```
1  #include <Arduino.h>
2  #include <string>
3
4  #define MAX_MOTOR_SPEED 1023
5
6  //@brief Object for motor related tasks
7  class Motor
8  {
9      private:
10
11     void Apply()
12     {
13         //Invert Speed because for some reason it seems higher number => ↵
               lower speed
14         SPEED = MAX_MOTOR_SPEED - SPEED;
15         ledcWrite(CHANNEL, SPEED);
16         SPEED = MAX_MOTOR_SPEED - SPEED;
17         digitalWrite(DIR_PIN, DIRECTION);
18     }
19
20     public:
21     uint8_t DIR_PIN, SPEED_PIN, CHANNEL;
22     uint16_t SPEED;
23     bool DIRECTION, FORWARD_DIRECTION;
24
25     void init()
26     {
27         pinMode(DIR_PIN, OUTPUT);
28         pinMode(SPEED_PIN, OUTPUT);
29         ledcSetup(CHANNEL, 20000, 10);
30         ledcAttachPin(SPEED_PIN, CHANNEL);
31     }
32
33     void SetSpeed(uint16_t speed)
34     {
35         if(speed > MAX_MOTOR_SPEED)
36         {
37             SPEED = MAX_MOTOR_SPEED;
38         }
39         else
40         {
41             SPEED = speed;
42         }
43         Apply();
44     }
45
46     void Stop()
47     {
48         SPEED = 0;
49         Apply();
50     }
51
52     void SetDirection(bool direction)
```

```
53      {
54          if(direction)
55          {
56              DIRECTION = FORWARD_DIRECTION;
57          }
58          else
59          {
60              DIRECTION = !FORWARD_DIRECTION;
61          }
62          Apply();
63      }
64  };
```