Python: Read and Write Files Labs

Sensor Dashboard

This lab simulates a sensor providing values to your Python script and the script dynamically creates and HTML dashboard that shows the sensor value. We use an If/Else statement to change the background color of the HTML text based on the temperature.

lab-sensor.py

```
from random import randint
from time import sleep

while True:
    temp = randint(0,100)
    color = ''
    if temp >= 80:
        color = 'red'
    elif temp < 80 and temp >= 50:
        color = 'green'
    else:
        color = 'blue'

    with open('sensor.html', 'w') as file:
        file.write('<meta http-equiv="refresh" content="5">')
        file.write(f'<p style="font-size:300;background-color:
{color};">{temp}</p>')

    print(f'{temp}\t{color}')
    sleep(2)
```

Note App

This lab allows you to create a simple note taking app that outputs to an HTML document.

lab-note.py

```
filename = 'note.html'

with open(filename, 'w') as file:
    file.write('<h1>Note App</h1>\n')

while True:
    update = input('Add an Update: ')
    with open(filename, 'a') as file:
        file.write(f'<p>{update}</p>\n')
```

Records App

This lab allows you to create a basic record keeping system. You add new user names and their ages. You can then search for records with specific values

lab-search.py

```
while True:
    command = input('new or search: ')

    if command == 'new':
        name = input('Name: ')
        age = input('Age: ')
        with open('record.txt', 'a') as file_write:
            file_write.write(f'{name},{age}\n')

    if command == 'search':
        query = input('Query: ')
        with open('record.txt','r') as file_read:
            file_read = file_read.readlines()

        for record in file_read:
            if query in record:
                record = record.split(',')
                print(f'{record[0]}\t{record[1]}')
```