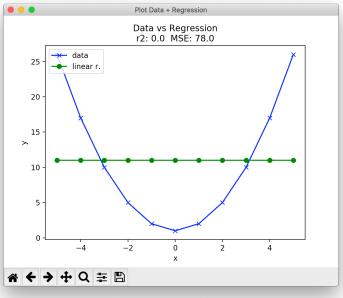
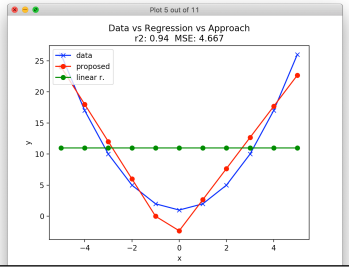
Example 2: $y = x^2$ X.shape = (11,1) and Y.shape = (11,)

Solving with SML with left = LinearRegression and right=LinearRegression



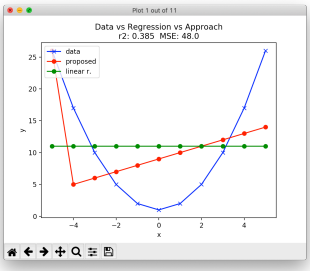
x	y
-5	26
-4	17
-3	10
-2	5
-1	2
0	1
1	2
2	5
3	10
4	17
5	26

y = x**2

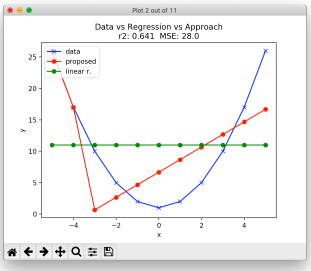


Solution:
Algorithm applied once
Output: 2 linear regressions (cut off X[:,0] <= -1
r2 from 0.0 to 0.94

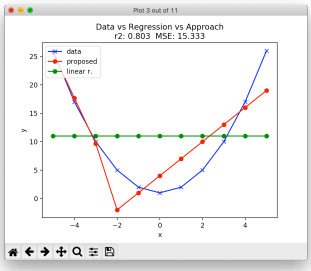
First (and only) Run:



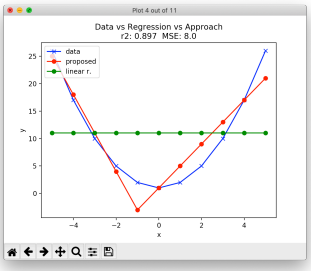
Iteration 1
r2: 0.304
LEFT: 0x + 26.0
RIGHT: 1x + 9.0



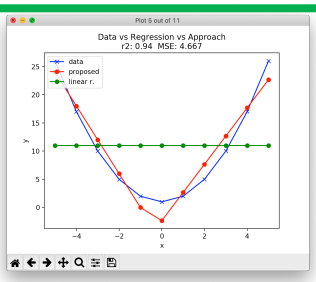
Iteration 2
r2: 0.641
LEFT: -9x – 18.999
RIGHT: 2x + 6.666



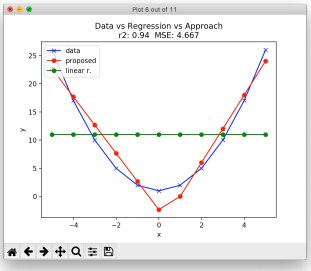
Iteration 3
r2: 0.803
LEFT: -8x - 14.333
RIGHT: 3x – 4.000



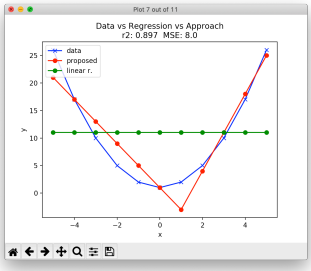
Iteration 4
r2: 0.8974
LEFT: -7x - 10.000
RIGHT: 4x - 1.0



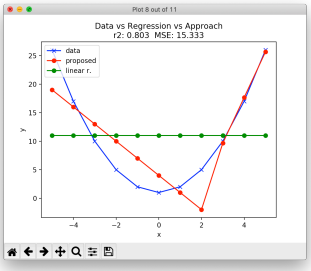
Iteration 5
r2: 0.940
LEFT: -6x – 6.00
RIGHT: 5x - 2.333



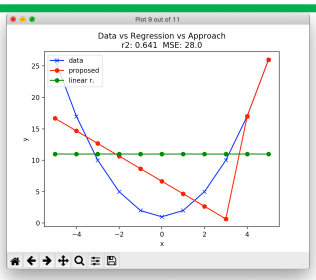
Iteration 6
r2: 0.940
LEFT: -5x - 2.333
RIGHT: 6x - 6.000



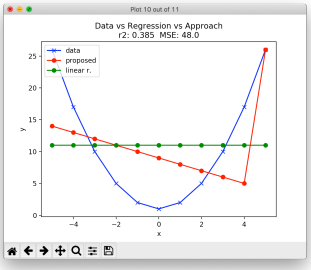
Iteration 7
r2: 0.897
LEFT: -4x + 1
RIGHT: 7x - 10.000



Iteration 8
r2: 0.803
LEFT: -3x + 4
RIGHT: 8x - 14.333



Iteration 9
r2: 0.6410
LEFT: -2x + 6.666
RIGHT: 9x – 18.999



Iteration 10
r2: 0.384
LEFT: -1x + 9
RIGHT: 0x + 26.0