SKILL VERTEX IOT INTERNSHIP– PROJECT

PASSWORD DOOR LOCK USING ARDUINO

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SUMMARY

The Password Door Lock using Arduino using online virtual tool tinkercad.com

CODE

```
#include <Keypad.h>
#include <LiquidCrystal.h>
#include <Servo.h>
Servo myservo;
LiquidCrystal lcd(A0, A1, A2, A3, A4, A5);
#define Password_Lenght 7 // Give enough room for six chars + NULL char
int pos = 0;    // variable to store the servo position
char Data[Password_Lenght]; // 6 is the number of chars it can hold + the
null char = 7
char Master[Password_Lenght] = "123456";
byte data_count = 0, master_count = 0;
bool Pass_is_good;
char customKey;
```

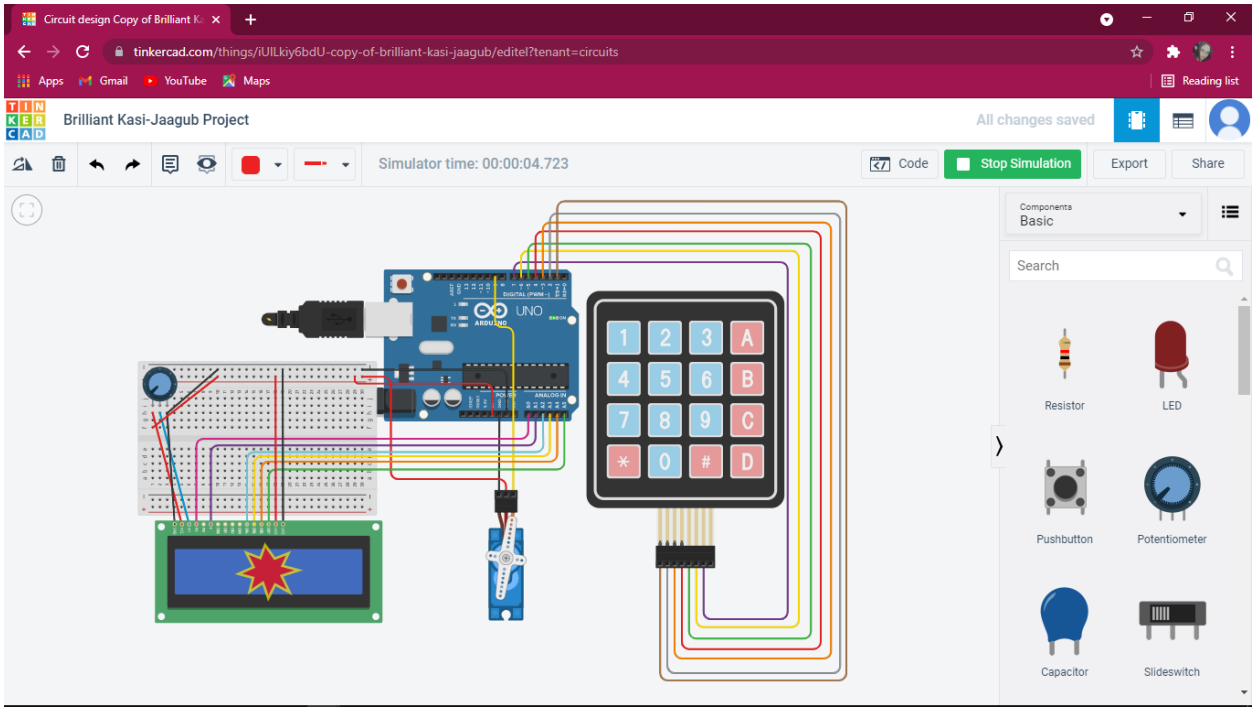
```
const byte ROWS = 4;
const byte COLS = 3;
char keys[ROWS][COLS] = {
  {'1', '2', '3'},
  {'4', '5', '6'},
  {'7', '8', '9'},
  {'*', '0', '#'}
};
bool door = true;
byte rowPins[ROWS] = {1, 2, 3, 4}; //connect to the row pinouts of the keypad
byte colPins[COLS] = {5, 6, 7}; //connect to the column pinouts of the keypad
Keypad customKeypad( makeKeymap(keys), rowPins, colPins, ROWS, COLS);
//initialize an instance of class NewKeypad
void setup()
{
  myservo.attach(9);
  ServoClose();
  lcd.begin(16, 2);
  lcd.print(" Arduino Door");
  lcd.setCursor(0, 1);
  lcd.print("--Look project--");
  delay(3000);
  lcd.clear();
}
void loop()
{
  if (door == 0)
  {
    customKey = customKeypad.getKey();
    if (customKey == '#')
    {
      lcd.clear();
      ServoClose();
      lcd.print("  Door is close");
      delay(3000);
      door = 1;
    }
  }
  else Open();
}
void clearData()
{
  while (data_count != 0)
  { // This can be used for any array size,
    Data[data_count--] = 0; //clear array for new data
  }
  return;
}
void ServoOpen()
```

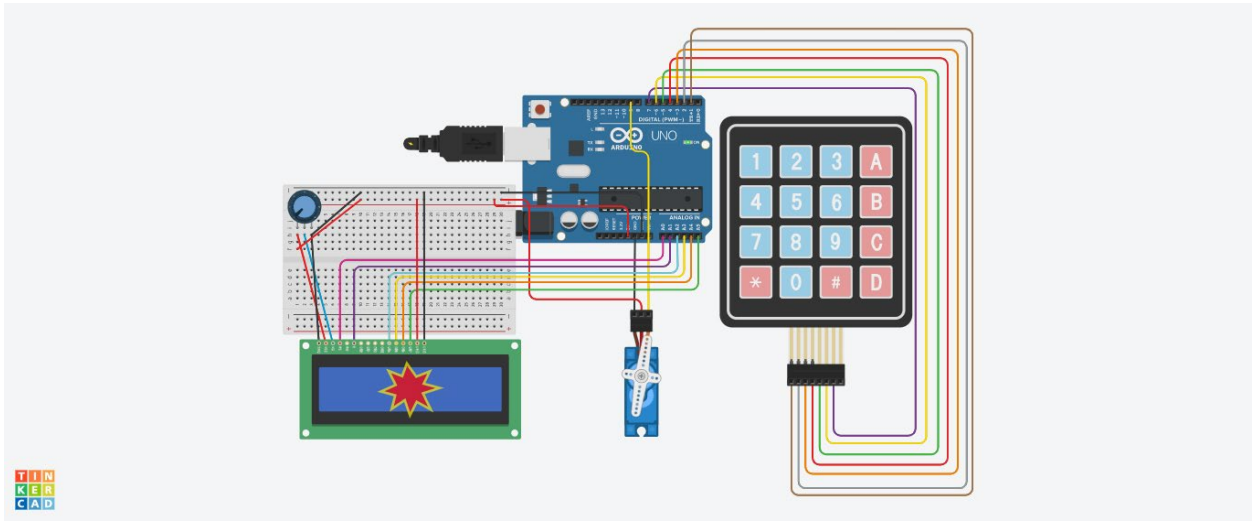
```
{
  for (pos = 180; pos >= 0; pos -= 5) { // goes from 0 degrees to 180 degrees
    // in steps of 1 degree
    myservo.write(pos);              // tell servo to go to position in
variable 'pos'
    delay(15);                       // waits 15ms for the servo to reach the
position
  }
}
void ServoClose()
{
  for (pos = 0; pos <= 180; pos += 5) { // goes from 180 degrees to 0 degrees
    myservo.write(pos);              // tell servo to go to position in
variable 'pos'
    delay(15);                       // waits 15ms for the servo to reach the
position
  }
}
void Open()
{
  lcd.setCursor(0, 0);
  lcd.print(" Enter Password");
  customKey = customKeypad.getKey();
  if (customKey) // makes sure a key is actually pressed, equal to (customKey
!= NO_KEY)
  {
    Data[data_count] = customKey; // store char into data array
    lcd.setCursor(data_count, 1); // move cursor to show each new char
    lcd.print(Data[data_count]); // print char at said cursor
    data_count++; // increment data array by 1 to store new char, also keep
track of the number of chars entered
  }
  if (data_count == Password_Lenght - 1) // if the array index is equal to
the number of expected chars, compare data to master
  {
    if (!strcmp(Data, Master)) // equal to (strcmp(Data, Master) == 0)
    {
      lcd.clear();
      ServoOpen();
      lcd.print("  Door is Open");
      door = 0;
    }
      lcd.clear();
      lcd.print("  Wrong Password");
      delay(1000);
      door = 1;
    }
    clearData();
}
```

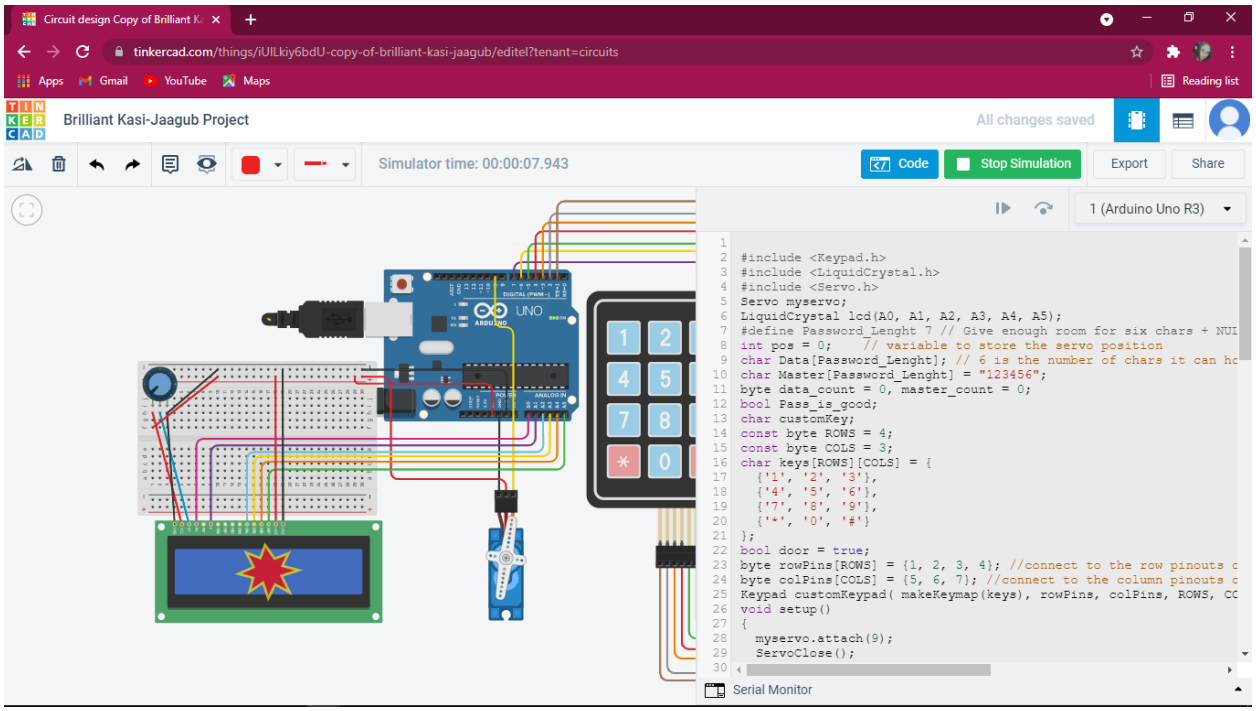
GITHUB LINK FOR CODE

https://github.com/reshmi912/Password-Door-Lock-using-arduino-Tinkercad

CIRCUIT SNAPSHOT







VIDEO OF THE MODEL

https://youtu.be/k_l7KKPNtFk