Rack and Pinion with (higher end)servo motor - horizontal- 2 + pressure sensor - Pseudocode

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BEGIN

SETUP:
   - Define L1 as limit switch (fully open)
   - Define L2 as limit switch (fully closed)
   - Define P1 as pressure sensor
   - Configure L1, L2, P1 as input pins with pull-down
   - Define motor control functions:
      motor_stop() → stop motor
      motor_reverse() → run motor to OPEN door
      motor_forward() → run motor to CLOSE door
   - Start with motor stopped

MAIN LOOP (forever):
   IF (pressure sensor P1 is triggered):
      PRINT "Pressure detected → opening door"
      RUN motor in REVERSE (OPEN)

      WHILE (L1 is NOT triggered):
         wait small delay
      END WHILE

      STOP motor
      PRINT "Door fully open → start closing"
      RUN motor FORWARD (CLOSE)

      WHILE (True):
         IF (pressure sensor P1 is triggered):
            PRINT "Pressure detected while closing → reopen immediately"
            RUN motor in REVERSE (OPEN)
            BREAK loop  (restart cycle)

         ELSE IF (L2 is triggered → door fully closed):
            PRINT "Door fully closed → stop"
            STOP motor
            BREAK loop  (restart cycle)

         wait small delay
      END WHILE
   END IF

   wait short delay

END LOOP
```