Notes on Project - Semester 1

1 General Notes to Elaborate on

- Archer Paper
- Archer Optimality Conditions
- fsolve Research (looking at what people use together with multiple shooting, read up on different numerical methods, write report on what method would be good to try)
- writing the most general problem, rewriting the code to fit all general cases, table of variables for code
- 1D PDECO with Mildred
- 2D PDECO myself
- the force control toy problem in one and two dimensions: works well, gives results
- the flow control toy problem in 1D – gives trouble
- Picard iteration as an alternative to fsolve (works well. comparison to fsolve in 1 and 2 dimensions, different error measures to determine convergence)
- Literature review on Mean Field Games and Optimal Control Problems involving integral terms
- Exact solutions to various problems (Full problem Force and Flow control, missing bits on Force and Flow control)
- Optimality conditions for boundary control and subdomain control problems
- Optimality system for nonconstant BCS
- some literature review on subdomain control and boundary control