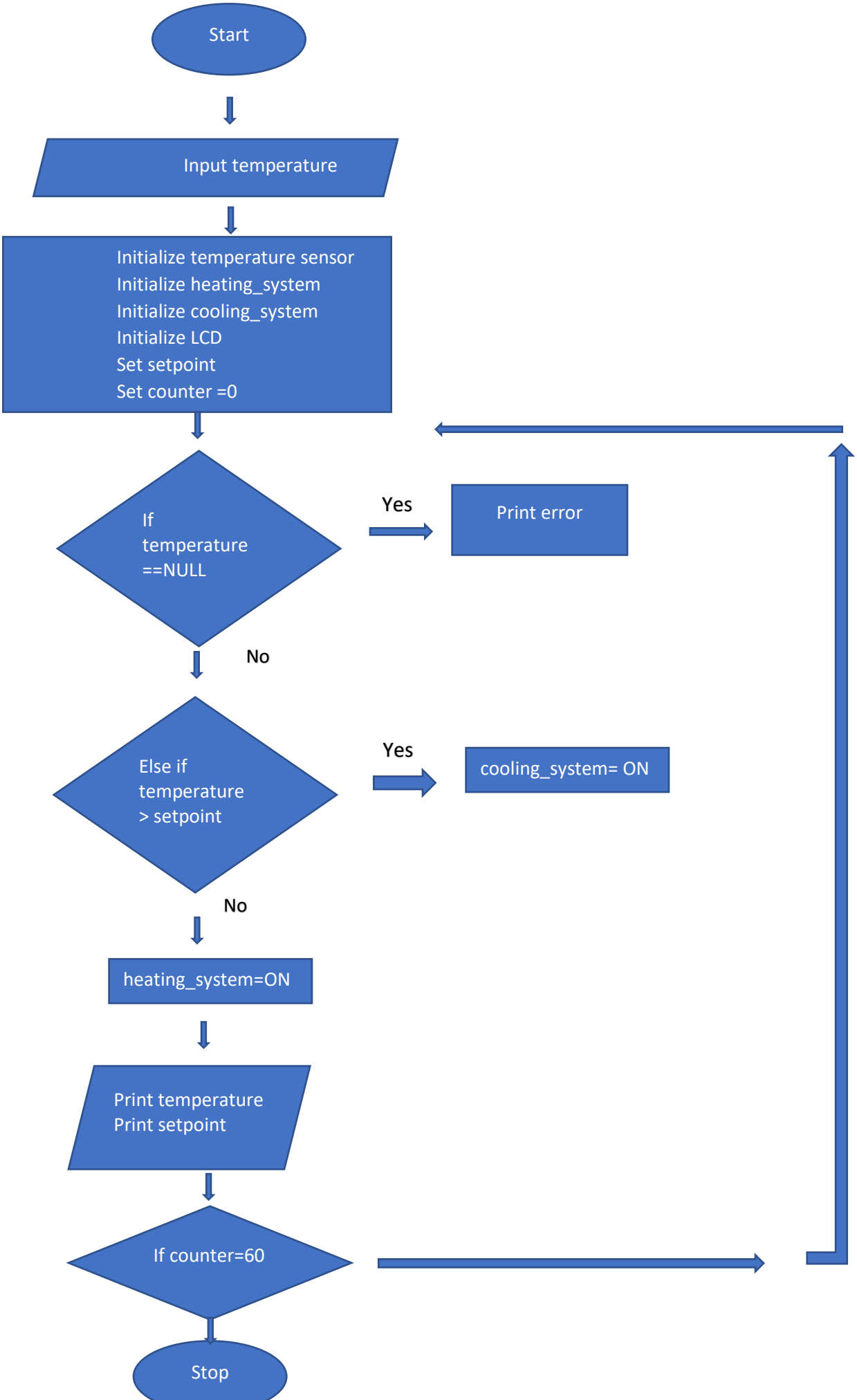
I. Smart Home Temperature Control

Pseudocode

1. Initialize temperature sensor
2. Initialize heating_system
3. Initialize cooling_system
4. Initialize LCD
5. Set setpoint
6. Set counter =0
7. Input temperature
8. If temperature ==NULL
   Print error
   Else if temperature > setpoint
   cooling_system= ON

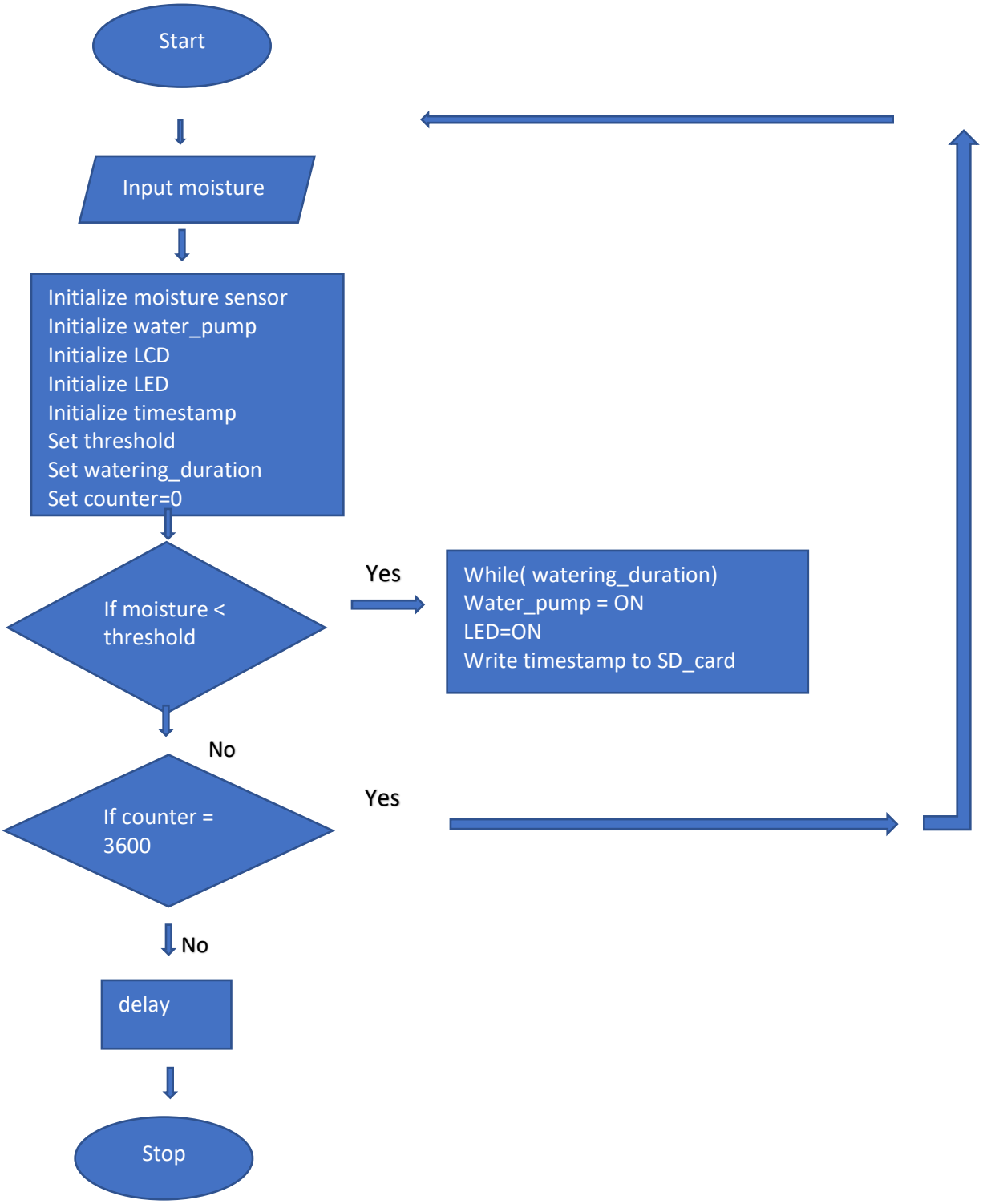
   else
   heating_system=ON
9. Print temperature
10. Print setpoint
11. If counter=60
    Repeat steps 6 to 10


Start
Input temperature
Initialize temperature sensor
Initialize heating_system
Initialize cooling_system
Initialize LCD
Set setpoint
Set counter =0
If temperature ==NULL
Yes
Print error
No
Else if temperature > setpoint
Yes
cooling_system= ON
No
heating_system=ON
Print temperature
Print setpoint
If counter=60
Stop

II. Automated Plant Watering System

Pseudocode

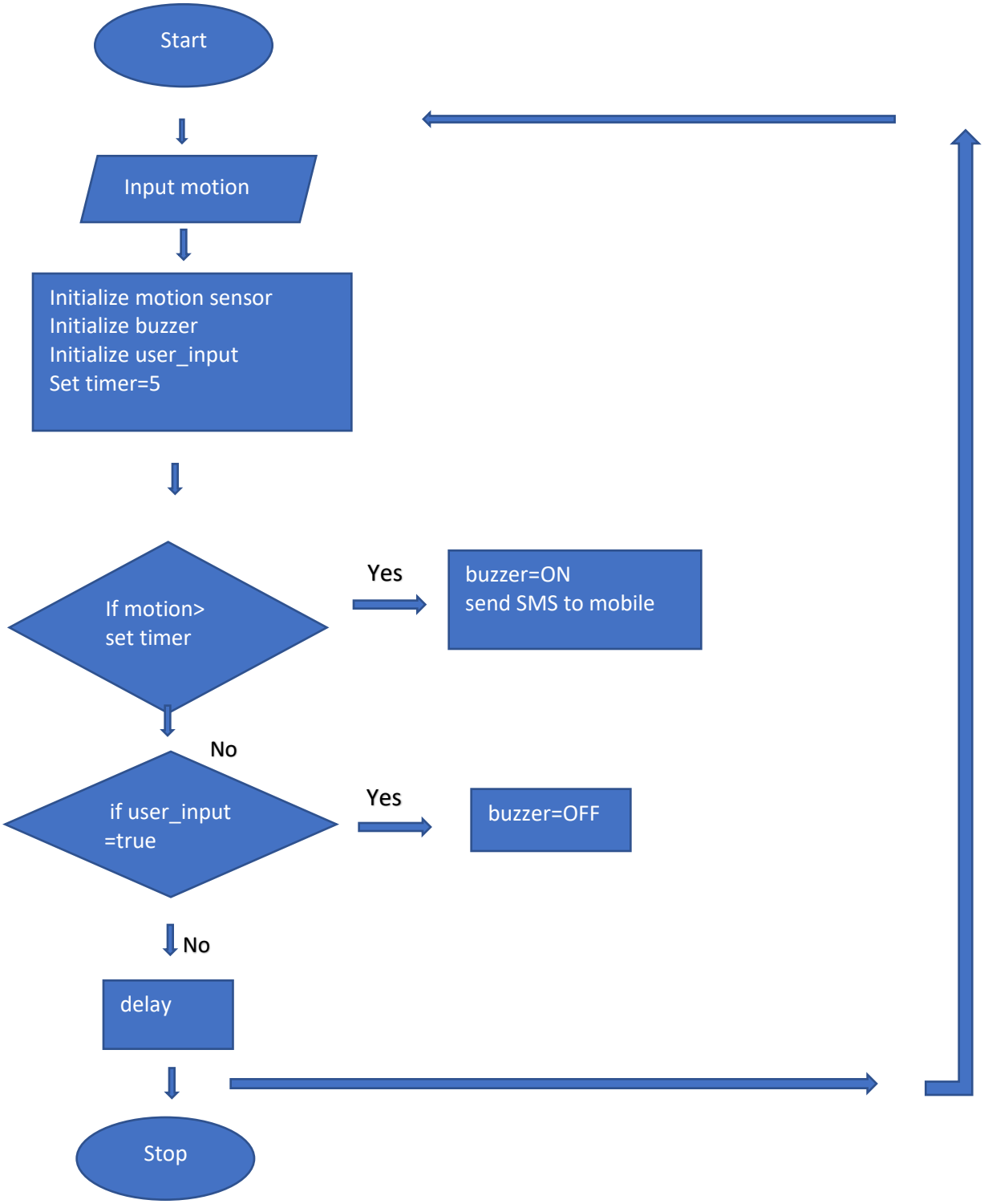
1. Initialize moisture sensor
2. Initialize water_pump
3. Initialize LCD
4. Initialize LED
5. Initialize timestamp
6. Set threshold
7. Set watering_duration
8. Input moisture
9. Set counter=0
10. If moisture < threshold
    While(watering_duration)
        Water_pump = ON
        LED=ON
        Write timestamp to SD_card
11. If counter = 3600
    Repeat steps 8 to 10


Start
Input moisture
Initialize moisture sensor
Initialize water_pump
Initialize LCD
Initialize LED
Initialize timestamp
Set threshold
Set watering_duration
Set counter=0
If moisture < threshold
Yes
While(watering_duration)
Water_pump = ON
LED=ON
Write timestamp to SD_card
No
If counter = 3600
Yes
No
delay
Stop

III. Motion Detection Alarm System

Pseudocode

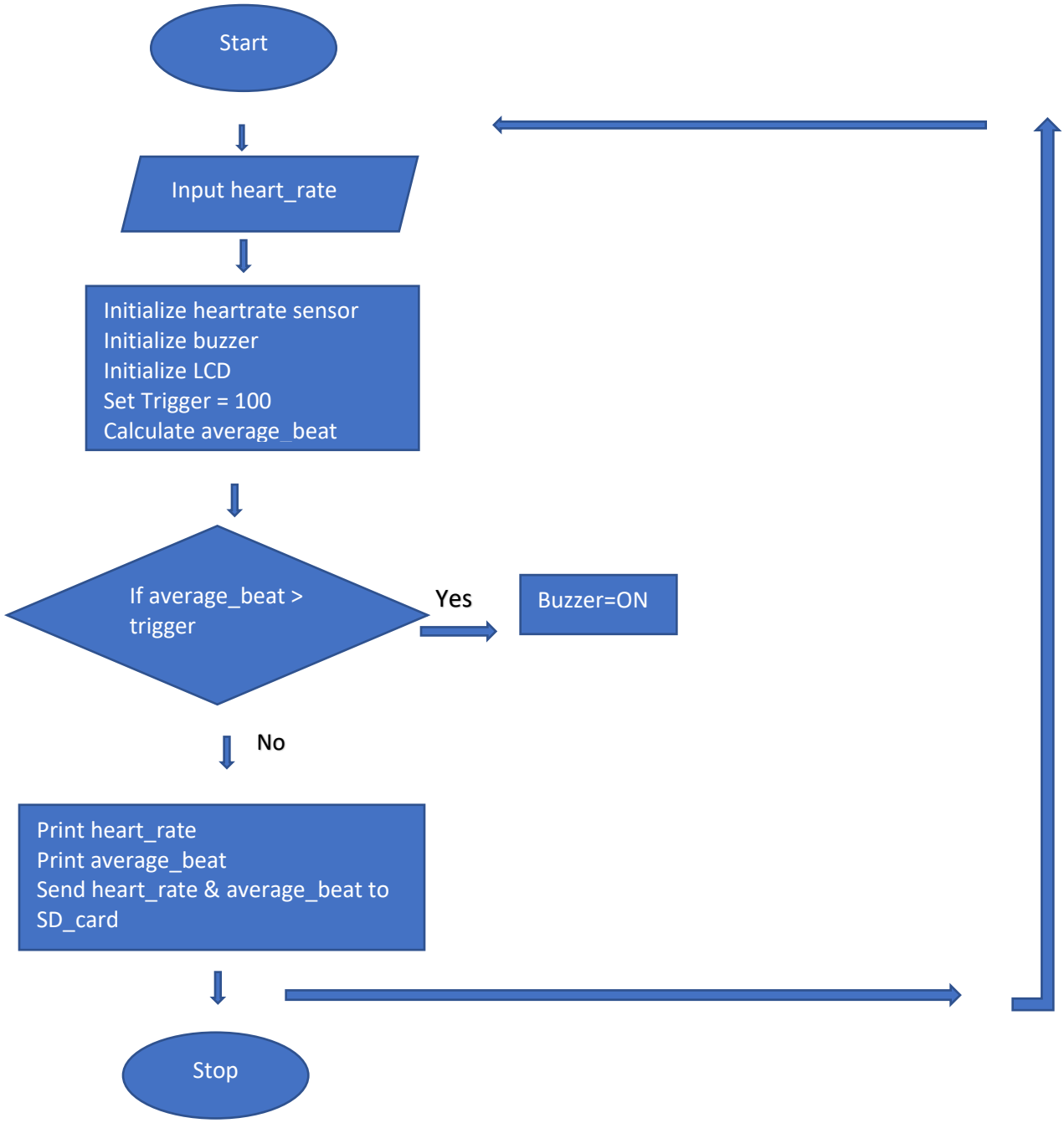
1. Initialize motion sensor
2. Initialize buzzer
3. Initialize user_input
4. Set timer=5
5. Input motion
6. If motion> set timer
   buzzer=ON
   send SMS to mobile
   if user_input =true
   buzzer=OFF
7. Repeat steps 5 to 6


Start
Input motion
Initialize motion sensor
Initialize buzzer
Initialize user_input
Set timer=5
If motion>
set timer
Yes
buzzer=ON
send SMS to mobile
No
if user_input
=true
Yes
buzzer=OFF
No
delay
Stop

IV. Heart Rate Monitor

Pseudocode

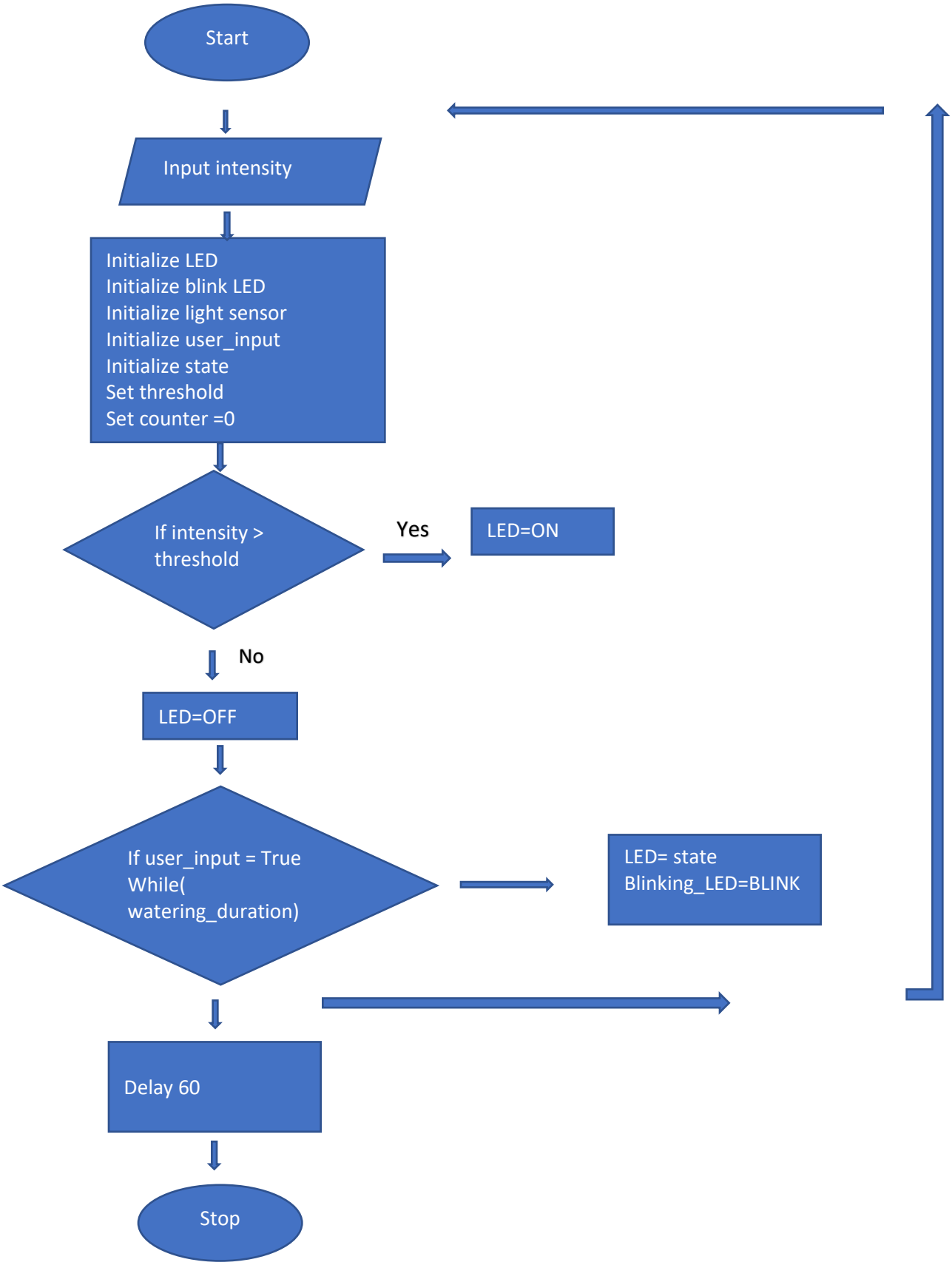
1. Initialize heartrate sensor
2. Initialize buzzer
3. Initialize LCD
4. Set Trigger = 100
5. Input heart_rate
6. Set timer=0
7. For(timer<=60)
   Calculate average_beat
8. If average_beat > trigger
   Buzzer=ON
9. Print heart_rate
10. Print average_beat
11. Send heart_rate & average_beat to SD_card
12. Repeat 6 to 10


Start
Input heart_rate
Initialize heartrate sensor
Initialize buzzer
Initialize LCD
Set Trigger = 100
Calculate average_beat
If average_beat > trigger
Yes
Buzzer=ON
No
Print heart_rate
Print average_beat
Send heart_rate & average_beat to SD_card
Stop

V. LED Control Based on Light Sensor

Pseudocode

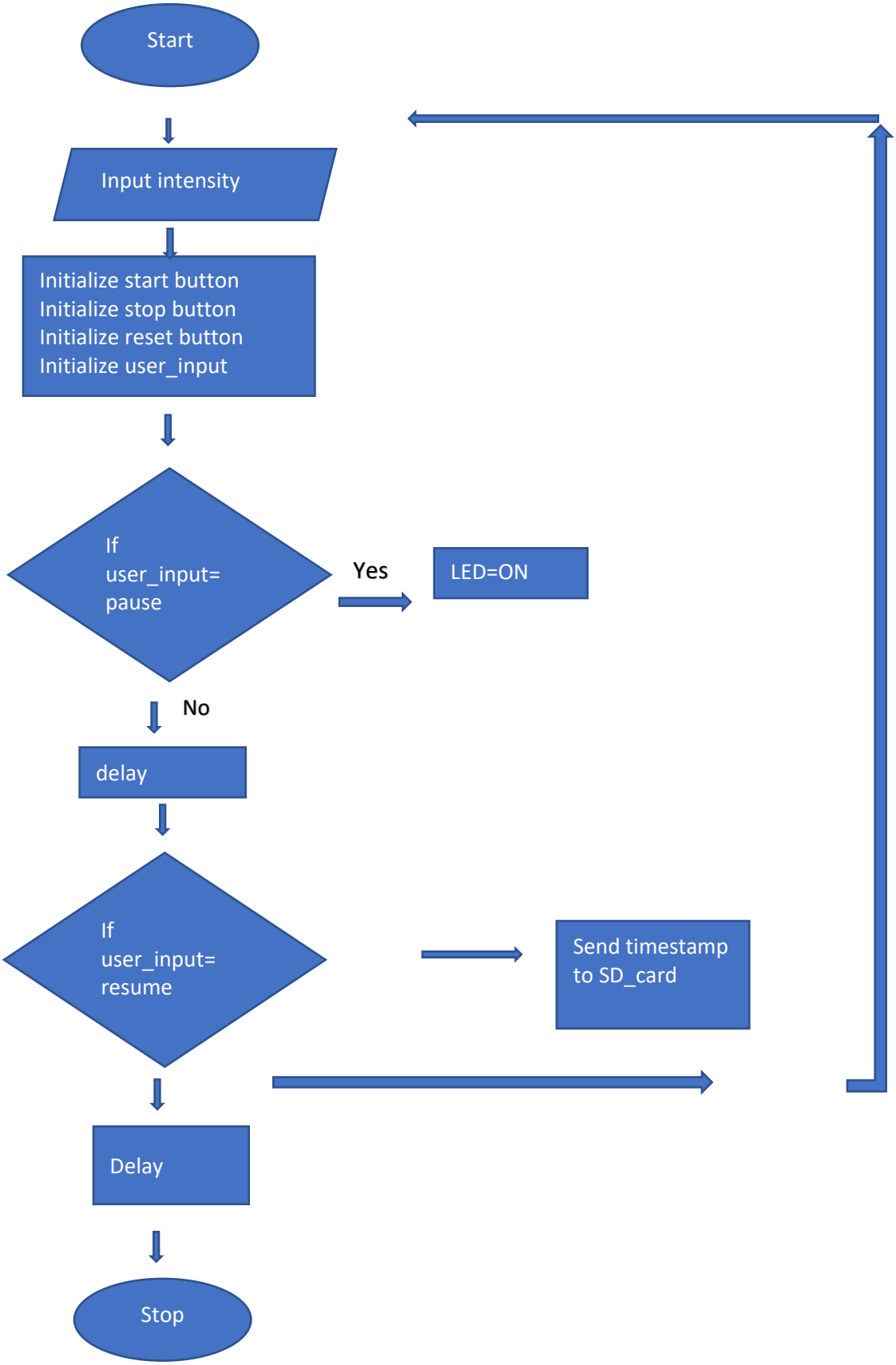
1. Initialize LED
2. Initialize blink LED
3. Initialize light sensor
4. Initialize user_input
5. Initialize state
6. Set threshold
7. Set counter =0
8. Input intensity
9. If intensity > threshold
   LED=ON
   Else
   LED=OFF
10. If user_input = True
    LED= state
    Blinking_LED=BLINK
11. If counter=60
    Repeat steps 7 to 11


Start
Input intensity
Initialize LED
Initialize blink LED
Initialize light sensor
Initialize user_input
Initialize state
Set threshold
Set counter =0
If intensity > threshold
Yes
LED=ON
No
LED=OFF
If user_input = True
While(watering_duration)
LED= state
Blinking_LED=BLINK
Delay 60
Stop

VI. Digital Stopwatch

Pseudocode

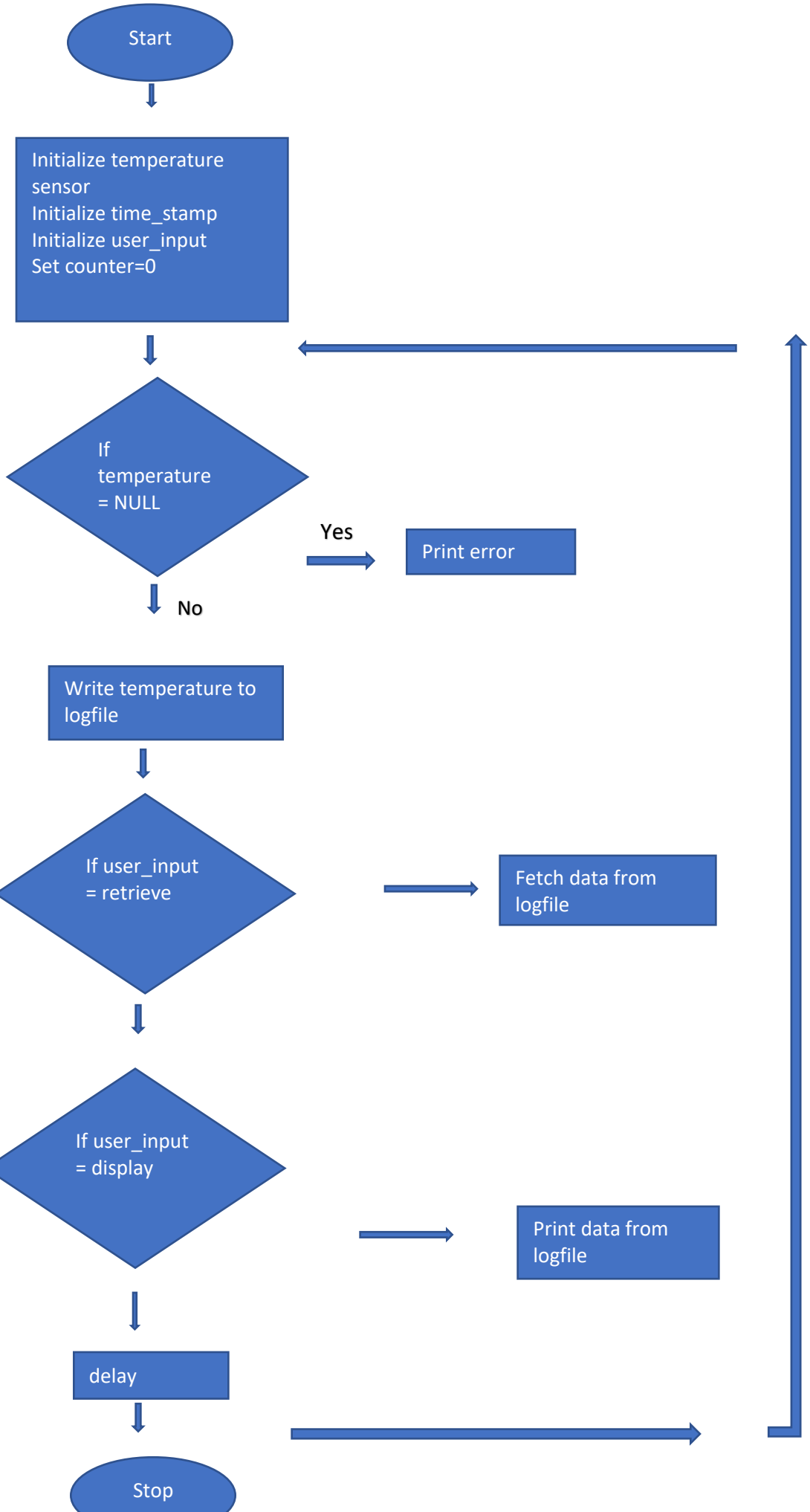
1. Initialize start button
2. Initialize stop button
3. Initialize reset button
4. Initialize user_input
5. Print time
6. If user_input= pause
   Delay
7. If user_input= resume
   Continue
8. Send timestamp to SD_card


Start
Input intensity
Initialize start button
Initialize stop button
Initialize reset button
Initialize user_input
If user_input= pause
Yes
LED=ON
No
delay
If user_input= resume
Send timestamp to SD_card
Delay
Stop

VII. Temperature Logging System

Pseudocode

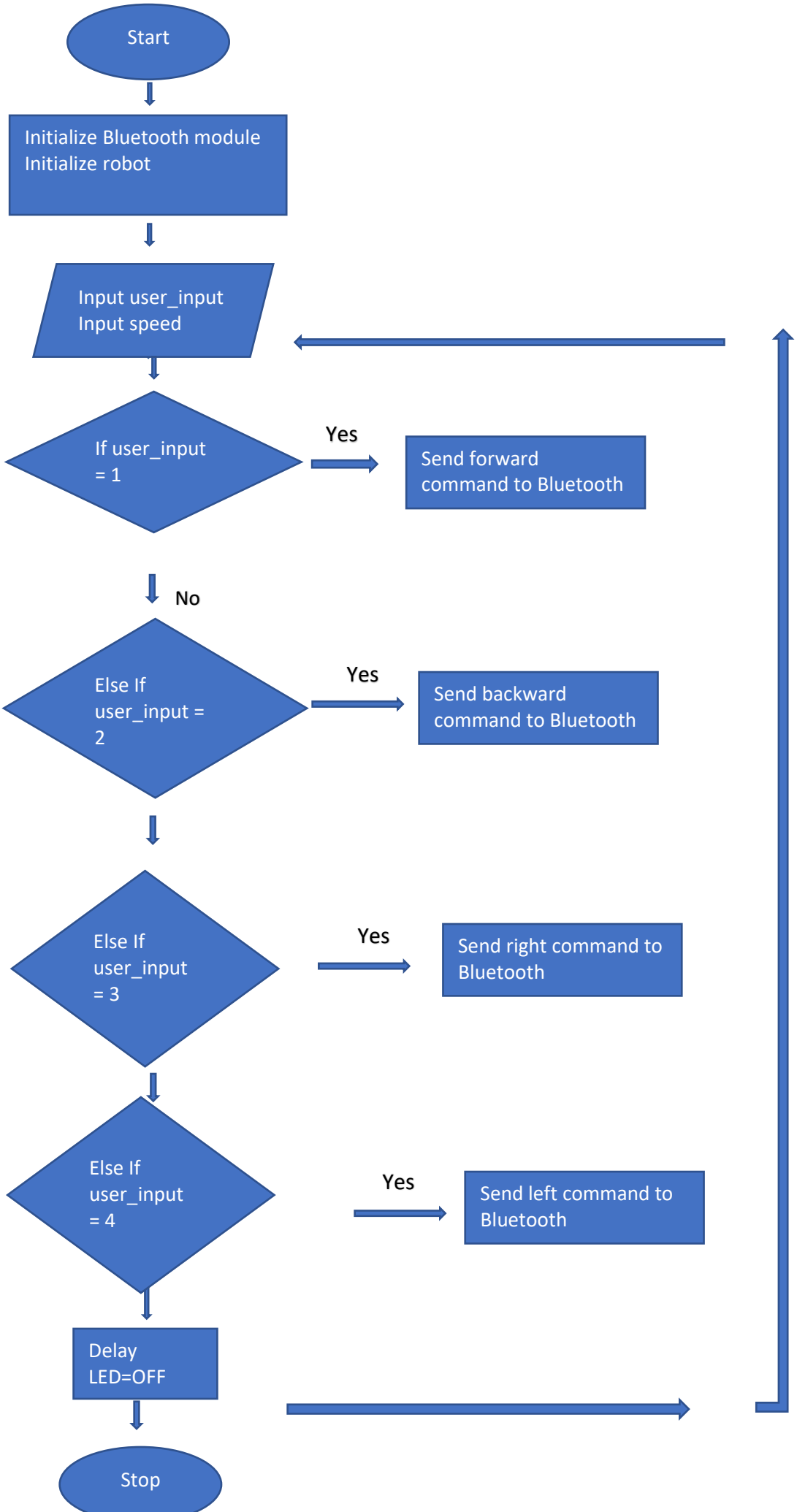
1. Initialize temperature sensor
2. Initialize time_stamp
3. Initialize user_input
4. Set counter=0
5. If temperature= NULL
   Print error
   Else
   Write temperature to logfile
6. If user_input = retrieve
   Fetch data from logfile
7. If user_input = display
   Print data from logfile
8. If counter= 600
   Repeat steps 4 to 7


Start
Initialize temperature sensor
Initialize time_stamp
Initialize user_input
Set counter=0
If temperature = NULL
Yes
Print error
No
Write temperature to logfile
If user_input = retrieve
Fetch data from logfile
If user_input = display
Print data from logfile
delay
Stop

VIII. Bluetooth Monitoring System

Pseudocode

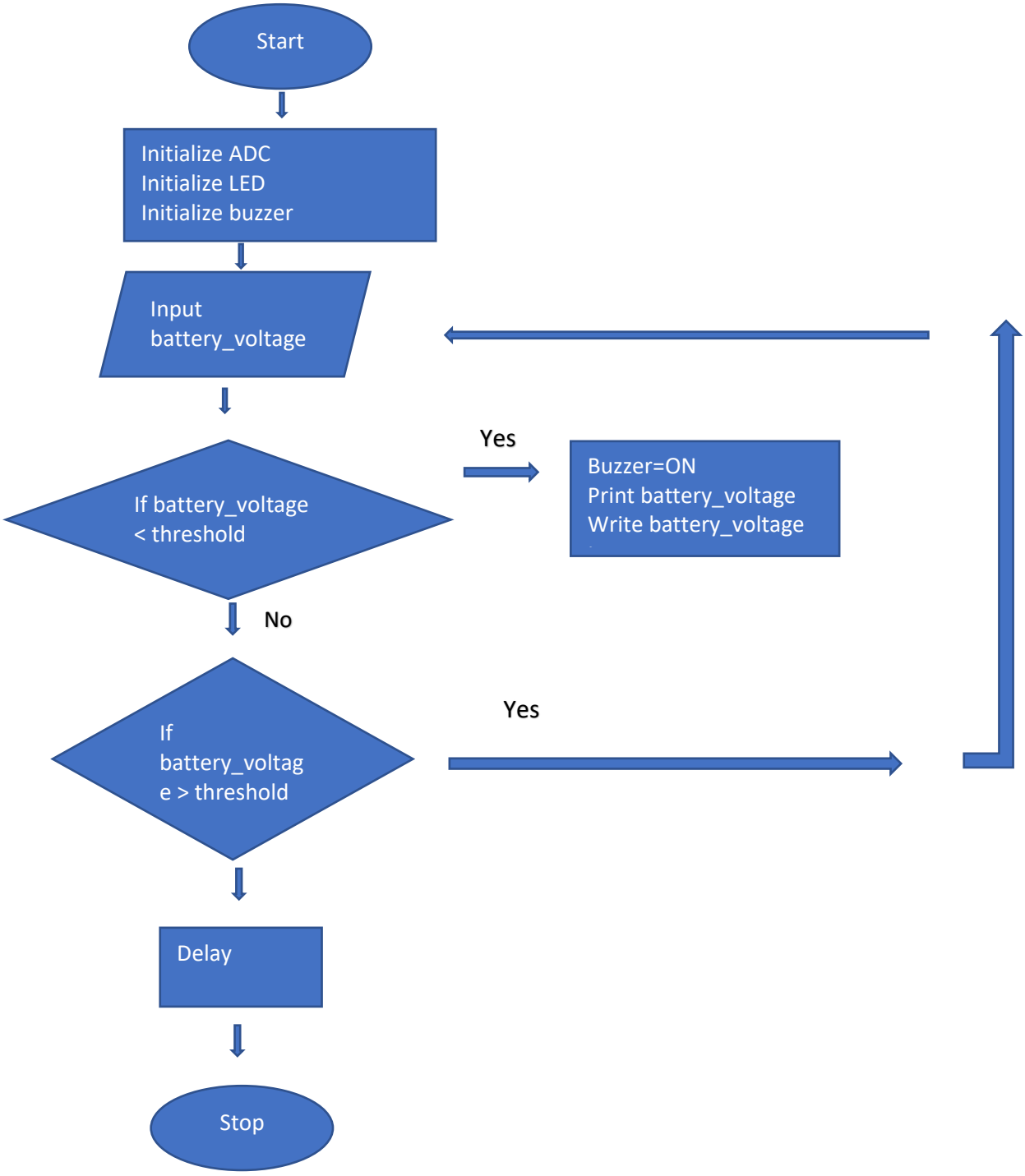
1. Initialize Bluetooth module
2. Initialize robot
3. Input user_input
4. Input speed
5. If user_input = 1
   Send forward command to Bluetooth
   Else If user_input = 2
   Send forward command to Bluetooth
   LED=ON
   Else If user_input = 3
   Send backward command to Bluetooth
   LED=ON
   Else if user_input =4
   Send right command to Bluetooth
   LED=ON
   Else
   Delay
   LED=OFF
6. Repeat steps 3 to 5


Start
Initialize Bluetooth module
Initialize robot
Input user_input
Input speed
If user_input = 1
Yes
Send forward command to Bluetooth
No
Else If user_input = 2
Yes
Send backward command to Bluetooth
Else If user_input = 3
Yes
Send right command to Bluetooth
Else If user_input = 4
Yes
Send left command to Bluetooth
Delay
LED=OFF
Stop

IX. Battery Monitoring System

Pseudocode

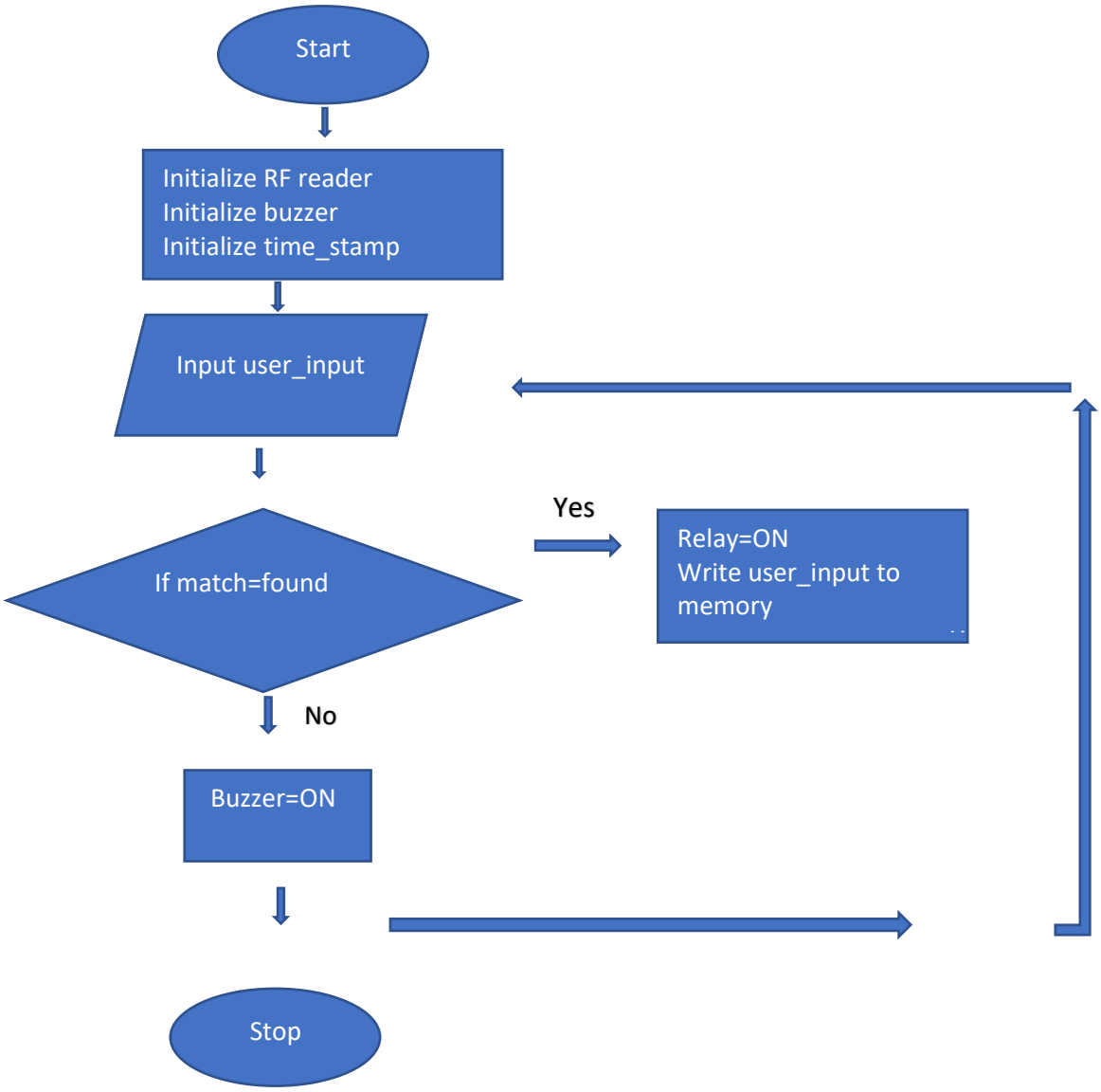
1. Initialize ADC
2. Initialize LED
3. Initialize buzzer
4. Set threshold=11
5. Set counter=0
6. Input battery_voltage
7. If battery_voltage < threshold
   Buzzer=ON
   Print battery_voltage
   Write battery_voltage to memory
8. If battery_voltage > threshold
   If counter = 60
   Repeat steps 5 to 8


Start
Initialize ADC
Initialize LED
Initialize buzzer
Input
battery_voltage
If battery_voltage
< threshold
Yes
Buzzer=ON
Print battery_voltage
Write battery_voltage
No
If
battery_voltag
e > threshold
Yes
Delay
Stop

X. RFID- Based Access Control System

Pseudocode

1. Initialize RF reader
2. Initialize buzzer
3. Initialize time_stamp
4. Input user_input
5. For(match=found)
   Compare user_input to names in list
   If match=found
   Relay=ON
   Write user_input to memory
   Write timestamp to memory
   Else
   If match!= found
   Buzzer=ON
6. Repeat steps 4 to 5


Start
Initialize RF reader
Initialize buzzer
Initialize time_stamp
Input user_input
If match=found
Yes
Relay=ON
Write user_input to memory
No
Buzzer=ON
Stop

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