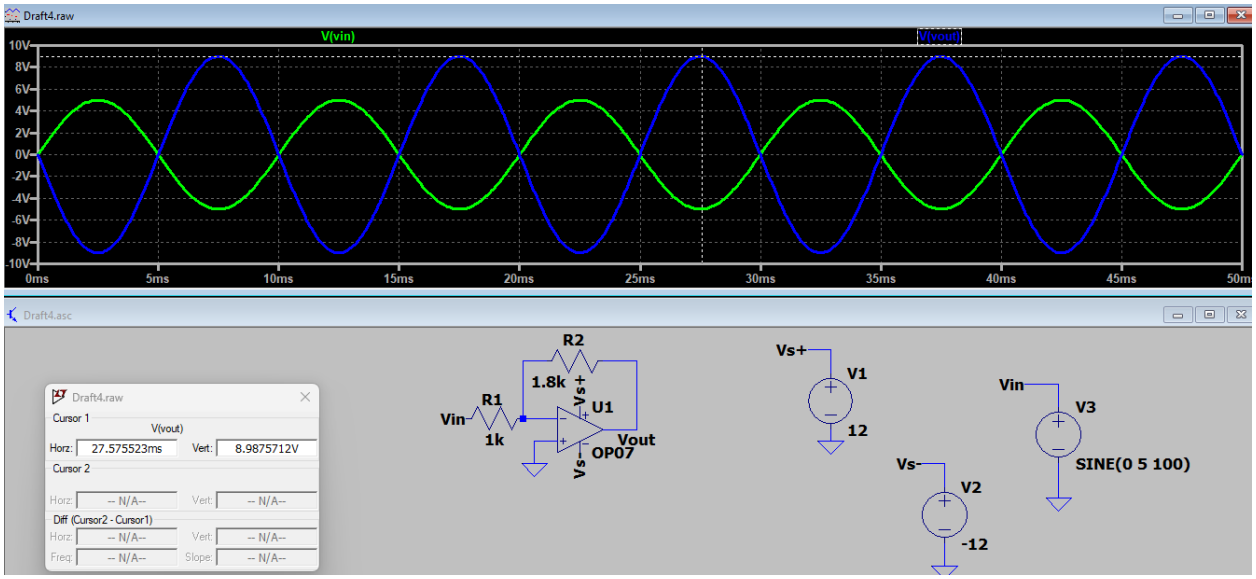




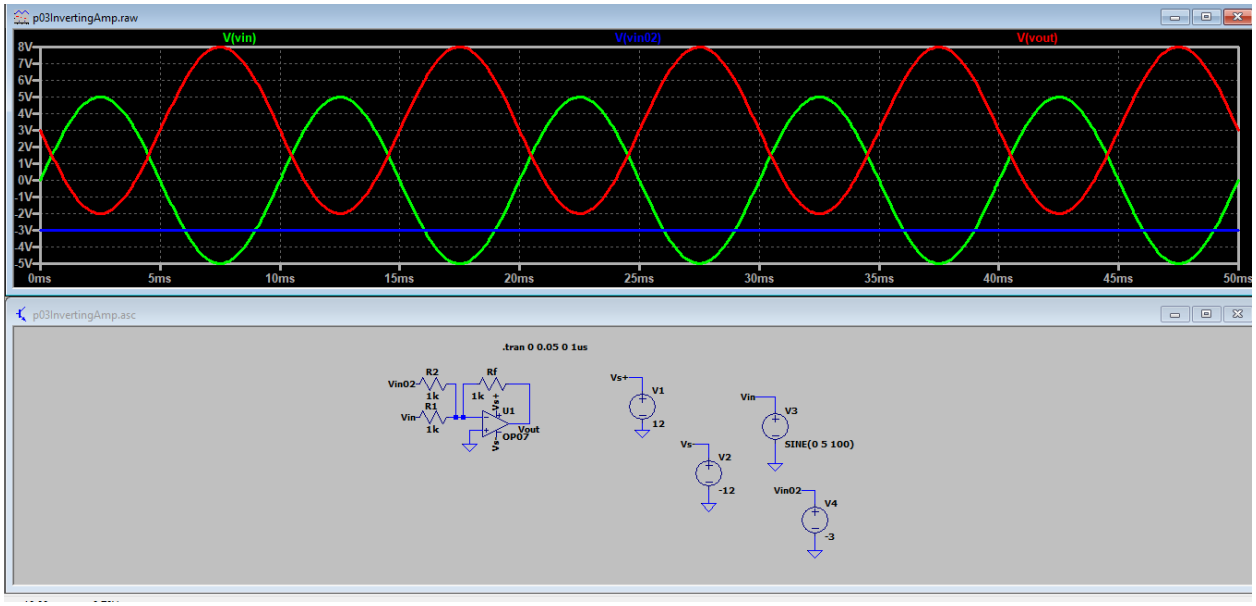
2. P02 VCT



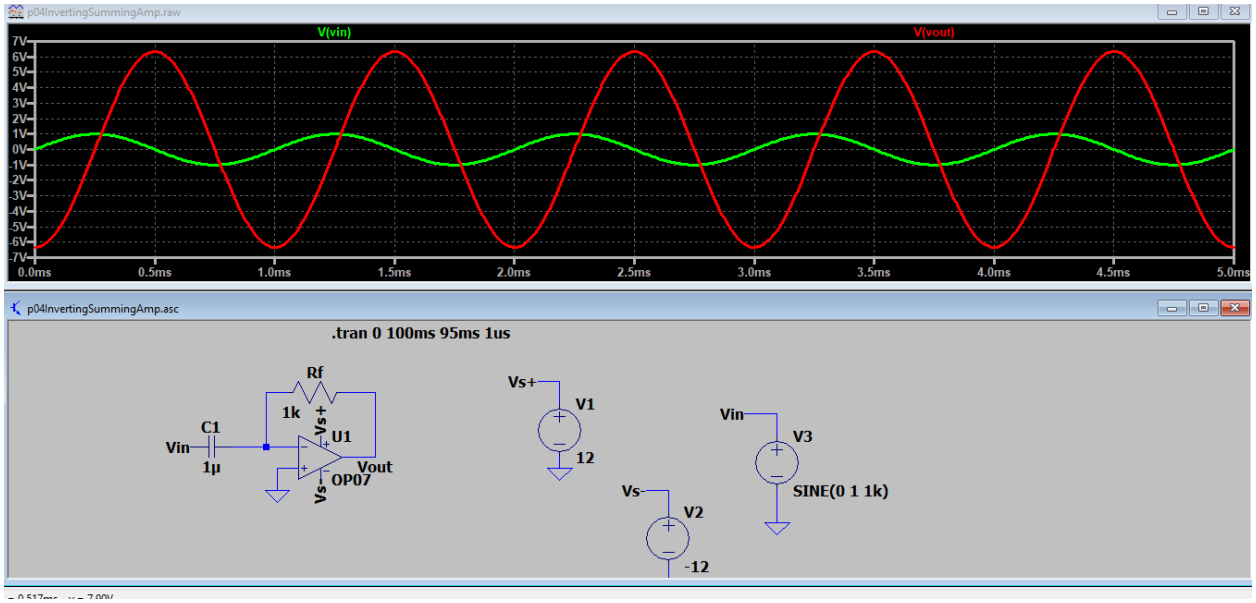
3. p03InvertingAmp



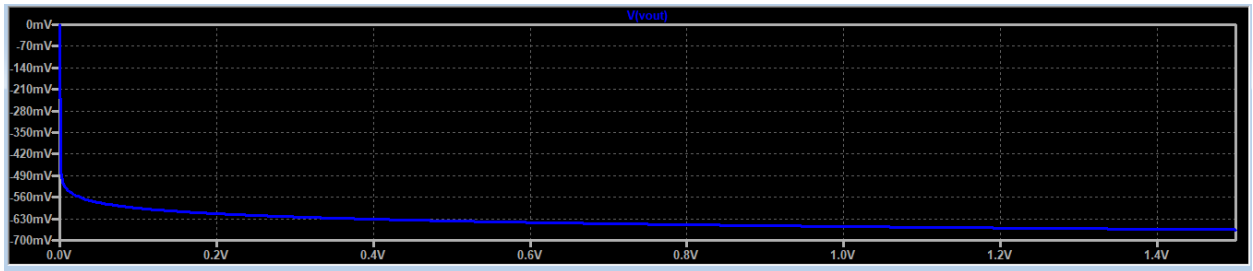
4. p04InvertingSummingAmp

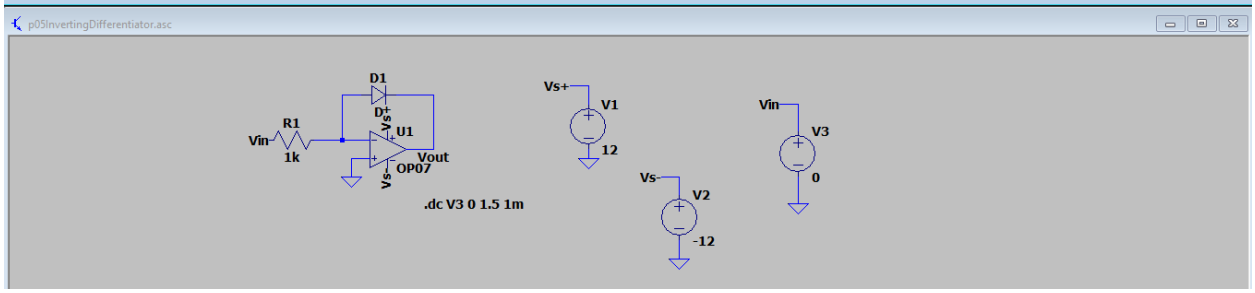


5. p05InvertingDifferentiator



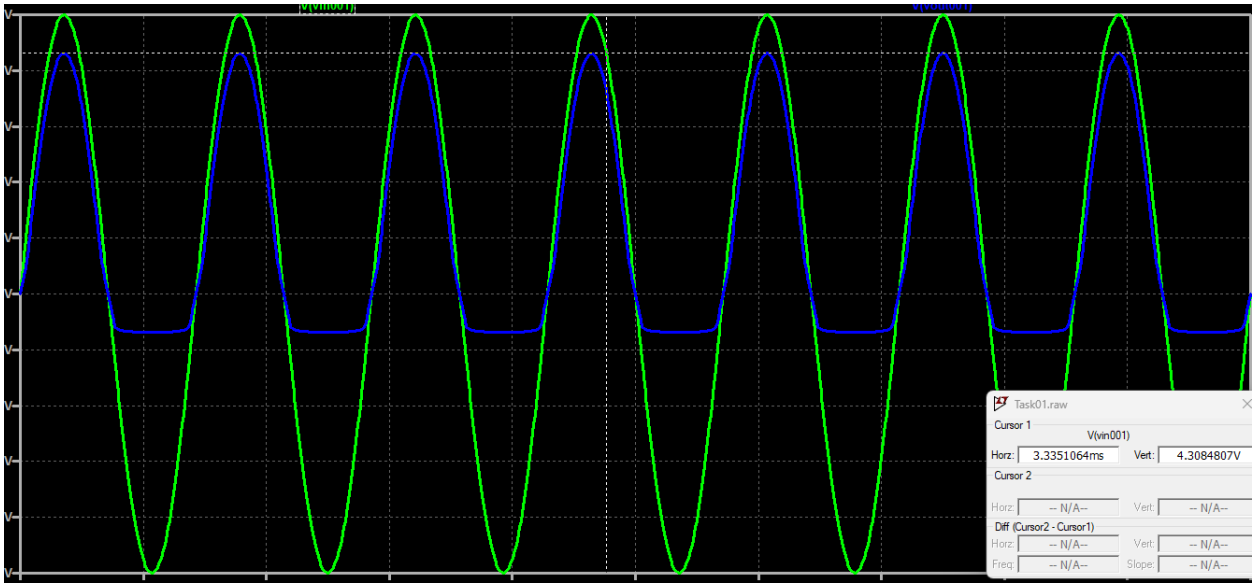
6. p06Logarithmic

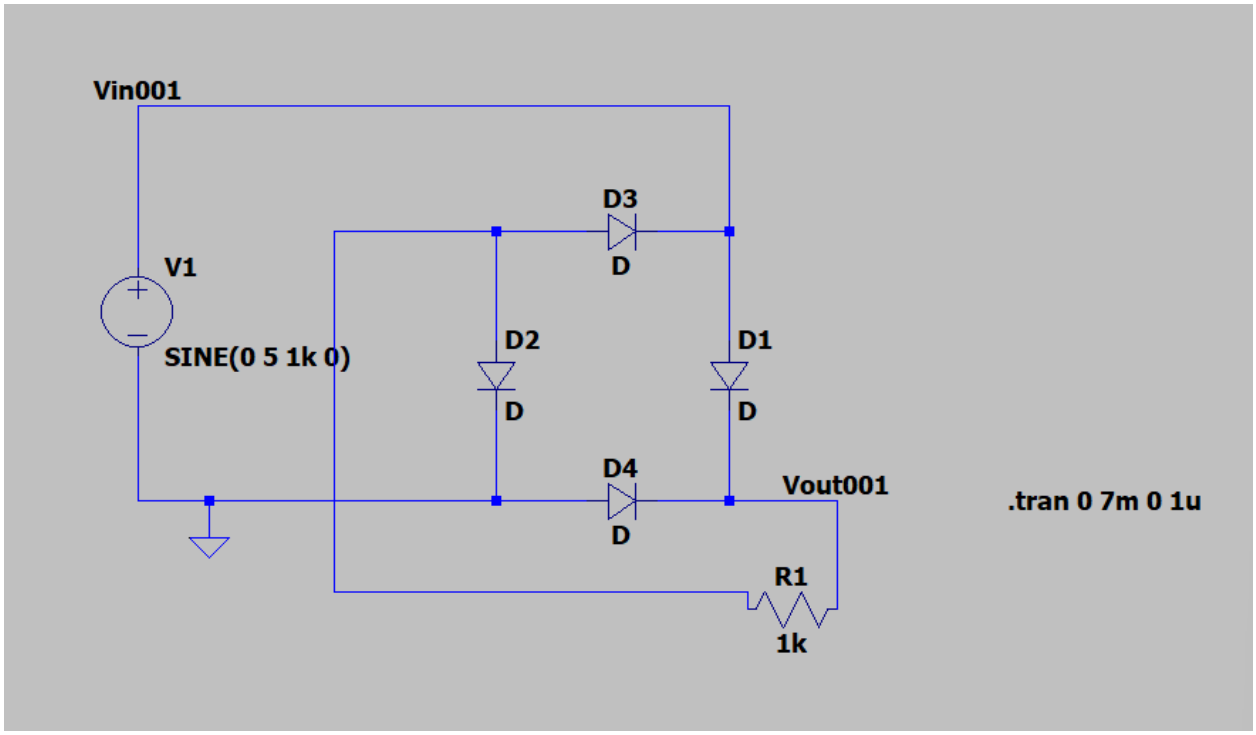

V(vout)
0mV
-70mV
-140mV
-210mV
-280mV
-350mV
-420mV
-490mV
-560mV
-630mV
-700mV
0.0V
0.2V
0.4V
0.6V
0.8V
1.0V
1.2V
1.4V


p05InvertingDifferentiator.asc
D1
R1
Vin
1k
U1
Vout
OP07
Vs+
Vs-
.dc V3 0 1.5 1m
Vs+
V1
12
Vs-
V2
-12
Vin
V3
0

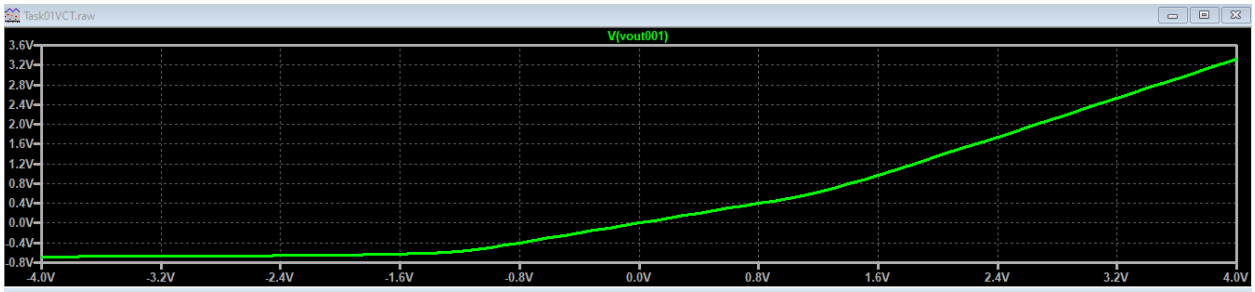
HomeTasks

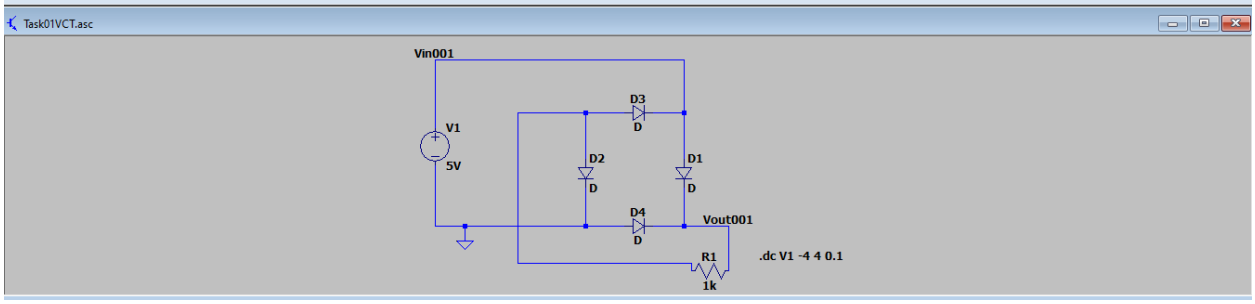
1. Full-Wave Rectifier



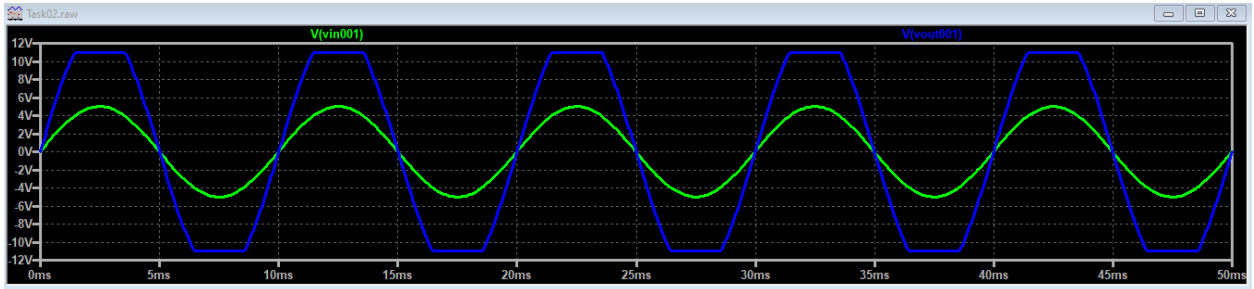


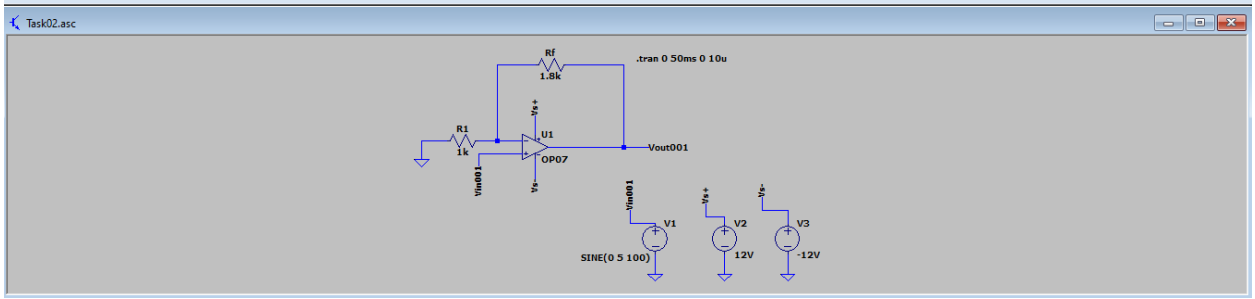
VCT



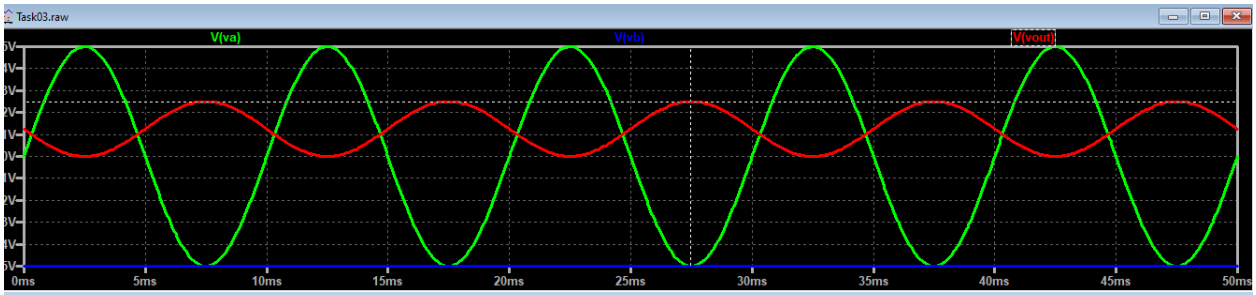


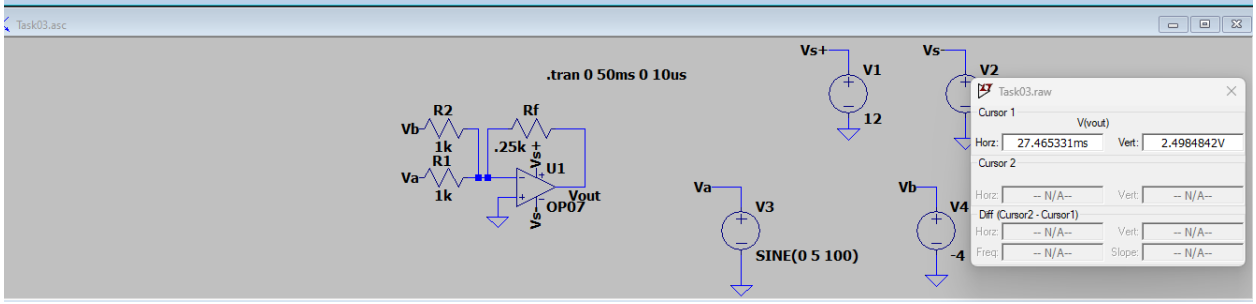
2. Non-Inverting Amplifier

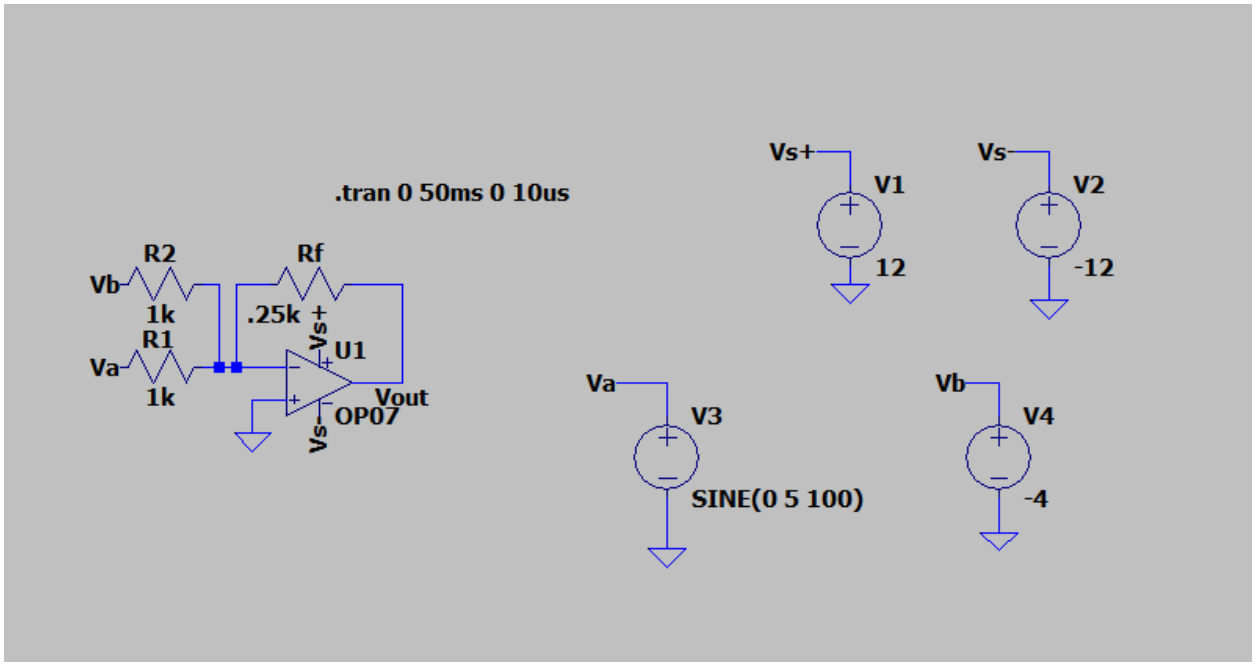


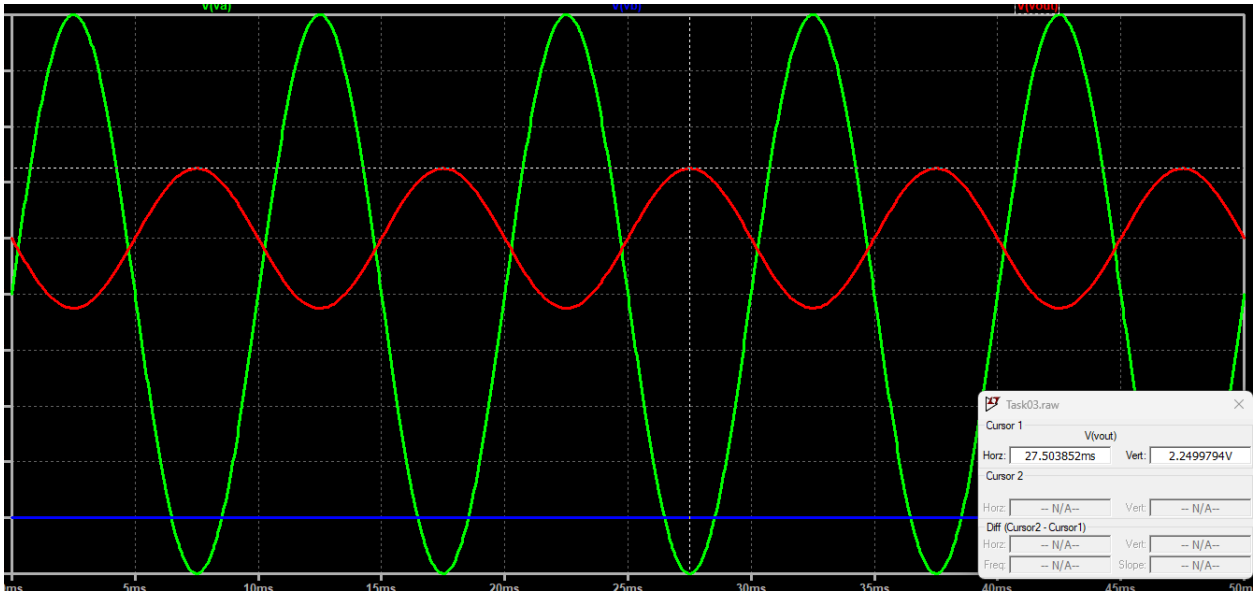


3. **Inverting Summing Amplifier** change the value of **Vb** and **Rf**

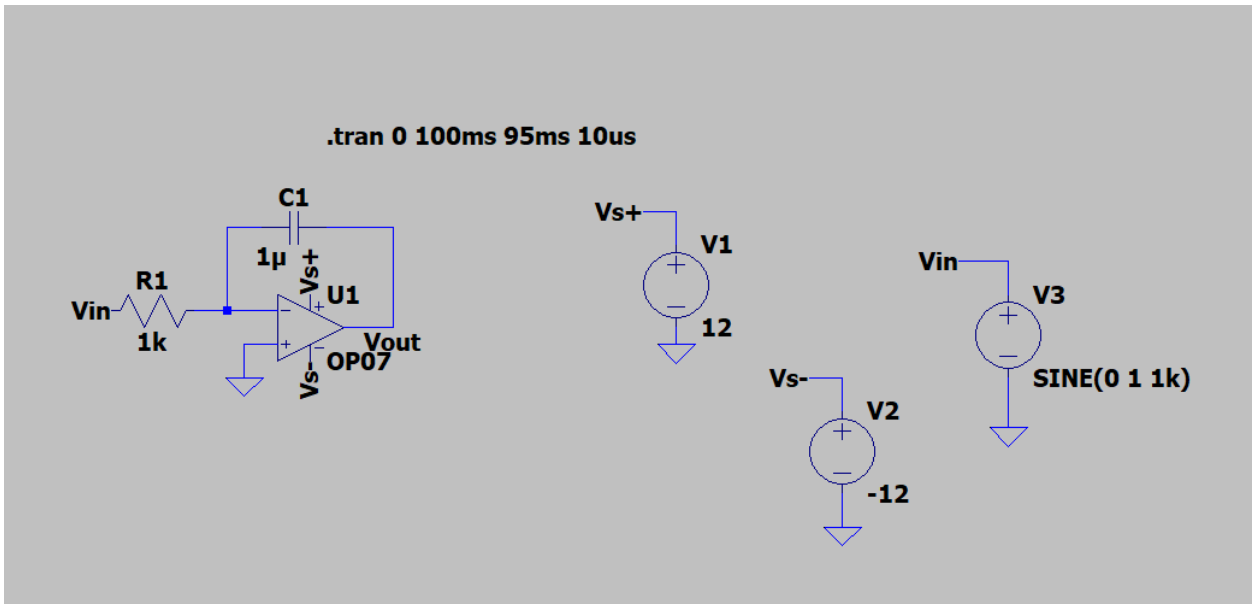


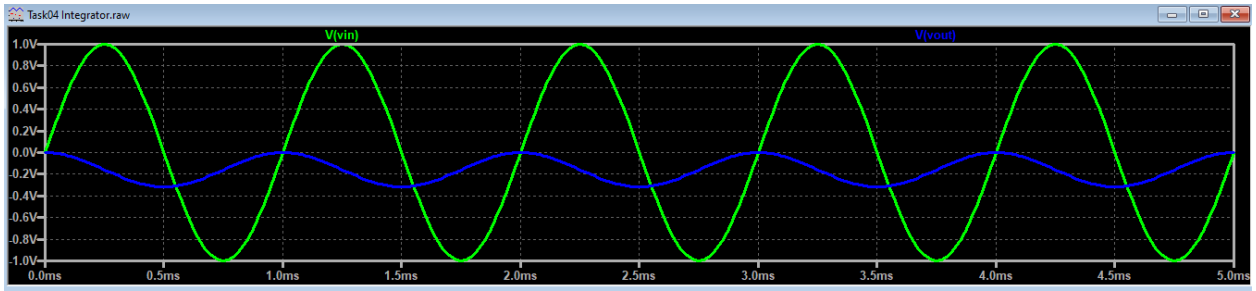


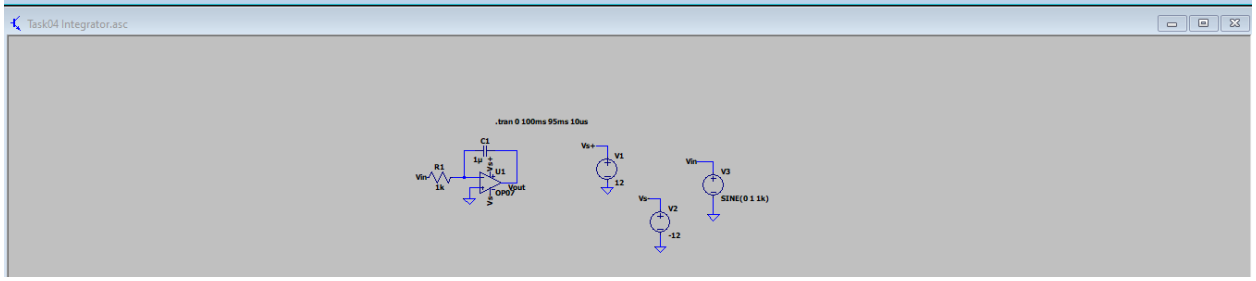

.tran 0 50ms 0 10us
R2
Rf
Vb
1k
.25k
R1
Va
1k
Vs+
U1
Vout
Vs-
OP07
Vs+
V1
12
Vs
V2
-12
Va
V3
SINE(0 5 100)
Vb
V4
-4


Task03.raw
Cursor 1
V(vout)
Horz: 27.503852ms
Vert: 2.2499794V
Cursor 2
Horz: -- N/A--
Vert: -- N/A--
Diff (Cursor2 - Cursor1)
Horz: -- N/A--
Vert: -- N/A--
Freq: -- N/A--
Slope: -- N/A--
0ms
5ms
10ms
15ms
20ms
25ms
30ms
35ms
40ms
45ms

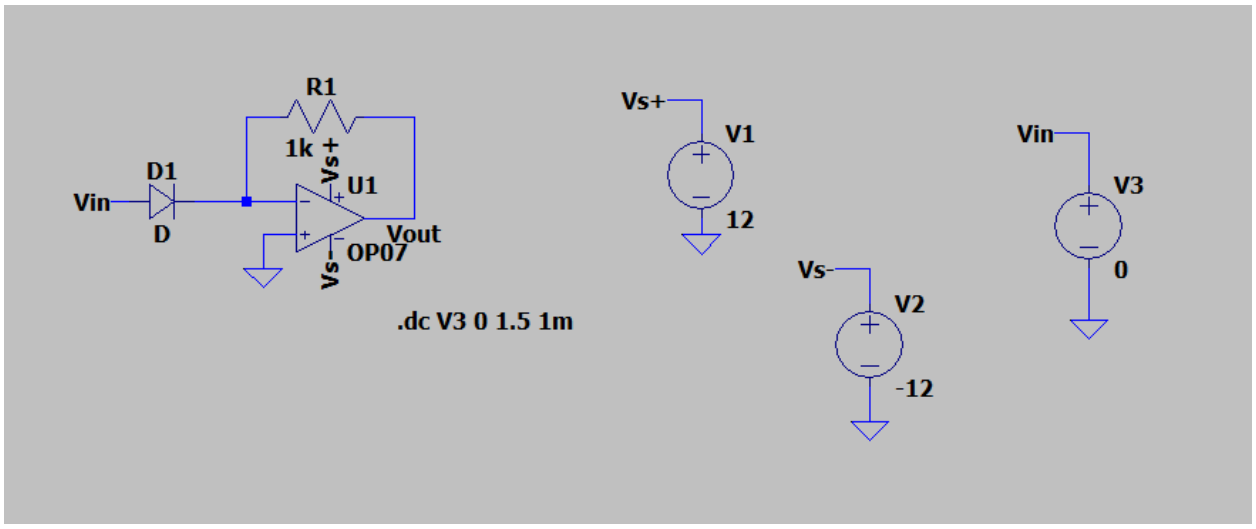
4. Integrator

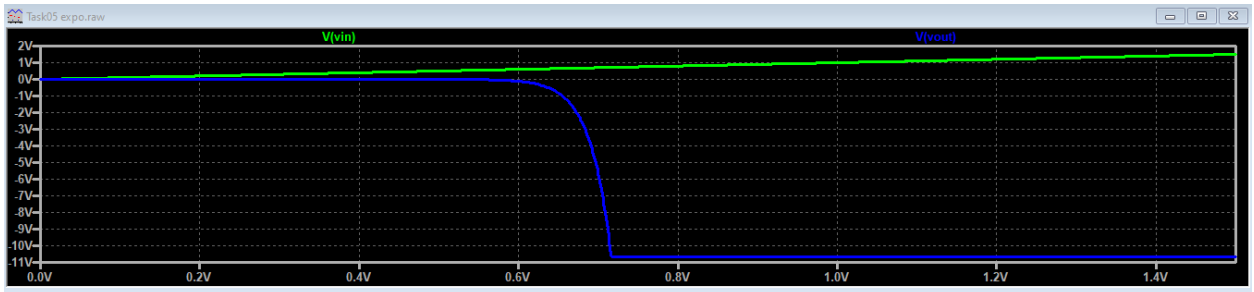


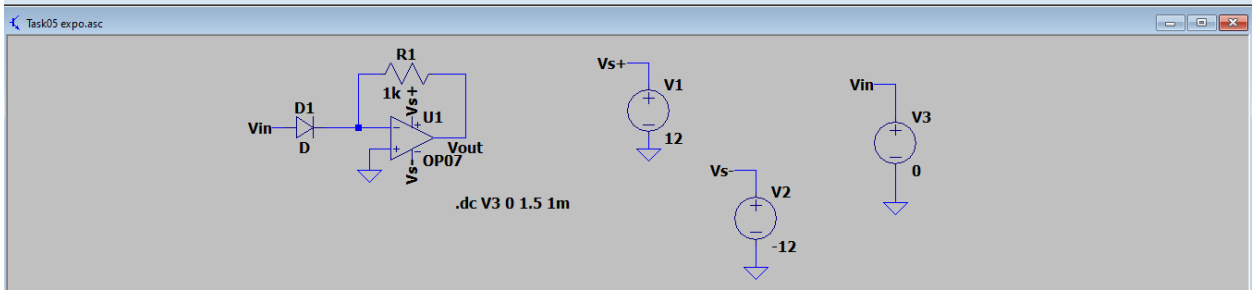


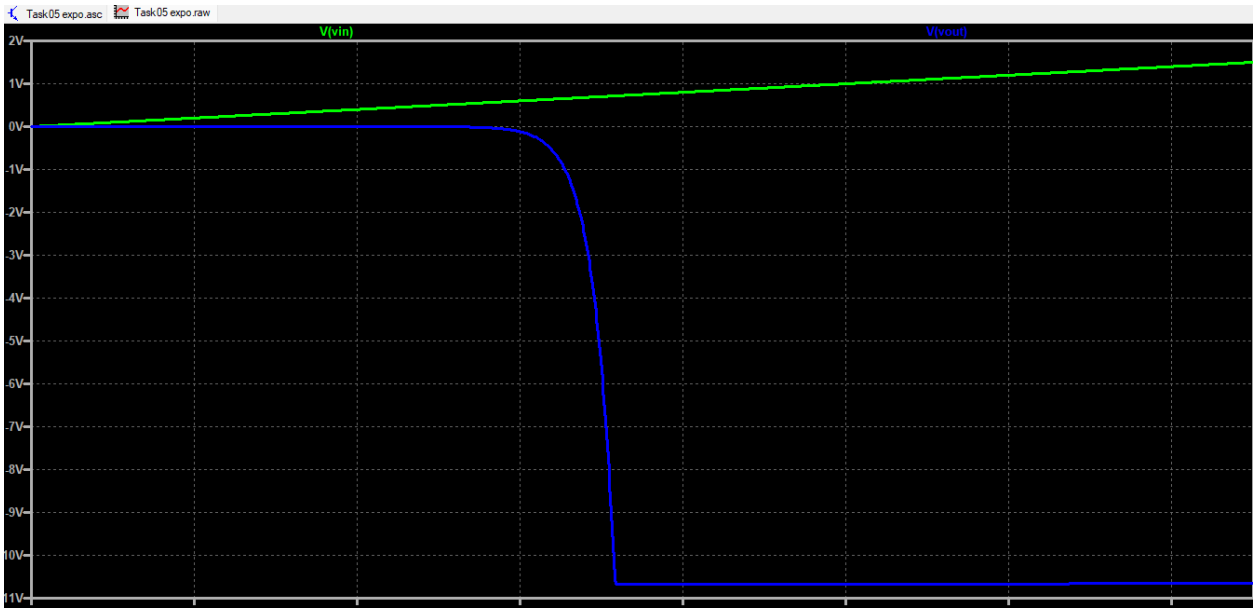


5. Exponential amplifier




Task05 expo.raw
V(vin)
V(vout)
2V
1V
0V
-1V
-2V
-3V
-4V
-5V
-6V
-7V
-8V
-9V
-10V
-11V
0.0V
0.2V
0.4V
0.6V
0.8V
1.0V
1.2V
1.4V


Task05 expo.asc
R1
1k
D1
Vin
D
U1
Vs+
Vs-
Vout
OP07
.dc V3 0 1.5 1m
Vs+
V1
12
Vs-
V2
-12
Vin
V3
0


Task05 expo.asc
Task05 expo.raw
V(vin)
V(vout)
2V
1V
0V
-1V
-2V
-3V
-4V
-5V
-6V
-7V
-8V
-9V
10V
11V

Discussion:

1. **I did not face many issues regarding the homework as it was already shown in the lab; the only issue was that they were a little changed which was comparatively easy to understand.**
2. **Recreated the files that needed to be done from scratch. Followed all the rules from the given lab sheet and tried to follow the instructions given in the hometasks. Additionally, applying all those instructions to our circuit and graph were easy to comprehend.**
3. **Furthermore, as we had already done the counterparts of the given tasks ; for which we did not need to change much. Just modified the file and took screenshots attached to this pdf.**