Homework 5 Template

Use this template to record your answers for Homework 5. Add your answers using LaTeXand then save your document as a PDF to upload to Gradescope. You are required to use this template to submit your answers. **You should not alter this template in any way** other than to insert your solutions. You must submit all 11 pages of this template to Gradescope. Do not remove the instructions page(s). Altering this template or including your solutions outside of the provided boxes can result in your assignment being graded incorrectly.

You should also export your code as a .py file and upload it to the **separate** Gradescope coding assignment. Remember to mark all teammates on **both** assignment uploads through Gradescope.

Instructions for Specific Problem Types

On this homework, you must fill in blanks for each problem. Please make sure your final answer is fully included in the given space. **Do not change the size of the box provided.** For short answer questions you should **not** include your work in your solution. Only provide an explanation or proof if specifically asked.

Fill in the blank: What is the course number?

10-703

Problem 0: Collaborators

Enter your team members' names and Andrew IDs in the boxes below. If you worked in a team with fewer than three people, leave the extra boxes blank.

Name 1:		Andrew ID 1:	
Name 2:		Andrew ID 2:	
Name 3:		Andrew ID 3:	

Problem 1: MuZero (100 pt)

1.1.1: MCTS child selection (10 pt)

Insert code for MCTS child selection.

1.1.2: MCTS expand root/child (20 pts)

Insert code for root and child expansion.

1.1.3: MCTS backpropagation (5 pts)

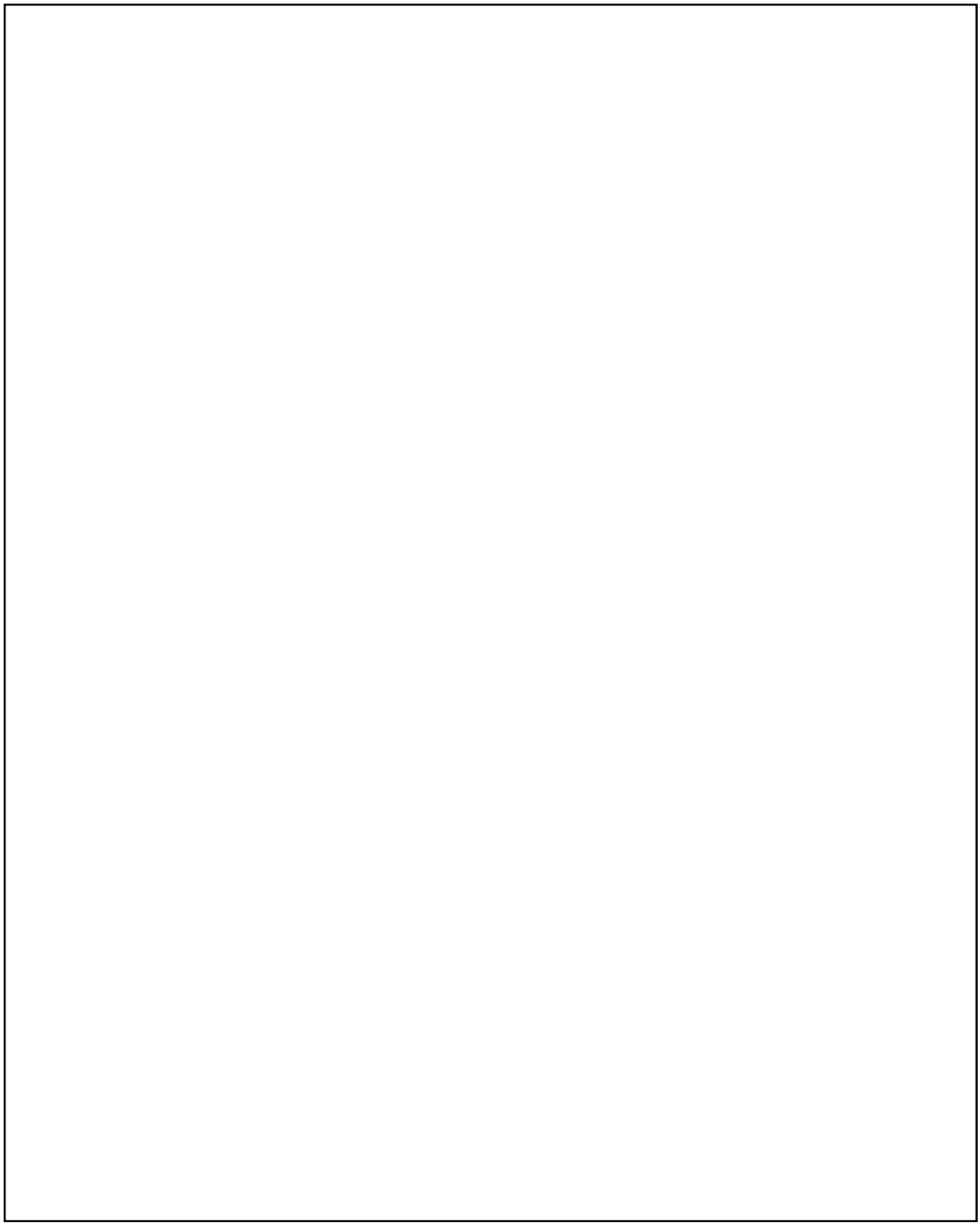
Insert code for MCTS backpropagation.

1.1.4: MCTS softmax sampling (5 pts)

Insert code for MCTS softmax sampling.

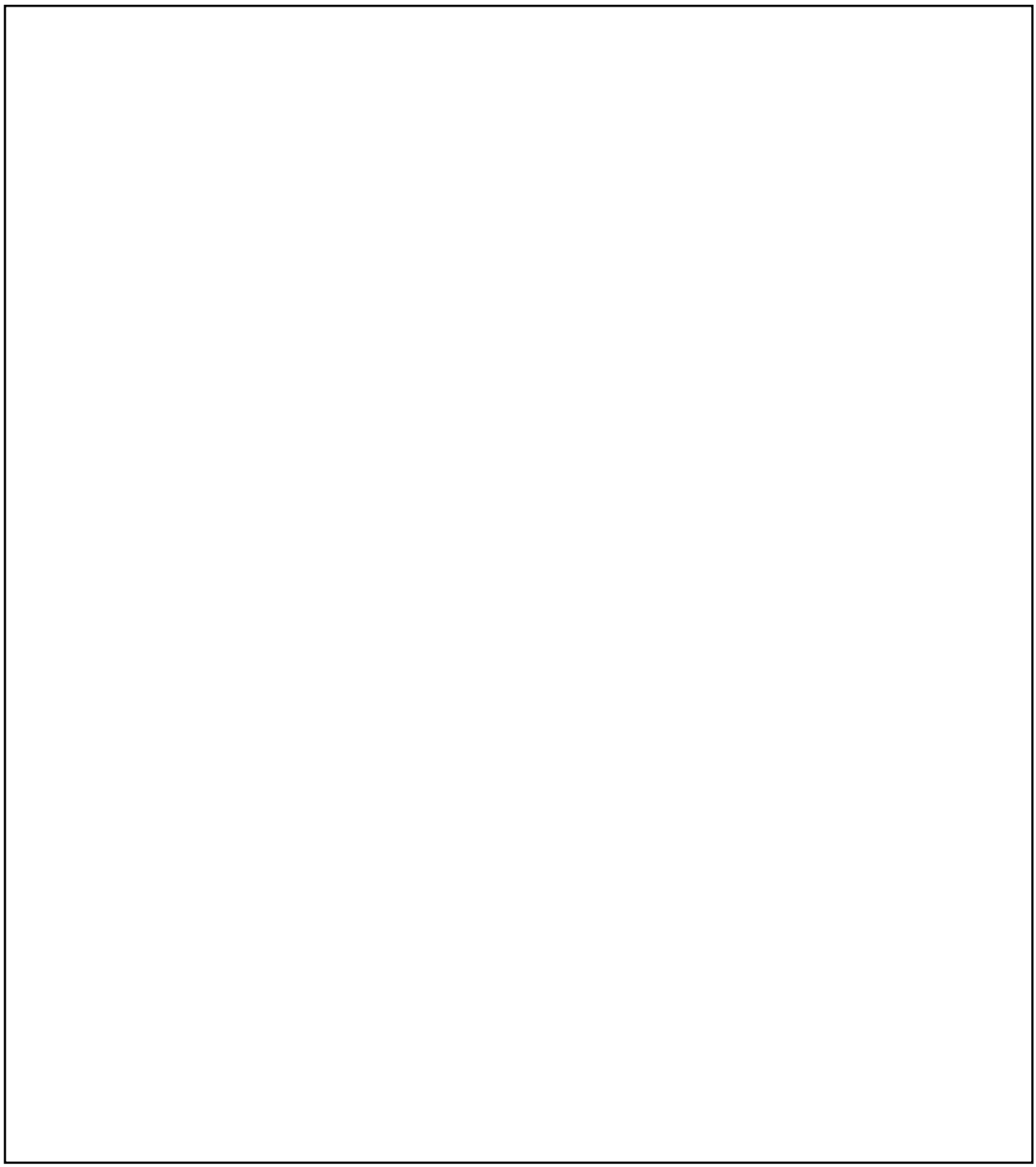
1.1.5: Network weight updates (20 pts)

Insert code for network weight updates.



1.2: Running MuZero (20 pts)

Run MuZero, provide the three plots, reason about policy loss behavior.



1.3: Effects of Hyperparameters (10 pts)

Run MuZero with different hyperparameters and provide three plots for each value (nine total). Describe and explain the effects of the parameter.

1.4: Conceptual Questions (10 pts)

Respond to the three questions.

Feedback

Feedback: You can help the course staff improve the course for future semesters by providing feedback. What was the most confusing part of this homework, and what would have made it less confusing?

Solution

Time Spent: How many hours did you spend working on this assignment? Your answer will not affect your grade. Please average your answer over all the members of your team.

Alone	
With teammates	
With other classmates	
At office hours	