Warm-up question:

- **the linear program for the general problem written as an objective and set of constraints**

  objective:

  min M

  set of constraints:

  for i in range (1, n):

  ax(i) + b - y(i) >= -M

  ax(i) + b - y(i) <= M

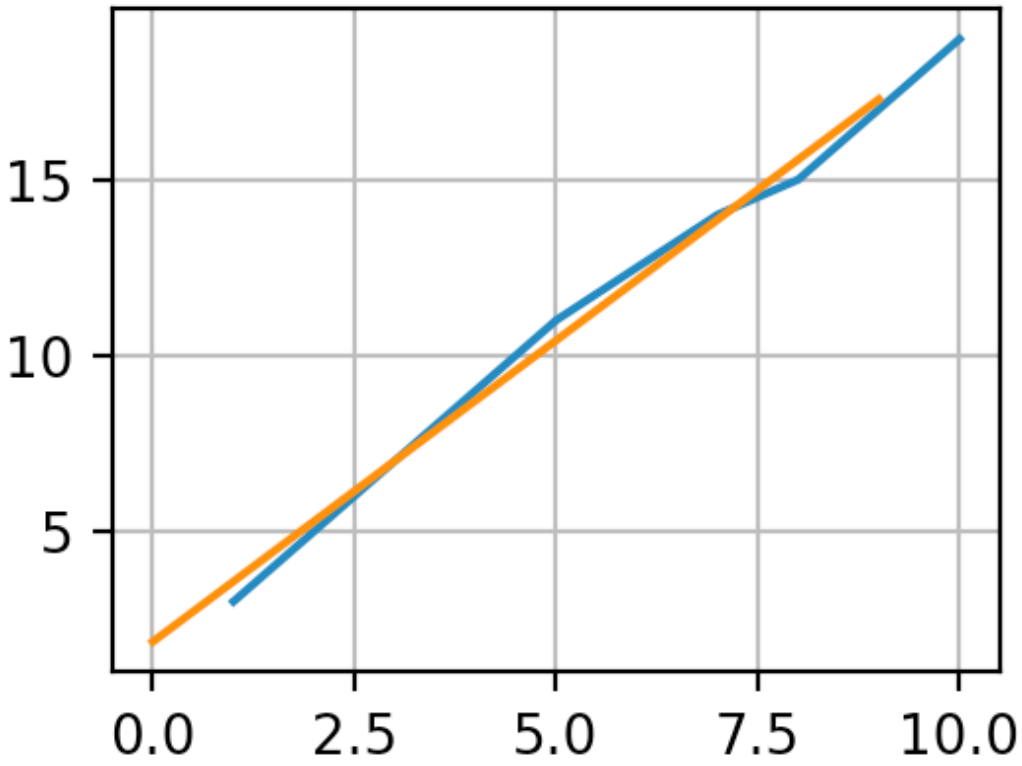
- **The best solution for the problem**

Variable	Value
M	0.5714286
a	1.714286
b	1.85714

- **The output from the solver I used (Lingo)**

```
Global optimal solution found.
Objective value:                              0.5714286
Infeasibilities:                              0.000000
Total solver iterations:                             5
Elapsed runtime seconds:                          0.13

Model Class:                                        LP

Total variables:                     3
Nonlinear variables:                 0
Integer variables:                   0

Total constraints:                  15
Nonlinear constraints:               0

Total nonzeros:                     43
Nonlinear nonzeros:                  0
```

- **Plots**



Warming-up question:

- **A description for a linear program for finding the best fit curve for temperature data**

  objective:

  min M

  set of constraints:

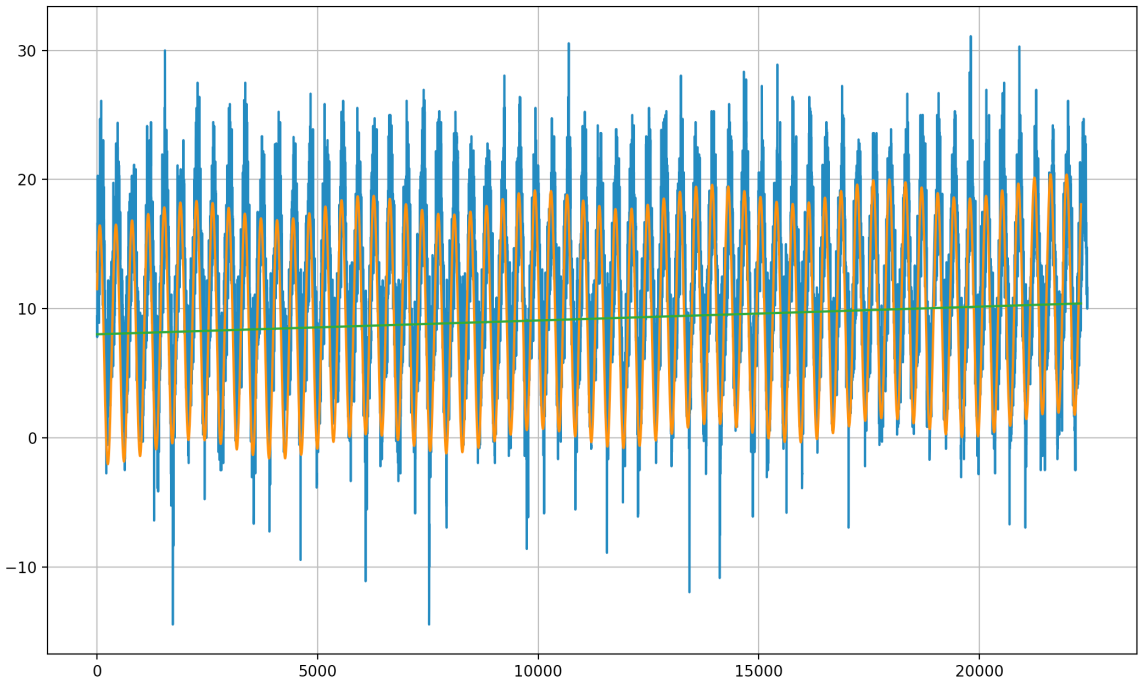
  similar to the previous one, only the function changes to T(d)

- **The best solution for the problem**

```
M = 14.23554
x0 = 8.0214197
x1 = 0.00010694836
x2 = 4.2808907
x3 = 8.1868578
```

```
x4 = -0.79063079
x5 = -0.29536021
```

- **Plots**



- **Based on the value x1 how many degrees Celcius per century is Corvallis changing and is it a warming or cooling trend?**

  About 4 degrees.