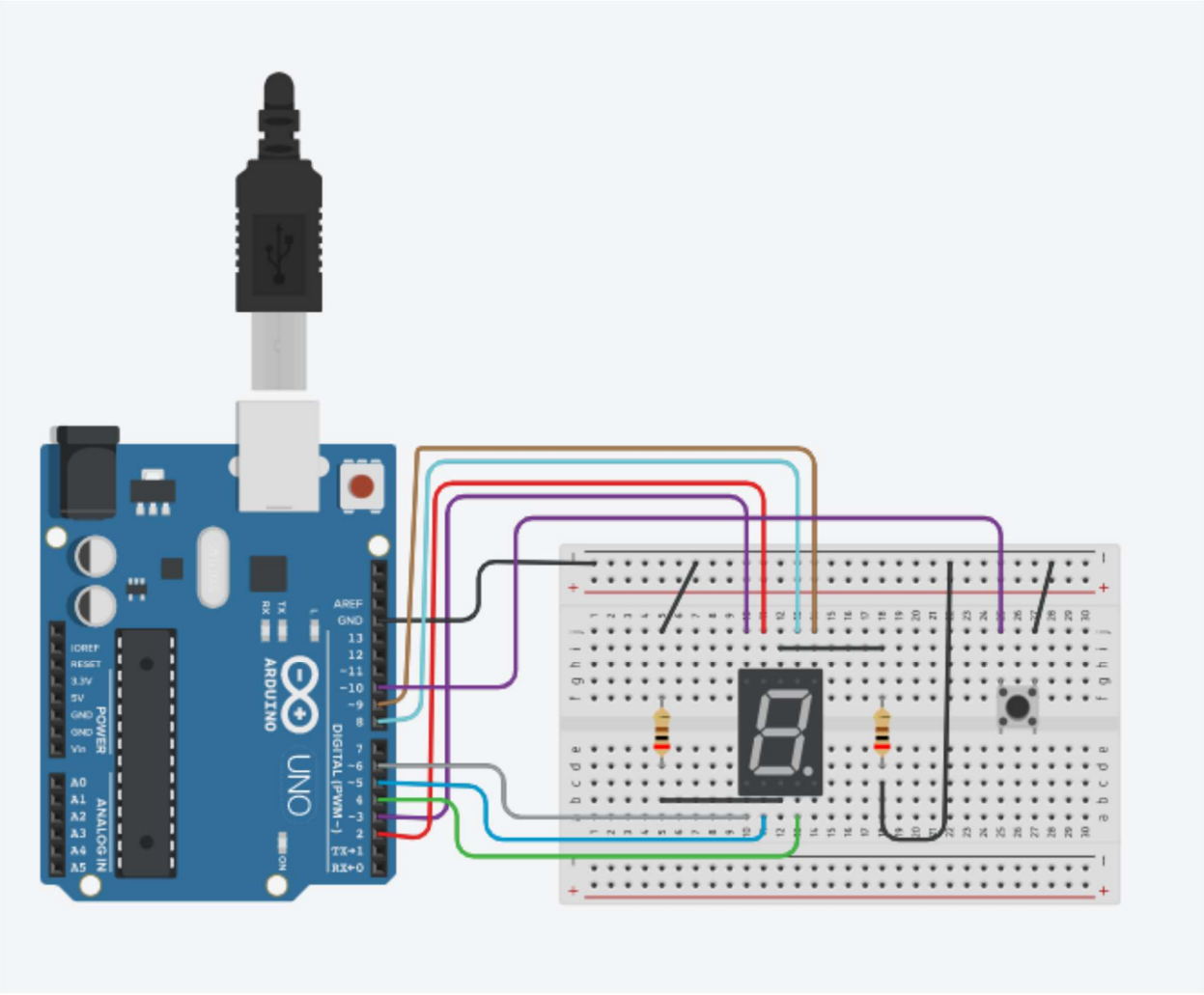
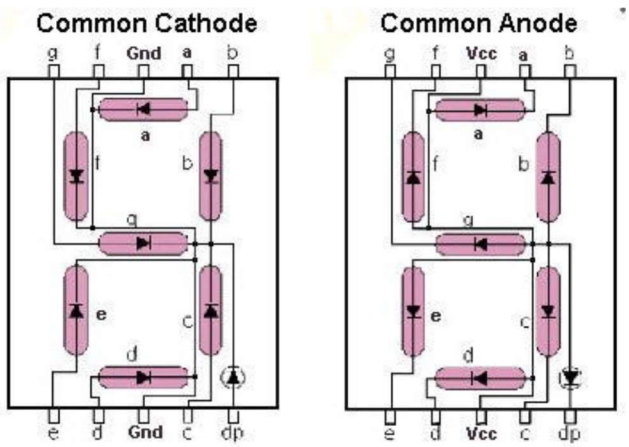
7 SEGMENT DISPLAY USING PUSH BUTTON

Aim : To generate the seven segment display using push button

Components : arduino uno, breadboard, 7 segment display, push button, wires, 200 ohm resistors





7 segment display

Code:

```
const int a = 8;
// For displaying segment "a"
const int b = 9;
// For displaying segment "b"
const int c = 4;
// For displaying segment "c"
const int d = 5;
// For displaying segment "d"
const int e = 6;
// For displaying segment "e"
const int f = 2;
// For displaying segment "f"
const int g = 3;
// For displaying segment "g"
bool bPress = false;
const int buttonPin = 10;
//Variables will change
int buttonPushCounter = 0;
int buttonState = 0;
int lastButtonState = 0;

void setup()
{
pinMode(a, OUTPUT); // A
pinMode(b, OUTPUT); // B
pinMode(c, OUTPUT); // C
pinMode(d, OUTPUT); // D
pinMode(e, OUTPUT); // E
pinMode(f, OUTPUT); // F
pinMode(g, OUTPUT); // G
pinMode(buttonPin, INPUT_PULLUP);
```

```
Serial.begin(9600);
displayDigit(buttonPushCounter);
}
void loop()
{
buttonState = digitalRead(buttonPin);
//compare the buttonState to its revious state
if(buttonState != lastButtonState)
{
//if the state has changed, increment the counter
if(buttonState == LOW)
{
//if the current state is HIGH then the button went from off to on
bPress = true;
buttonPushCounter++;
if(buttonPushCounter>9)
buttonPushCounter = 0;
Serial.println("on");
}
else {
        //if the current state is LOW then the button went from on to off
Serial.println("off");
}
//Delay a little bit to avoid bouncing
delay(50);
}
//save the current state as the last state, for ext time through the loop
lastButtonState = buttonState;
if(bPress )
{
turnoff();
displayDigit(buttonPushCounter);
}
}
void displayDigit(int digit)
{
//condition for displaying segment a
if(digit != 1 && digit !=4)
  digitalWrite(a,  HIGH);
//condition for displaying segment b
if(digit != 5 && digit != 6)
  digitalWrite(b,  HIGH);
//condition for displaying segment c
if(digit != 2)
  digitalWrite(c, HIGH);
//condition for displaying segment d
if(digit != 1 && digit !=4 && digit != 7)
  digitalWrite(d, HIGH);
//condition for displaying segment e
if(digit == 2 || digit ==6 || digit ==8 || digit == 0)
  digitalWrite(e, HIGH);
```

```
//condition for displaying segment f
if(digit != 1 && digit !=2 && digit != 3 &&
digit != 7)
  digitalWrite(f, HIGH);
//condition for displaying segment g
if(digit != 0 && digit !=1 && digit!= 7)
  digitalWrite(g, HIGH);
}
void turnoff()
{
  digitalWrite(a, LOW);
  digitalWrite(b, LOW);
  digitalWrite(c, LOW);
  digitalWrite(d, LOW);
  digitalWrite(e, LOW);
  digitalWrite(f, LOW);
  digitalWrite(g, LOW);
}
```