

```
const int rainSensorPin = 2; // Pin connected to the digital output of the rain sensor

const int openLimitSwitchPin = 3; // Pin connected to the open limit switch

const int closeLimitSwitchPin = 4; // Pin connected to the closed limit switch

const int motorPin1 = 8; // Motor driver input pin 1

const int motorPin2 = 9; // Motor driver input pin 2
```

```
void setup() {

  pinMode(rainSensorPin, INPUT);

  pinMode(openLimitSwitchPin, INPUT_PULLUP);

  pinMode(closeLimitSwitchPin, INPUT_PULLUP);

  pinMode(motorPin1, OUTPUT);

  pinMode(motorPin2, OUTPUT);

  Serial.begin(9600);

}
```

```
void loop() {

  int rainSensorValue = digitalRead(rainSensorPin);

  int openLimitSwitchValue = digitalRead(openLimitSwitchPin);

  int closeLimitSwitchValue = digitalRead(closeLimitSwitchPin);

  if (rainSensorValue == LOW) { // Rain detected

    if (closeLimitSwitchValue == HIGH) { // Shed is not closed

      closeShed();

    }

  } else { // No rain detected

    if (openLimitSwitchValue == HIGH) { // Shed is not open

      openShed();

    }

  }

}
```

```
    }  
}  
  
    delay(1000); // Wait for a second before checking again  
}
```

```
void openShed() {  
    digitalWrite(motorPin1, HIGH);  
    digitalWrite(motorPin2, LOW);  
    Serial.println("Opening shed...");  
    while (digitalRead(openLimitSwitchPin) == HIGH) {  
        // Wait until the shed is fully open  
    }  
    stopMotor();  
}
```

```
void closeShed() {  
    digitalWrite(motorPin1, LOW);  
    digitalWrite(motorPin2, HIGH);  
    Serial.println("Closing shed...");  
    while (digitalRead(closeLimitSwitchPin) == HIGH) {  
        // Wait until the shed is fully closed  
    }  
    stopMotor();  
}
```

```
void stopMotor() {
```

```
digitalWrite(motorPin1, LOW);  
digitalWrite(motorPin2, LOW);  
Serial.println("Motor stopped.");  
}
```