```
int button = 53;
boolean start = true;
int lightsensor = 0;
bool measuring = false;
long lastswitch = 0;
long lastcalc = 0;
int s = 1000;
int index = 0;
int array[3000];


void setup() {
  // put your setup code here, to run once:
  pinMode(button,INPUT);
  pinMode(lightsensor,INPUT);
  Serial.begin(9600);

  // init array with 0s
  for (int i = 0; i < 3000; i++){
      array[i] = 0;
  }
}

void loop() {
  if((digitalRead(button)==HIGH || (millis()-lastswitch >= 30*s)) && measuring==true){
      measuring = false;
      docalc();
  }
  else if(digitalRead(button)==HIGH){
      measuring = true;
      delay(500); // to make the button not trigger again right away
      lastswitch = millis();
  }

  // initialization of measuring process
  if (measuring == true){
     index = 0;
     Serial.println("Measuring started!");
  }

  // measuring process
  while (measuring == true){
     array[index] = analogRead(lightsensor);

     // analyze sensor data in detail with these lines:
     //Serial.print(array[index]);
     //Serial.print(" at index ");
     //Serial.println(index);

     waitAndCheck(10);
     index++;
     if (index >= 3000){
         measuring = false;
         docalc();
     }
```

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  }
}

void waitAndCheck(int x){
  lastcalc = millis();
  while(millis()-lastcalc < (x)){
        if(digitalRead(button)==HIGH){
            measuring=false;
            docalc();
        }
        else if(digitalRead(button)==HIGH)
            measuring=false;
    }
}

// calculate mini max, average and reset array + index afterwards
void docalc(){
  Serial.println("Measuring ended!");
  delay(500); // to make the button not trigger again right away
  int mini = 1023;
  int maxi = 0;
  float average = 0;

  // index ends up being always 1 higher than the last entrance that was filled
  for (int i = 0; i < index; i++){
      if (array[i] < mini)
          mini = array[i];
      if (array[i] > maxi)
          maxi = array[i];
      average += array[i];
  }
  average = average / index;

  Serial.print("the min is: ");
  Serial.println(mini);

  Serial.print("the max is: ");
  Serial.println(maxi);

  Serial.print("the avg is: ");
  Serial.println(average);

  // clean array up
  for (int i = 0; i < 3000; i++){
      array[i] = 0;
  }
}
```