```
import csv
import numpy

fileObject = open('coletaFlexJoelho.csv', 'r')

sensor = []


for linhas in fileObject:
    valores = linhas.split('],""[')
    valores_sensor_a = valores[0].split('[')[1]
    valores_sensor_b = valores[1].split(']"""')[0]

    for sensora in valores_sensor_a.split(","):
        sensor.append(float(sensora))
    for sensorb in valores_sensor_b.split(","):
        sensor.append(float(sensorb))

print(sensor)



def calcular():
    ang = 0
    calculo_ang = []

    for i in range(4,len(sensor),4):
        ang = 0.98*(ang+sensor[i]*0.05)+(1-0.98)*sensor[i-3]
        calculo_ang.append(ang)
    return calculo_ang



with open('anguloprocessado.csv',  'w', newline = '') as csvfile:
    wr = csv.writer(csvfile, delimiter = ' ', quotechar = '|', quoting
=  csv.QUOTE_MINIMAL)


    sensora_novo = []
    sensorb_novo = []

    calculo_ang = calcular()
```

```
    for i in range(0,len(calculo_ang),1):
        if(i%2 == 0):
           array[i=1]-array[i]
            sensora_novo.append(calculo_ang[i])
        else:
            sensorb_novo.append(calculo_ang[i])
    wr.writerows(['Sensor a: ']+ [sensora_novo])
    wr.writerows(['Sensor b: ']+ [sensorb_novo])

with open('angulofinal.txt',  'w', newline = '') as wr:

    sensora_final = []
    sensorb_final = []
    calculo_ang = calcular()

    for i in range(0,len(calculo_ang),1):
        if(i%2 == 0):
            np.diff 0,1
            sensora_final.append(calculo_ang[i])
        else:
            sensorb_final.append(calculo_ang[i])
    wr.writelines(['Sensor a: ']+ [str(sensora_final)])
    wr.writelines(['Sensor b: ']+ [str(sensorb_final)])
    numpy.round
```