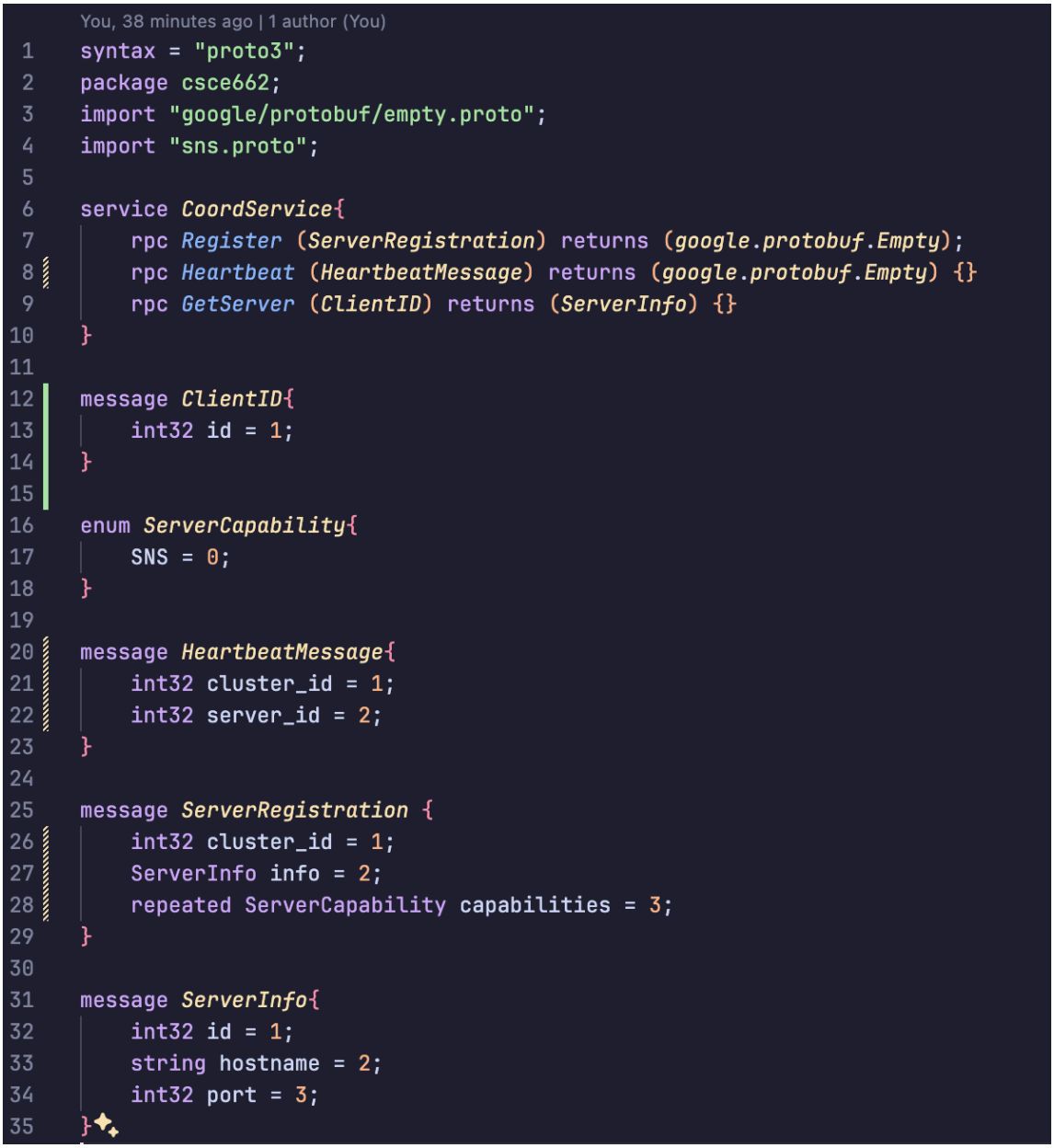
Caleb Norton

CSCE 662

MP2.1

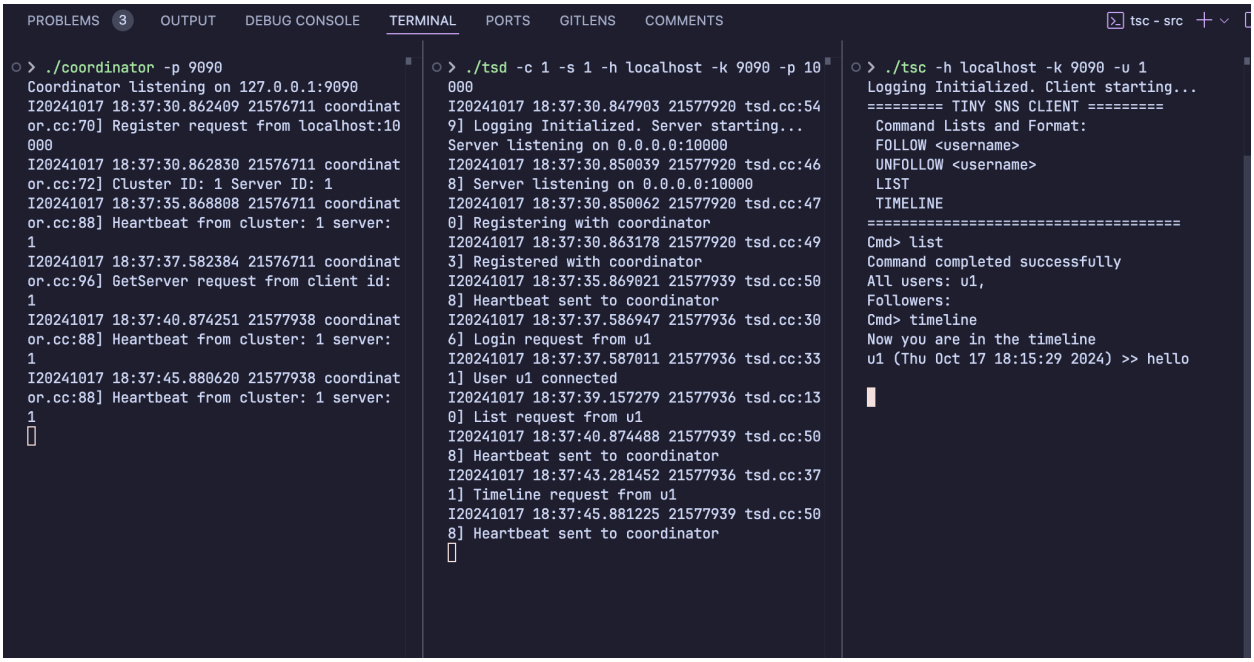
I made pretty sweeping changes to the coordination protocol buffer, discarding all but the fewest elements needed to complete MP2.1



Rather than rely on custom error messages and protobuf messages to communicate errors, I simply use the built in gRPC error codes where applicable.

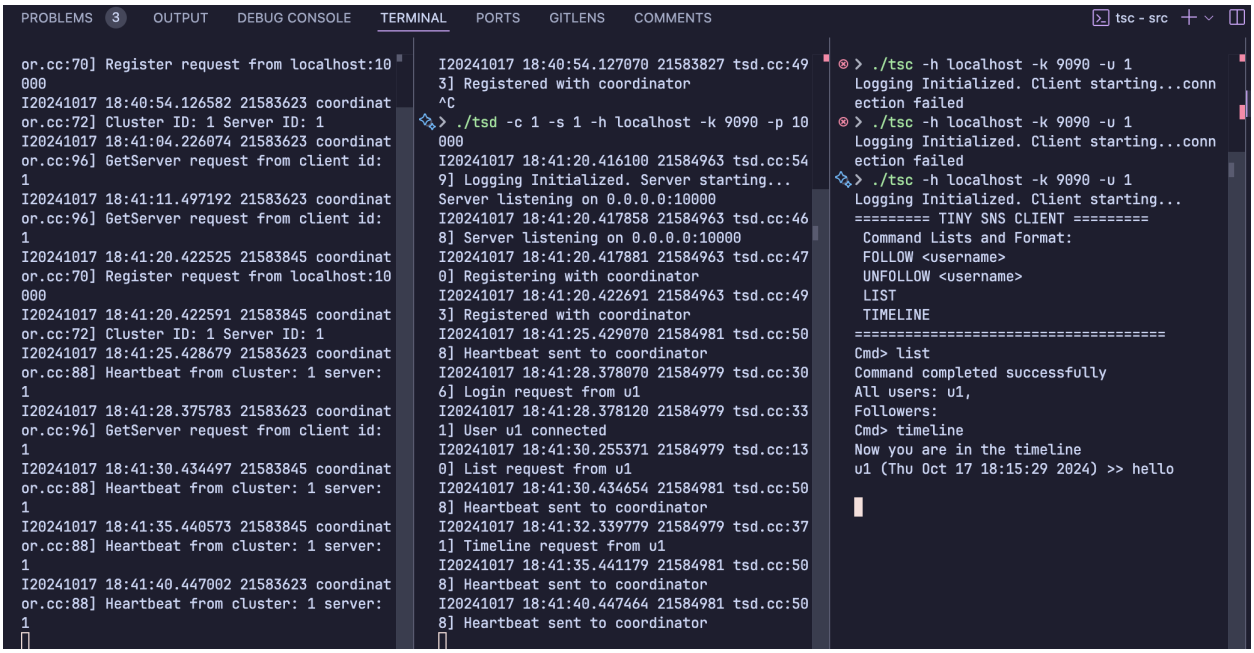
This MP required very few code changes, mostly just parsing/passing additional command line args, having the client get ServerInfo before calling Login, and adding Registration and Heartbeat functionality to the server. Overall, it was pretty straightforward and a good intro to load balancing servers without synchronization. I think it would be neat if the client was completely unaware that it was reaching out to a different Server each time (something like a reverse proxy) but this approach seems to work just fine.

Test case 1



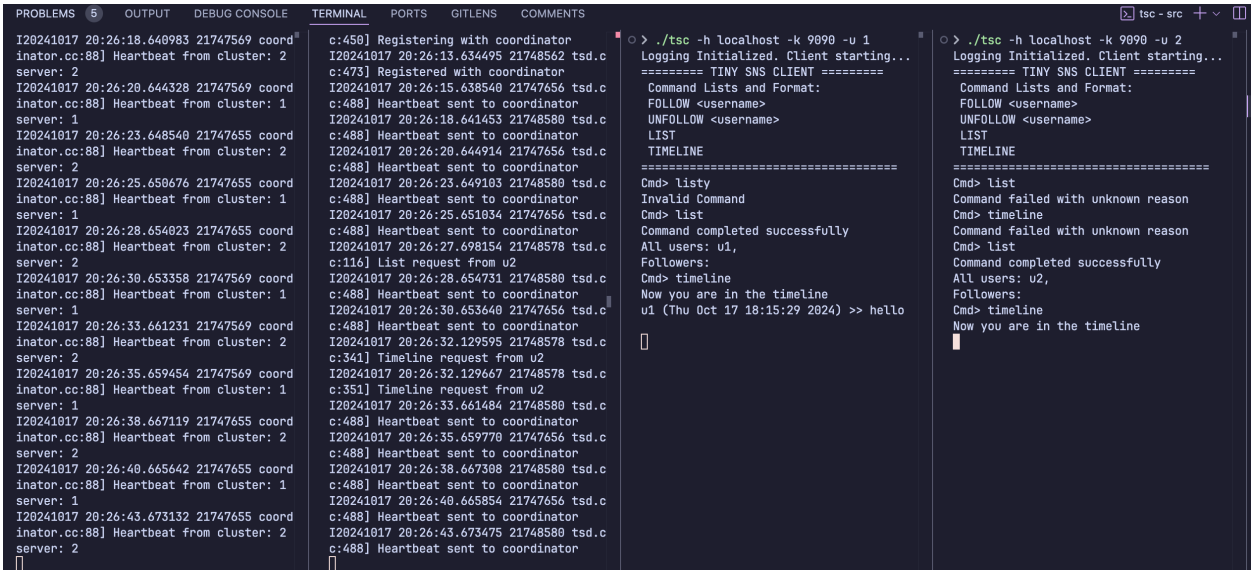
This testcase demonstrates the client reaching out to the coordinator to get the Server information associated with its client ID (1) and subsequently establishing a connection to the cluster 1 server.

Test case 2



This test case demonstrated a server restarting and re-establishing itself with the coordinator before the client can get its information and connect to it.

Test case 3



The last test case demonstrates u1 having uninterrupted access to SNS using cluster 1 while u2 experiences failed commands due to the cluster 2 server going down and then restarting

I had to rework a significant portion of my client and server to get automatic “reconnection” up and working with u2 in this example