Decision Table

Columns:

1. **Function Call:** Which function is being called (move\_forward, move\_backward, move\_stop, turn\_left, turn\_right).
2. **PWM Speed:** The speed setting for PWM (normal\_speed, slow\_speed).

Rows:

The rows represent different possible outcomes and actions taken by the program:

1. **Motor Direction:** Verify if the motor moves in the correct direction (forward, backward, stop, left, right).
2. **PWM Output:** Check if the PWM output corresponds to the expected speed.

Decision Table:

|  |  |  |  |
| --- | --- | --- | --- |
| **Function Call** | **PWM Speed** | **Motor Direction** | **PWM Output** |
| **move\_forward** | Not Applicable | Forward | Not Checked |
| **move\_backward** | Not Applicable | Backward | Not Checked |
| **move\_stop** | Not Applicable | Stop | Off |
| **turn\_left** | **slow\_speed** | Left | Slow Left, Normal Right |
| **turn\_right** | **normal\_speed** | Right | Normal Left, Slow Right |

Test case:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test Case ID | Description | Preconditions | Test Steps | Expected Results | Actual Results | Pass/Fail |
| TC01 | Validate moving forward. | Motor and PWM initialized. | 1. Call move\_forward(). 2. Observe the motor direction. | Motors move the device forward. | The code functions as expected | Pass |
| TC02 | Validate moving backward. | Motor and PWM initialized. | 1. Call move\_backward(). 2. Observe the motor direction. | Motors move the device backward. | The code functions as expected | Pass |
| TC03 | Validate stopping the motors. | Motor and PWM initialized. | 1. Call move\_stop(). 2. Observe the motor state. | Motors stop movement. | The code functions as expected. | Pass |
| TC04 | Validate turning left. | Motor and PWM initialized. | 1. Call turn\_left(). 2. Observe the motor direction and PWM output. | Left motor turns slower than the right, causing a left turn. | The code functions as expected | Pass |
| TC05 | Validate turning right. | Motor and PWM initialized. | 1. Call turn\_right(). 2. Observe the motor direction and PWM output. | Right motor turns slower than the left, causing a right turn. | The code functions as expected | Pass |