Week7

a.

We completed all tasks on class:

- We implemented motor toggle and auto tune functions: set a variable ‘pause’ to decide whether stop motor or not. If pause was true by press “1”, the program would reset motors pwm to 1000 after PID controller.
- We completed following keyboards control:
  - “1” turn off all motors, without shut down program;
  - “2” turn on motors, with default thrust;
  - “3” calibrates the roll/pitch/yaw gyro rate and roll/pitch acceleration angle;
  - “q” +2.5 yaw angle;
  - “e” -2.5 yaw angle;
  - “x” set roll/pitch/yaw angle to 0;

b.

1) What went well:
  - We finished keyboards control easily.
2) What did not go well:
  - We got stuck in debugging calibration function for a long time.

  Reasons:
  - We directly calibrated the x/y/z acceleration data before we calculate roll/pitch angle with atan2() function. We should calibrated after atan() calculation.
  - When we want to print out our calibration results and real results, we print out something wrong.

c. - Miller 50%
  - Hong 50%

We learn and do everything together, and contribute evenly to our job.

d. Attached codes