Q1 :

```
int buttonPin = 2;
int counter = 0;
int lastState = HIGH;
int buttonState ;

void setup() {
  pinMode(buttonPin, INPUT);
  Serial.begin(9600);
}

void loop() {
  buttonState = digitalRead(buttonPin);

  if (buttonState == LOW && lastState == HIGH) {
    counter++;
    Serial.print("Counter: ");
    Serial.println(counter);
    delay(50);
  }

  lastState = buttonState;
}
```

Q2 :

```
int buttonPin = 2;
int ledPin = 13;

void setup() {
  pinMode(ledPin, OUTPUT);
  pinMode(buttonPin, INPUT);
}

void loop() {
  int buttonState = digitalRead(buttonPin);

  if (buttonState == HIGH) {
    digitalWrite(ledPin, HIGH);
  } else {
    digitalWrite(ledPin, LOW);
  }
}
```

Q3 :

```
int buttonPin = 2;
int led1 = 4;
int led2 = 5;
int led3 = 6;
int led4 = 7;
int currentState = 0;
int lastButtonState = LOW;

void setup() {
  pinMode(buttonPin, INPUT);
  pinMode(led1, OUTPUT);
```

```
  pinMode(led2, OUTPUT);
  pinMode(led3, OUTPUT);
  pinMode(led4, OUTPUT);
}

void loop() {
  int buttonState = digitalRead(buttonPin);

  if (buttonState == HIGH && lastButtonState == LOW) {
    currentState = (currentState + 1) % 4;
    digitalWrite(led1, LOW);
    digitalWrite(led2, LOW);
    digitalWrite(led3, LOW);
    digitalWrite(led4, LOW);
    if (currentState == 0) digitalWrite(led1, HIGH);
    else if (currentState == 1) digitalWrite(led2, HIGH);
    else if (currentState == 2) digitalWrite(led3, HIGH);
    else if (currentState == 3) digitalWrite(led4, HIGH);

    delay(200);
  }

  lastButtonState = buttonState;
}
```