Description of Matlab Files For Quadcopter

June 6, 2022

- **main_quad.m**: The main matlab script file where all code exists.

- **quadcopter_no_integrator**.slx: Simulink diagram for controller designed by LQR without integral action (First controller of Assignmnet 4.3).

- **quadcopter_integrator**.slx: Simulink diagram for controller designed by LQR with integral action (Second controller part of Assignmnet 4.3).

- **quadcopter_with_kalman**.slx: Simulink diagram for controller designed by LQR with integral action and with a kalman filter state estimator (Assignmnet 4.4).

- **quadcopter_with_poleplacement**.slx: Simulink diagram for controller designed by pole placement without integral action and with a state estimator designed by pole placement (Assignmnet 4.5).

- **verification_jacobian**.slx: Simulink diagram for verifying the jacobian matrix calculated during liniarization in **main_quad.m**.