#include <Keypad.h>

const int RELAY\_PIN = A5; // the Arduino pin, which connects to the IN pin of relay

const int ROW\_NUM = 4; // four rows

const int COLUMN\_NUM = 4; // four columns

char keys[ROW\_NUM][COLUMN\_NUM] = {

{'1','2','3', 'A'},

{'4','5','6', 'B'},

{'7','8','9', 'C'},

{'\*','0','#', 'D'}

};

byte pin\_rows[ROW\_NUM] = {9, 8, 7, 6}; //connect to the row pinouts of the keypad

byte pin\_column[COLUMN\_NUM] = {5, 4, 3, 2}; //connect to the column pinouts of the keypad

Keypad keypad = Keypad( makeKeymap(keys), pin\_rows, pin\_column, ROW\_NUM, COLUMN\_NUM );

const String password\_1 = "1234A"; // change your password here

const String password\_2 = "1211D"; // change your password here

const String password\_3 = "7890"; // change your password here

String input\_password;

void setup() {

Serial.begin(9600);

input\_password.reserve(32); // maximum input characters is 33, change if needed

pinMode(RELAY\_PIN, OUTPUT); // initialize pin as an output.

digitalWrite(RELAY\_PIN, LOW); // lock the door

}

void loop() {

char key = keypad.getKey();

if (key){

Serial.println(key);

if(key == '#') {

input\_password = ""; // reset the input password

} else if(key == '\*') {

if(input\_password == password\_1 || input\_password == password\_2 || input\_password == password\_3) {

Serial.println("The password is correct, unlocking the door in 20 seconds");

digitalWrite(RELAY\_PIN, HIGH); // unlock the door for 20 seconds

delay(20000);

digitalWrite(RELAY\_PIN, LOW); // lock the door

} else {

Serial.println("The password is incorrect, try again");

}

input\_password = ""; // reset the input password

} else {

input\_password += key; // append new character to input password string

}

}

}