EEE088F 2021
Assignment2 Template

Gradescope instructions:
You'll be uploading this as a pdf (1 per team) to gradescope and labeling the pages according to which sections(Qs) the pg contains content for. Multiple pgs per section is fine, also multiple sections on the same page is also fine. See this 3min examples video of how to upload to Gradescope here:
https://help.gradescope.com/article/ccbpppziu9-student-submit-work#submitting_a_pdf

In Q4 there is also a requirement to either upload a zipfile of your simulations to vula or provide a link to a git repository.

The recommended approach is to use this template, complete each section as a team making use of the headings provided and delete the instructions in each section.

Q1 Power supply subsystem [30]

Q1.1 [10]

Provide screenshots showing the simulation running. Include as many screenshots as necessary to clearly show traces for the Voltage input and all Voltage outputs at steady state. Label each screenshot clearly, including the details of what is being shown and what the configuration of the simulation run is.

Q1.2 [5]

Provide a labeled screenshot of the circuit simulated

Q1.3 [10]

Provide a short description of how the circuit functions and why you selected the components and design you have chosen.

Q1.4 [5]

Does the circuit simulated meet the specifications for this subsystem? Both “yes” and “no” are correct answers in this report given this is a design that is still being developed. If yes, state how it meets the specifications for the subsystem. If no, describe how it’s deficient and what plans you have to improve the design or what mitigating factors exist that mean the deficiencies are not a problem (eg if you have changed the specifications in other subsystems and now the requirements on this subsystem have changed).

Q2 Amplifier [30]

Q2.1 [10]

Provide screenshots showing the simulation running. Include as many screenshots as necessary to clearly show traces for the Voltage input and all Voltage outputs. Label each screenshot clearly, including the details of what is being shown and what the configuration of the simulation run is. Make sure the inputs and outputs shown cover the full range of expected values given the subsystem requirements.

Q2.2 [5]

Provide a labeled screenshot of the circuit simulated

Q2.3 [10]

Provide a short description of how the circuit functions and why you selected the components and design you have chosen.

Q2.4 [5]

Does the circuit simulated meet the specifications for this subsystem? Both “yes” and “no” are correct answers in this report given this is a design that is still being developed. If yes, state how it meets the specifications for the subsystem. If no, describe how it’s deficient and what plans you have to improve the design or what mitigating factors exist that mean the deficiencies are not a problem (eg if you have changed the specifications in other subsystems and now the requirements on this subsystem have changed).

Q3 Status LEDs [20]

Q3.1 [5]

Provide screenshots showing the simulation running. Include as many screenshots as necessary to clearly show traces for the Voltage input and all Voltage outputs. Label each screenshot clearly, including the details of what is being shown and what the configuration of the simulation run is.

Q3.2 [5]

Provide a labeled screenshot of the circuit simulated

Q3.3 [5]

Provide a short description of how the circuit functions and why you selected the components and design you have chosen.

Q3.4 [5]

Does the circuit simulated meet the specifications for this subsystem? Both “yes” and “no” are correct answers in this report given this is a design that is still being developed. If yes, state how it meets the specifications for the subsystem. If no, describe how it’s deficient and what plans you have to improve the design or what mitigating factors exist that mean the deficiencies are not a problem (eg if you have changed the specifications in other subsystems and now the requirements on this subsystem have changed).

Q4 Simulation as a design stage [5]

While using unfamiliar tools can be costly, ignoring the cost of becoming more skilled at using SPICE, discuss if performing the simulations provided any value to the process of creating the design. Did the simulation results for instance: Change your understanding of the design? Change the parts you selected? Change how you planned to meet the project requirements at either a system or subsystem level? Change any plans you had for the interfaces? Or provide any other insights to your circuit design?

Q5 Upload simulation files

Upload a zip file containing the Spice project files for all above simulations to Vula or provide a link to a git repository containing these files. Eventually you will be putting these into a public git repository, if you would like to do that now already please provide the url to that repository in this submission here instead.

Delete whichever is not applicable:

- Simulation files uploaded to Vula
- Simulation files available at this publically accessible git repository url: