start

start → run()

run()

run()
↓
clear data.csv file and write csv header
↓
set start_time to current time
↓

start_stop_btn is pressed?
- No
- Yes → set record_data to inverse record_data

record_data?
- No → clear lcd → write "Recording data OFF" to lcd → sleep 1 second
- Yes → turn on recording_led and write_led

turn on recording_led and write_led
↓
collect data from MPU
↓
create csv_line from data
↓
write line to csv file
↓
turn off write_led
↓

lcd_btn is pressed?
- No
- Yes → set i to 3

set i to 3
↓
clear lcd
↓
increment lcd_state
↓

lcd_state > 7?
- No
- Yes → set lcd_state to 0

i > 2?
- No
- Yes → clear lcd → write_lcd() → set i to 0

increment i

write_lcd

write_lcd
↓

lcd_state = 1? — Yes → write x acceleration to lcd
- No ↓

lcd_state = 2? — Yes → write y acceleration to lcd
- No ↓

lcd_state = 3? — Yes → write z acceleration to lcd
- No ↓

lcd_state = 4? — Yes → write x angular velocity to lcd
- No ↓

lcd_state = 5? — Yes → write y angular velocity to lcd
- No ↓

lcd_state = 6? — Yes → write z angular velocity to lcd
- No ↓

lcd_state = 7? — Yes → write temperature to lcd
- No ↓

write "Recoding data ON" to LCD