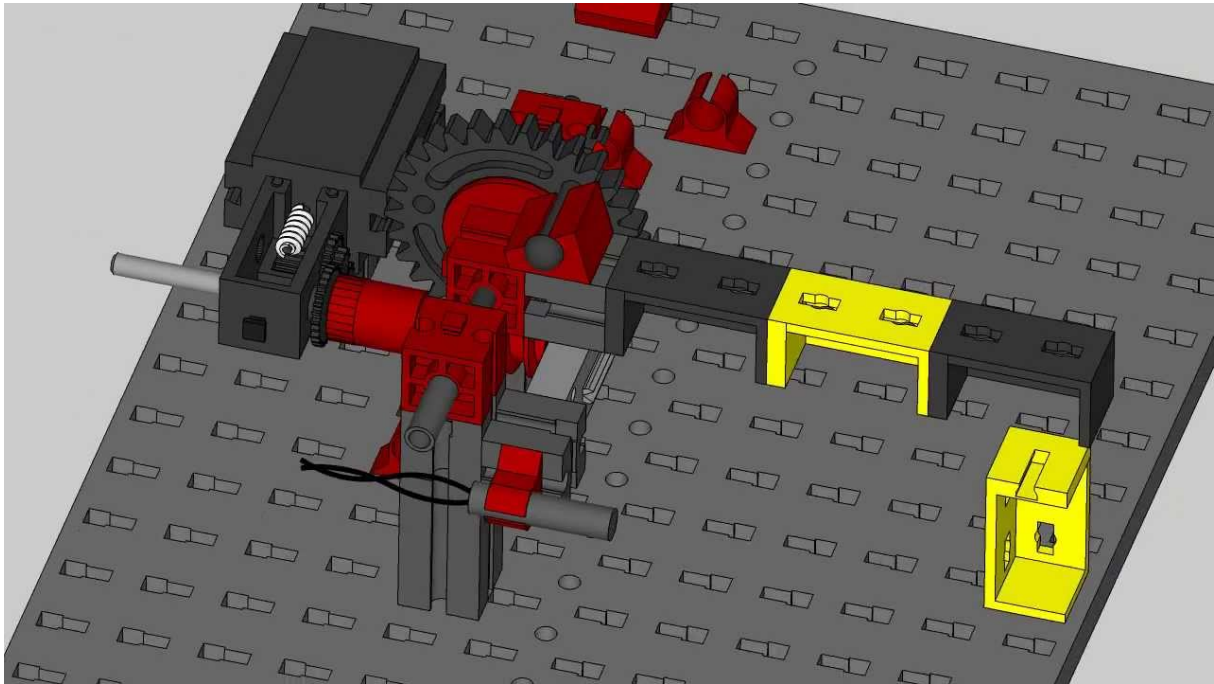


## 0.1 REED SWITCH IN NON-CONTACT DETECTION

### 0.1.1 Tasks:

1. Add a reed switch to the front of the barrier gate to detect the car.
2. Connect the reed switch to the input pin A1 and GND.



**Figure 1:** Adding reed switch sensor.

3. Write program as such that the gate barrier will open if car is detected. Some hints are shown in next example code:

```
1  const int MOTOR_PIN_1 = 7;
2  const int MOTOR_PIN_2 = 6;
3  const int REED_SW_PIN = A1;
4
5  [-] void setup() {
6      pinMode(MOTOR_PIN_1, OUTPUT); //declaration of I/O pins
7      pinMode(MOTOR_PIN_2, OUTPUT);
8      pinMode(REED_SW_PIN, INPUT_PULLUP);
9  }
10 [-] void loop() {
11     bool car_is_detected = !digitalRead(REED_SW_PIN);
12     if (car_is_detected){
13         moveGateUp();
14         delay(3000);
15         moveGateDown();
16     }
17 }
18 [+] void stopTheGate(){
19 [+] void moveGateUp() {
20 [+] void moveGateDown() {
```

### 0.1.2 Questions:

1. What is pull-up resistor?
2. How can we turn on the internal pull-up resistor of the microcontroller?

### 0.1.3 Summary:

#### 0.1.3.1 <++> <++>

### 0.1.4 Issues:

#### 0.1.4.1 <++> <++>