

SelfAssessment102

November 4, 2015

1 Exercise 10.3:

1. Modify the program in Example 10.3 so that temperature is stored and reported in oF rather than oC.
2. Read the temperature file and write out the records whose longitude is between 20 and 30 and latitude between 10 and 40.

The output format should be comma-delineated, for example:

22.00,33.00,36.20

22.00,32.00,42.00

Answer appears after one blank page (so you don't peek).

Are you sure you're ready to peek?

2 Possible Solution

```
In [22]: # Initialize the dictionary to hold longitude, latitude, and temperature:
```

```
lonlatT = {}
```

```
# Initialize the counter for the dataset:
```

```
npts = 0
```

```
# Open the data file for input and output:
```

```
f = open("LandTemp.txt", "rt")
```

```
f_out = open('temp_out.csv', 'wt')
```

```
# Write the header:
```

```
f_out.write('lat,long,temp_f\n')
```

```
for line in f:
```

```
    # Note, this could all be compressed into fewer lines:
```

```
    fields = line.split()
```

```
    for i in range(0, len(fields), 1): fields[i] = float(fields[i])
```

```
    fields[2] = fields[2] * 9 / 5 + 32
```

```
    if fields[0] > 20 and fields[0] < 30 and fields[1] > 10 and fields[1] < 40:
```

```
        f_out.write(str(fields[0]) + ',' + str(fields[1]) + ',' + str(fields[2]) + '\n')
```

```
f.close()
```

```
f_out.close()
```

```
In [25]: f = open('temp_out.csv')
```

```
print f.readlines()
```

```
f.close()
```

```
['lat,long,temp_f\n', '21.0,39.0,52.34\n', '21.0,32.0,64.22\n', '21.0,31.0,67.46\n', '21.0,30.0,70.52\n']
```

```
In [ ]:
```