ECU1 Flowchart

START ECU1

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Scheduler

- **TASK 1** — Read Door Sensor — Every 10mS
- **TASK 2** — Read Light Switch — Every 20mS
- **TASK 3** — Read Speed Sensor — Every 5mS

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Send Status Message on CAN Bus

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SHUTDOWN ECU1

CAN BUS, Status Message of every Sensor:
Format: Unsigned Char (8 BITS)
BIT 0: if = 1, sensor is HIGH
       if = 0, sensor is LOW
BIT4 to BIT 7 You Can Find Which sensor is sending
Door   Sensor Masking = 0x10
Light   Switch Masking   = 0x20
Speed Sensor Masking = 0x40

ECU2 Flowchart

START ECU2

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Scheduler

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TASK 1 — Read Data from CAN BUS

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Door open? & Car moving? — YES → **Buzzer On + Lights Off**
↓ NO

Door open? & Car stop? — YES → **Buzzer Off + Lights On**
↓ NO

Door close? & Lights were on? — YES → **Lights Off after 3 sec**
↓ NO

Car moving? & Light Sw press? — YES → **Buzzer Off + Lights On**
↓ NO

Car stop? & Light Sw press? — YES → **Buzzer On+ Lights On**
NO ↓

SHUTDOWN ECU2