Main

main()

carControl
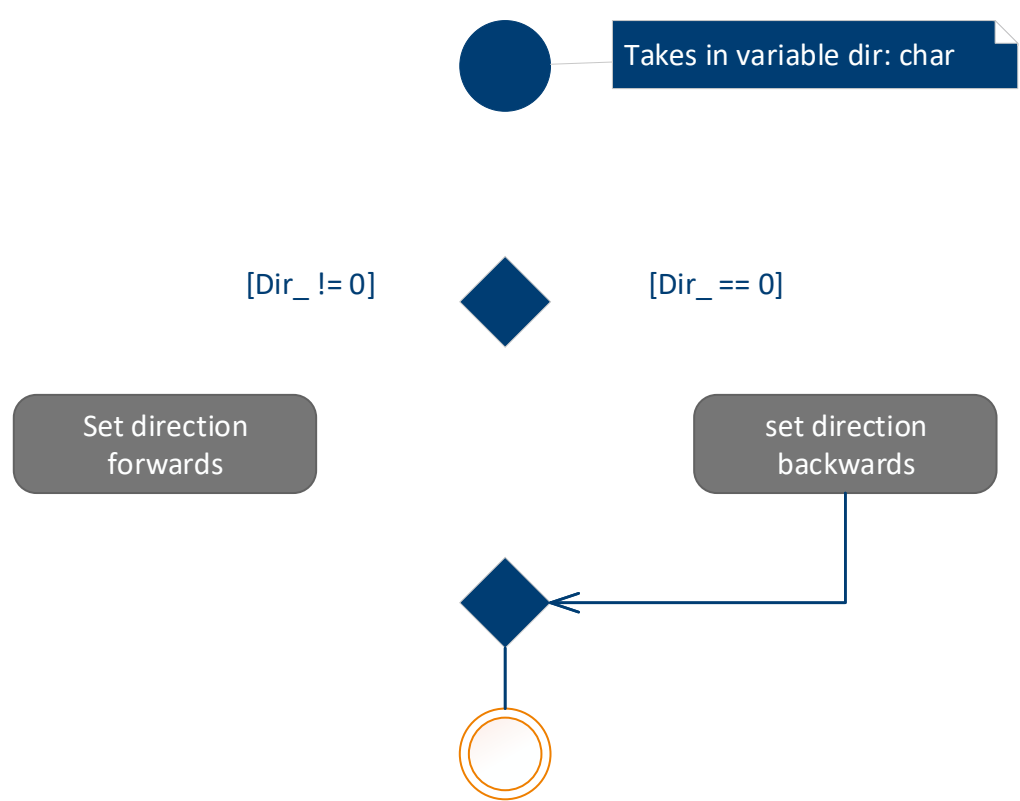
+carControl(sensorcountor: char, motor: Motor*, led: ledDriver*): char

Light

+initLED(): void
+frontLight(duty_cycle: unsigned char): void
+backLight(duty_cycle: unsigned char): void

Motor

-speed_: unsigned char
-speedPin_: unsigned char
-dir_: unsigned char
-dirPin_: unsigned char
- -
+Motor(): void
+setSpeed(speed: unsigned char): void
+getSpeed(): char
+setDirection(unsigned char): void
+getDirection(): char

Somo

+playTrack(unsigned char tracknr): void
+reset(): void
+setVol(unsigned char vol): void
+playSource(): Void

startRestartStop

+startBil(): void
+stop(): void
+restartBil(): void

UART

+InitUART(Baudrate: unsigned long, Databit: unsigned char, Rx_int: unsigned char): void
+SendChar(Tegn: Char): void

Motor

-speed_: unsigned char
-speedPin_: unsigned char
-dir_: unsigned char
-dirPin_: unsigned char

+Motor(): void
+setSpeed(speed: unsigned char): void
+getSpeed(): char
+setDirection(unsigned char): void
+getDirection(): char

Sætter bilens hastighed
0=Min 255=Maks

Sætter bilen køre retning
1=Fremad 0=Baglæns

Takes in variable dir: char

[Dir_ != 0]   [Dir_ == 0]

Set direction
forwards

set direction
backwards

Takes in variable speed: char

[0 <= speed <= 255]

[speed < 0 || speed > 255]

Variable not within acceptable range

Set speed_ to speed

Set speed_ to 0

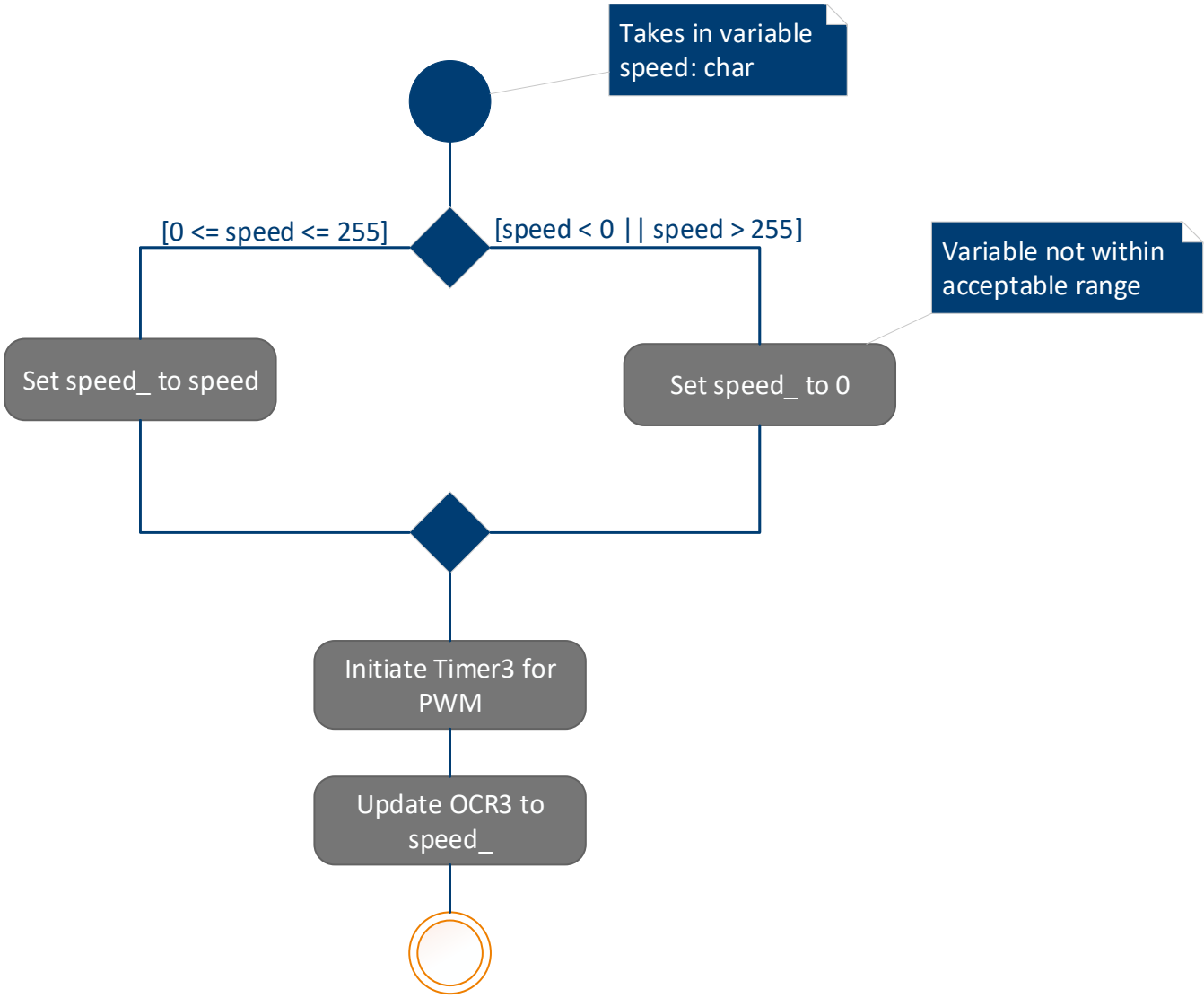Initiate Timer3 for PWM

Update OCR3 to speed_

Lys

+ledDriver(): void
+initLED(): void
+frontLight(duty_cycle: unsigned char): void
+backLight(duty_cycle: unsigned char): void

```mermaid
flowchart TD
    A((•)) --> B{ }
    B -->|Motor on| C[frontLight(80)]
    C --> D{ }
    D -->|Motor off| E[frontLight(0)]
```

```
            ●

        ◆ ────── Motor off ──────┐
        │                        │
        │ Motor on               │
        ▽                        │
   ┌─────────────┐               │
   │ backLight(60)│              │
   └─────────────┘               │
        │                        │
   ┌────▷◁────────────────────┐  │
   │                          │  │
┌─────────────┐               │  │
│breakLight(100)│             │  │
└─────────────┘               │  │
   │                          │  │
 Bilen bremser ◆ Motor on ────┘  │
        │
        │ Motor off
        ▽
   ┌─────────────┐
   │ backtLight(0)│
   └─────────────┘
```