# WASHING MACHINE

(Interface Simulation)

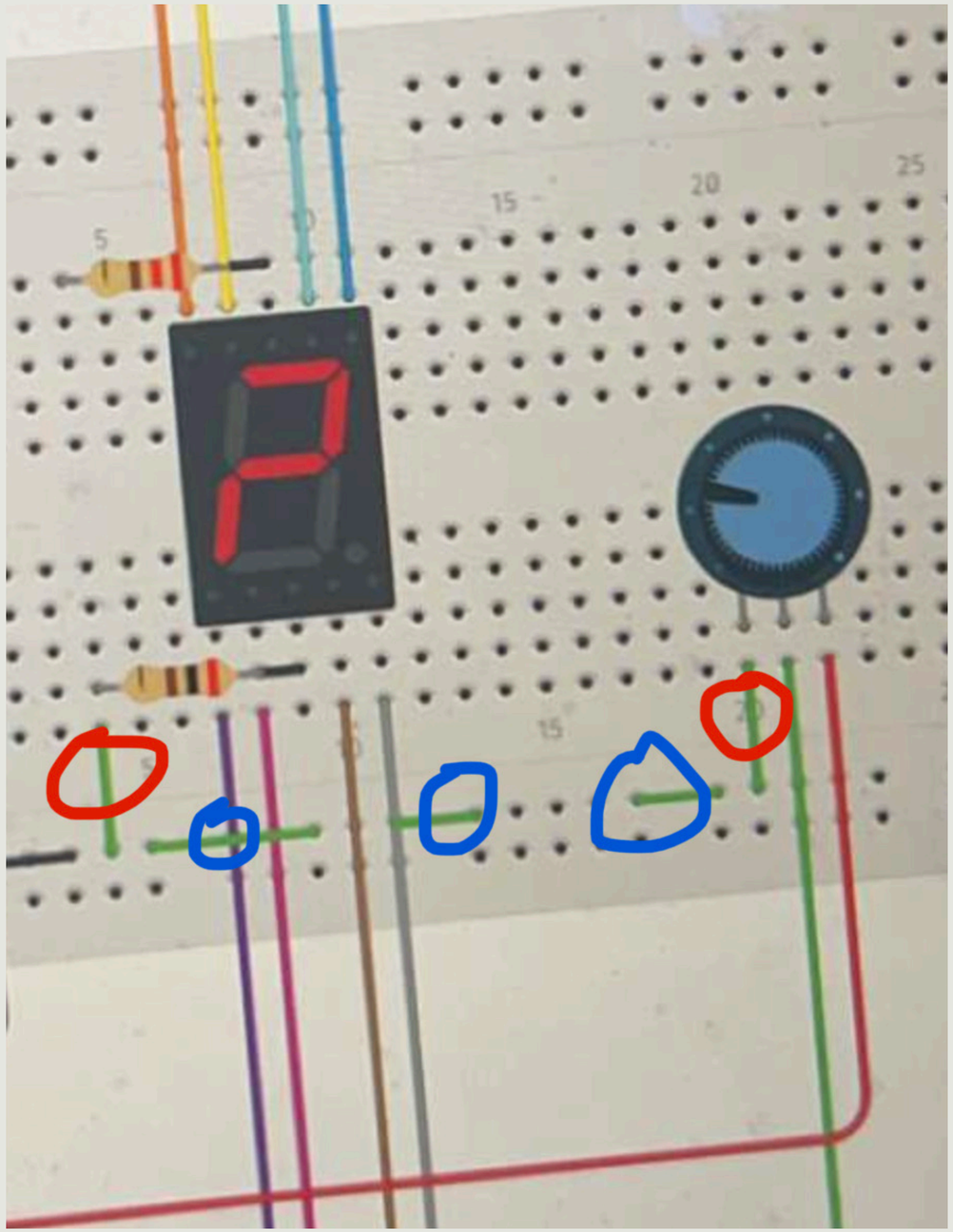
# WITH ARDUINO

# Project Brief:

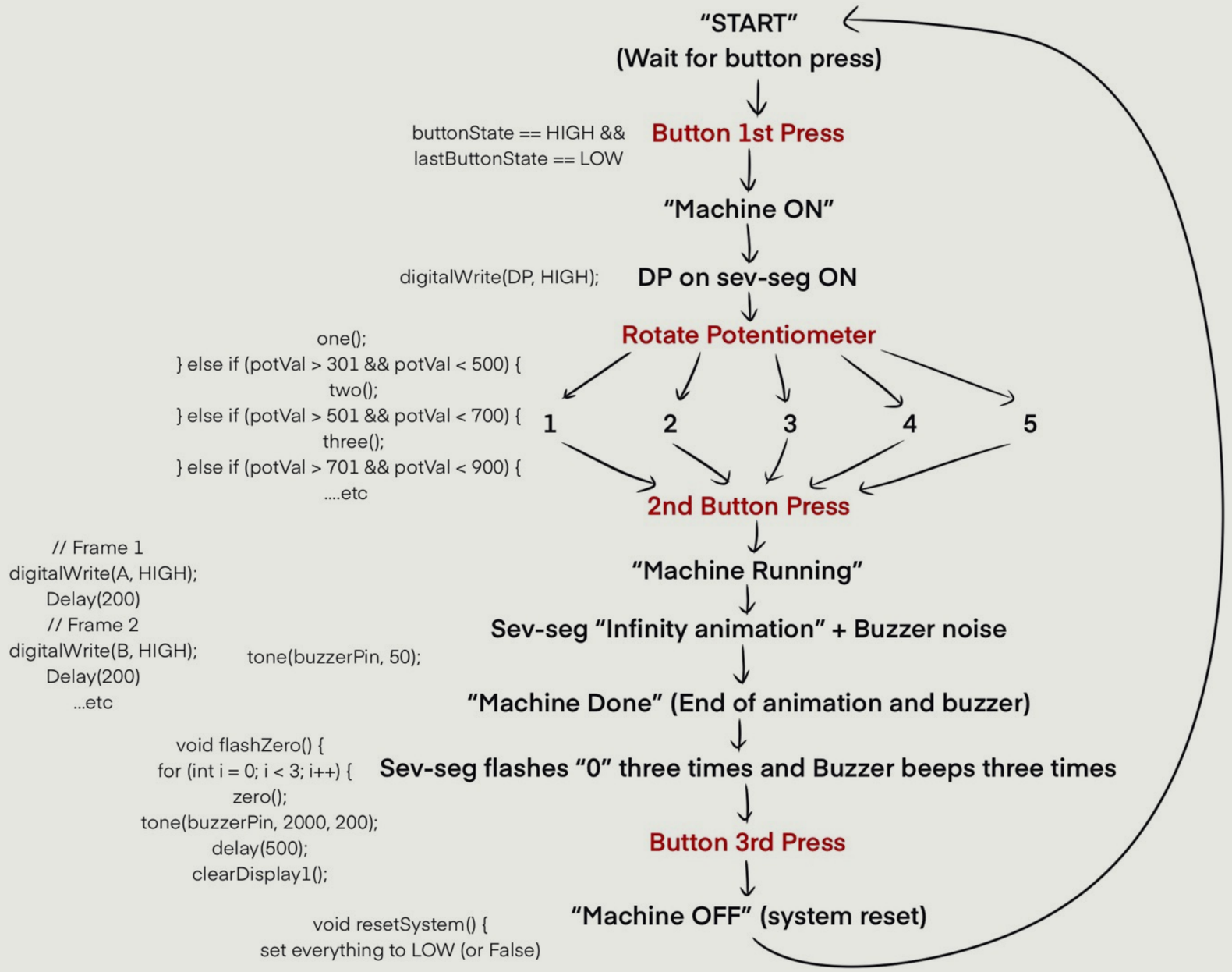
1. Project Brief
The goal of this project is to simulate a washing machine's control panel / interface. Using both hardware components and C++ to build the four following features:

- Button Controls (ON/OFF & Mode selection function)
- Machine running simulation
- Machine finished simulation
- Serial Monitor

Hardware Components list:
- Arduino Uno (Microcontroller)
- Seven-Segment Display (Common Cathode)
- Pushbutton
- Potentiometer
- Buzzer
- 2x 10K Ohm, 1x 200 Ohm Resistors
- Breadboard and Wires



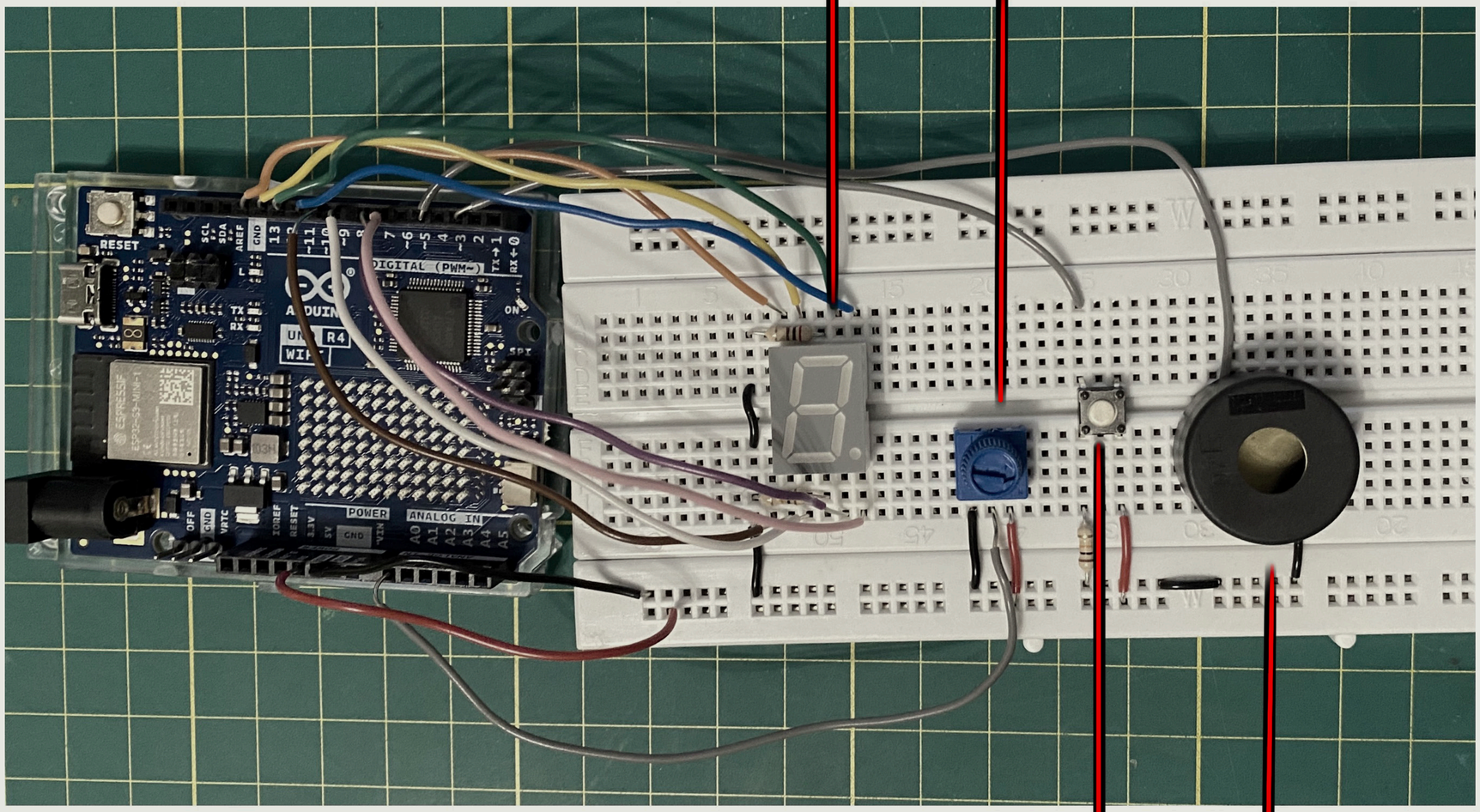
# Flow-Chart


"START"
(Wait for button press)
buttonState == HIGH &&
lastButtonState == LOW
Button 1st Press
"Machine ON"
digitalWrite(DP, HIGH);
DP on sev-seg ON
Rotate Potentiometer
one();
} else if (potVal > 301 && potVal < 500) {
two();
} else if (potVal > 501 && potVal < 700) {
three();
} else if (potVal > 701 && potVal < 900) {
....etc
1
2
3
4
5
2nd Button Press
// Frame 1
digitalWrite(A, HIGH);
Delay(200)
// Frame 2
digitalWrite(B, HIGH);
Delay(200)
...etc
"Machine Running"
tone(buzzerPin, 50);
Sev-seg "Infinity animation" + Buzzer noise
"Machine Done" (End of animation and buzzer)
void flashZero() {
for (int i = 0; i < 3; i++) {
zero();
tone(buzzerPin, 2000, 200);
delay(500);
clearDisplay1();
Sev-seg flashes "0" three times and Buzzer beeps three times
Button 3rd Press
"Machine OFF" (system reset)
void resetSystem() {
set everything to LOW (or False)

# FINAL BREADBOARD

Seven seg display

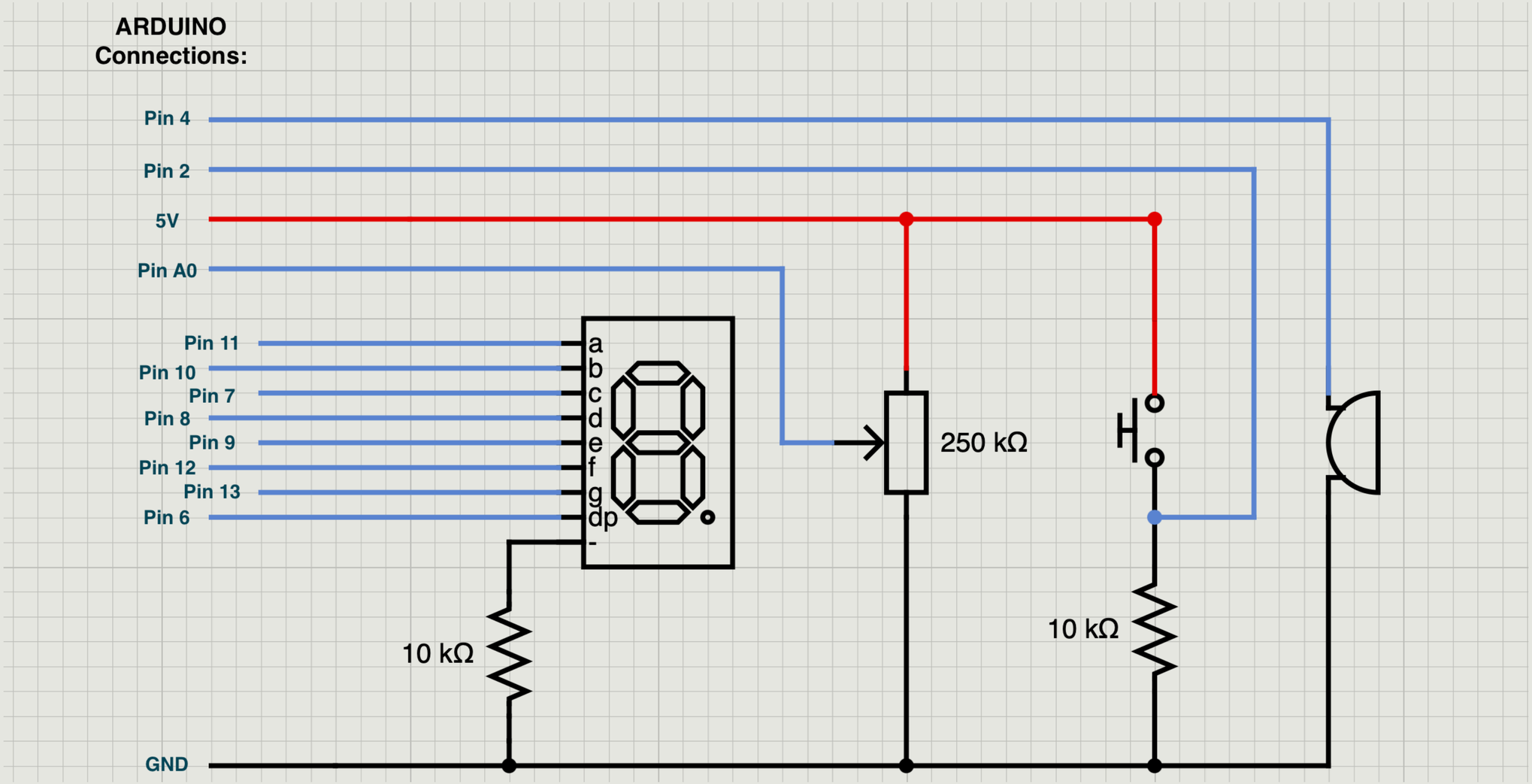
Potentiometer




Button

Buzzer

# CIRCUIT DIAGRAM



# See TinkerCad for full code:

https://www.tinkercad.com/things/cZn4WOD7aK8-washing-machine-interface?sharecode=iEXEnf0f0m1nN6wZRI1jV0sjqzfufo6szVCsIl7O4Cc