1. A **readme** file that explains how you implemented this lab assignment. This readme file should describe the following:
   1. Changes you made to the state diagram. Include a picture similar to the state machine that shows the new states you added (only show your changes or mark your changes in a new state diagram). This picture should include the encodings of new states you added. Clearly show where each state fits in the current state diagram. Describe what happens in each new state.
   2. Changes you made to the datapath. Clearly show the new structures added, along with the control signals controlling those structures. Describe the purpose of each structure.
   3. New control signals you added to each microinstruction. Briefly explain what each control signal is used for.
   4. Changes you made to the microsequencer. Draw a logic diagram of your new microsequencer and describe why you made the changes.
   5. *Please submit this pdf file electronically to Gradescope by 5pm of the day after which you submitted the code*