

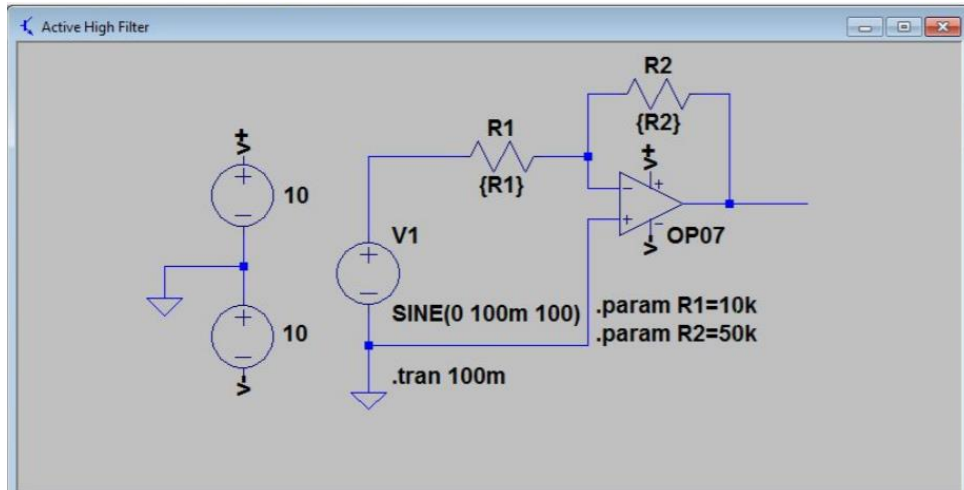
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COURSE/SECTION: CPE160P/A1

Assignment:

1. Using LTSpice, show the transient analysis of the following circuit.

You can download LTSpice here <https://www.analog.com/en/design-center/design-tools-and-calculators/ltspice-simulator.html> for free.



Watch the video, follow the tutorial, screenshot your created schematic and all the simulated output (place all your answers on the space provided below after all the instructions). Then upload it to the BB.

Kindly submit the **HYPERLINK** of your Course Work 1 Solution to the provided link.

1. Please follow the instructions and it is for your strict compliance.
2. Provide Solutions to Answers.
3. Upload your CourseWork1 solution to your main folder (create a subfolder COURSEWORK1) in your respective one drive accounts.
4. Copy and paste the hyperlink or share the hyperlink through a MS Word file.
5. The filename format for MS Word file is **SurnameFirstname_COURSESEC_Activity1Solution.docx**.

Example: **ManlisesCyrel_CPE160P_E01_CourseWork1Solution**

2. https://www.youtube.com/watch?v=yQur5HqCo_4&feature=youtu.be
3. <https://www.youtube.com/watch?v=W8dQGPCW5cM&feature=youtu.be>

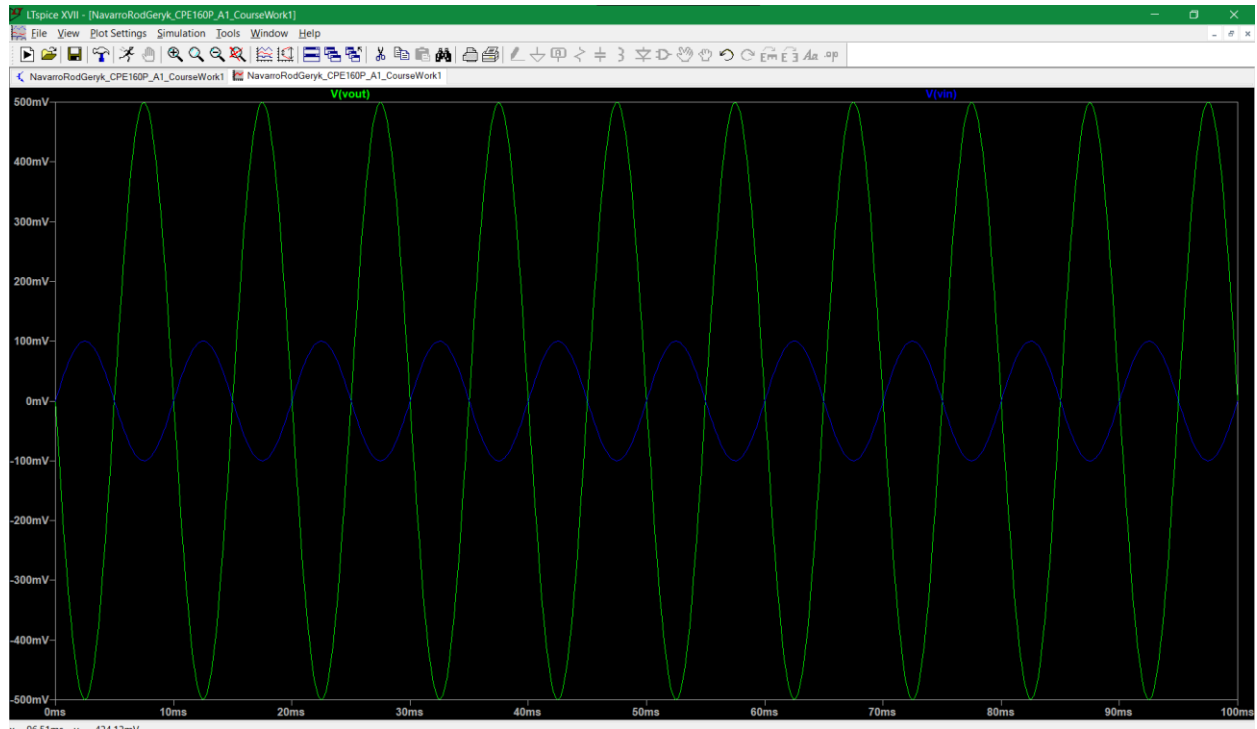


Image 1: The trace graph of the Vout and Vin of the given circuit. The Blue wave is the Vin and the Green wave is the Vout.

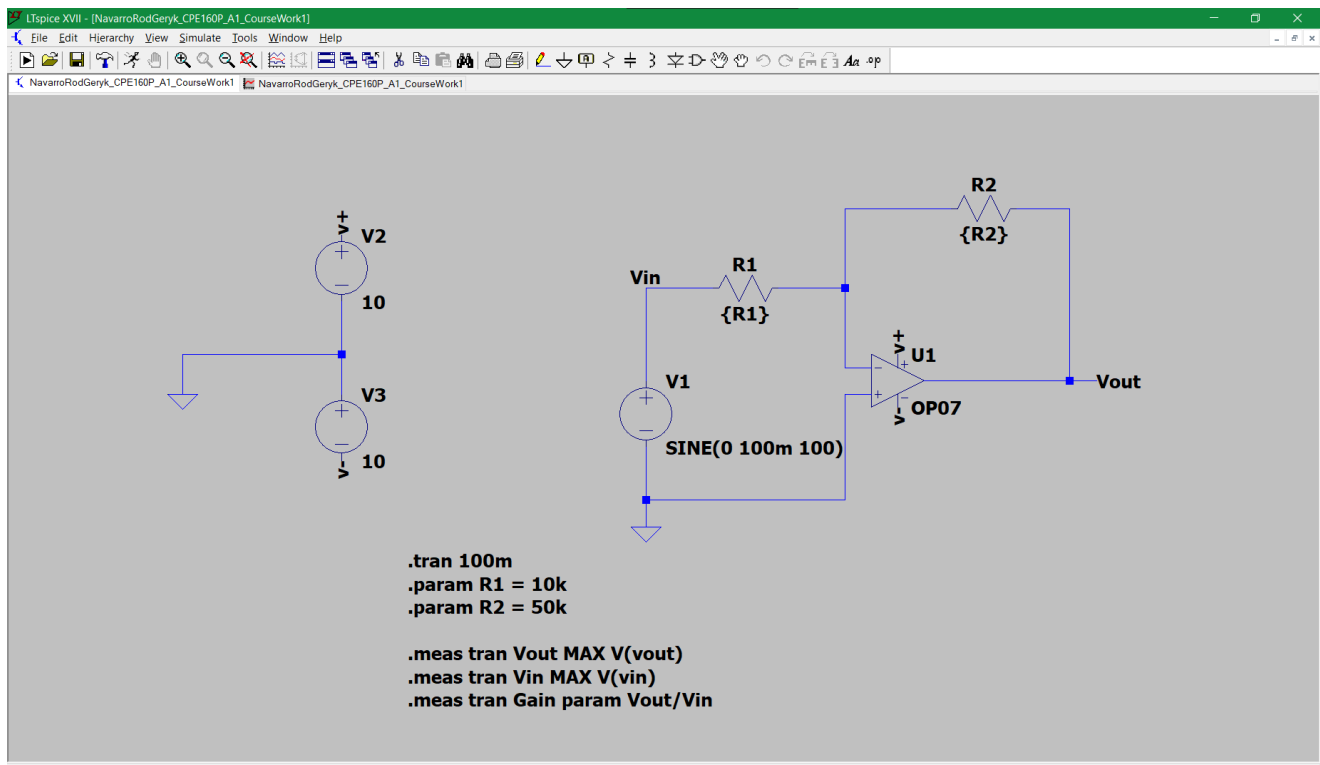
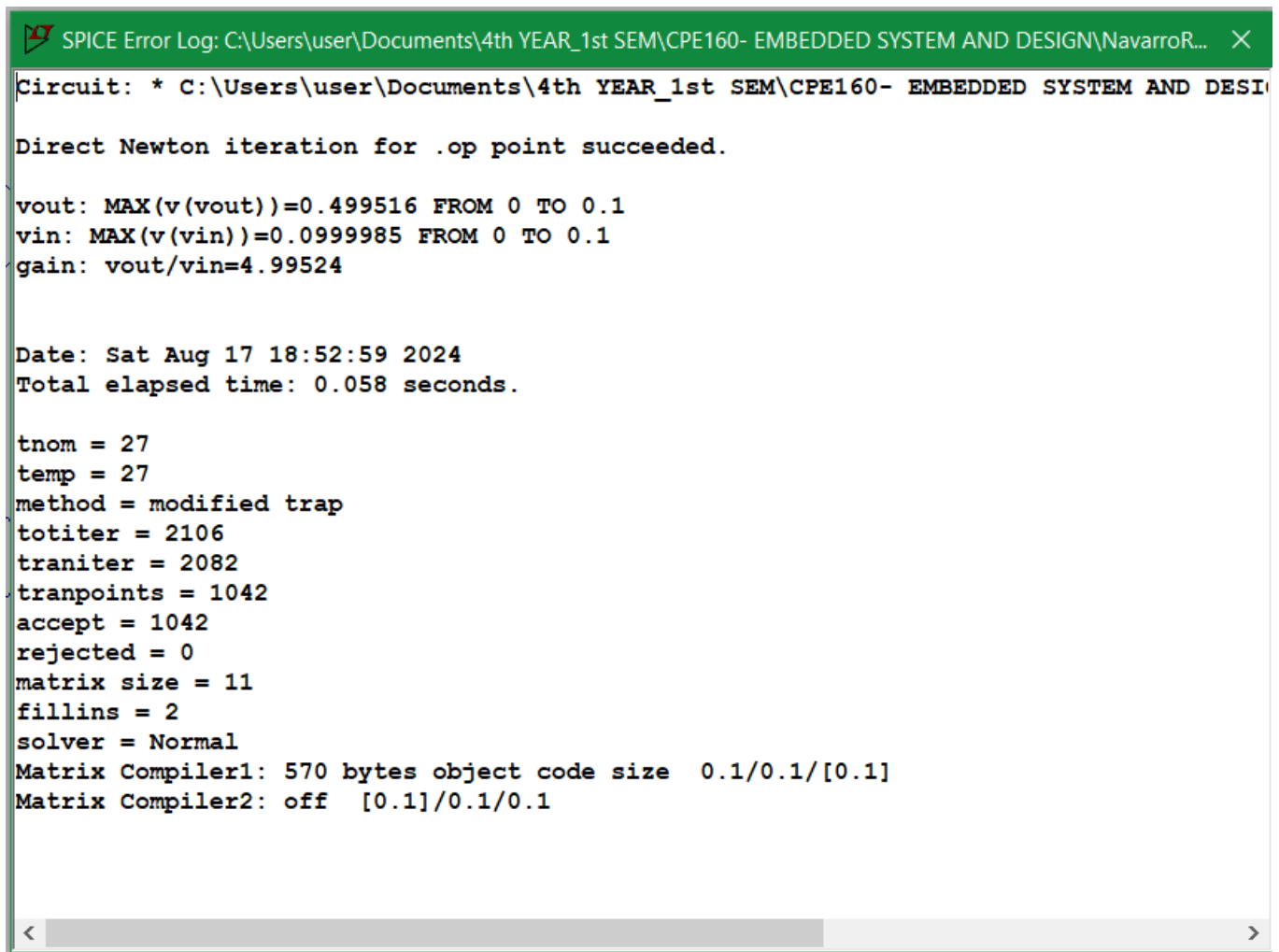


Image 2: Shows the simulated circuit with the parameters and solution for the voltage gain.

A screenshot of a SPICE Error Log window. The title bar is green and contains the text "SPICE Error Log: C:\Users\user\Documents\4th YEAR_1st SEM\CPE160- EMBEDDED SYSTEM AND DESIGN\NavarroR..." followed by a close button. The main area is white and contains black text. The text starts with "Circuit: * C:\Users\user\Documents\4th YEAR_1st SEM\CPE160- EMBEDDED SYSTEM AND DESIGN". Below this, it says "Direct Newton iteration for .op point succeeded." Then, it lists simulation results: "vout: MAX(v(vout))=0.499516 FROM 0 TO 0.1", "vin: MAX(v(vin))=0.0999985 FROM 0 TO 0.1", and "gain: vout/vin=4.99524". This is followed by a date and time stamp "Date: Sat Aug 17 18:52:59 2024" and "Total elapsed time: 0.058 seconds." Below these are various solver parameters: "tnom = 27", "temp = 27", "method = modified trap", "totiter = 2106", "traniter = 2082", "tranpoints = 1042", "accept = 1042", "rejected = 0", "matrix size = 11", "fillins = 2", and "solver = Normal". At the bottom, it shows "Matrix Compiler1: 570 bytes object code size 0.1/0.1/[0.1]" and "Matrix Compiler2: off [0.1]/0.1/0.1". A scrollbar is visible at the bottom of the window.

```
Circuit: * C:\Users\user\Documents\4th YEAR_1st SEM\CPE160- EMBEDDED SYSTEM AND DESIGN

Direct Newton iteration for .op point succeeded.

vout: MAX(v(vout))=0.499516 FROM 0 TO 0.1
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Date: Sat Aug 17 18:52:59 2024
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tnom = 27
temp = 27
method = modified trap
totiter = 2106
traniter = 2082
tranpoints = 1042
accept = 1042
rejected = 0
matrix size = 11
fillins = 2
solver = Normal
Matrix Compiler1: 570 bytes object code size 0.1/0.1/[0.1]
Matrix Compiler2: off [0.1]/0.1/0.1
```

Image 3: Shows all the values measured using the .meas, which includes the Vout, Vin, and voltage gain of the given circuit.