BostonHousingDataset

```
num iters = 5000, rate = 0.0007
Run#: 1
The seed for random thetas initializing: 10
Thetas initial vector: [0.77132064 0.02075195 0.63364823 0.74880388 0.49850701
0.22479665
0.19806286 0.76053071 0.16911084 0.08833981 0.68535982 0.95339335
 0.003948271
COST: 14.27068601099464
Thetas [[21.87647128 -1.00680056 0.67975008 -0.58359622 0.96495112 -1.13695222
  4.52231394 -0.70276311 -1.66406497 0.38578674 -0.46486899 -1.80676816
  1.1757867511
Last 10 costs [14.27517526 14.27467442 14.2741741 14.27367428 14.27317497
14.27267617
 14.27217787 14.27168008 14.27118279 14.27068601]
_____
Run#: 2
The seed for random thetas initializing: 10
Thetas initial vector: [0.77132064 0.02075195 0.63364823 0.74880388 0.49850701
0.22479665
0.19806286 0.76053071 0.16911084 0.08833981 0.68535982 0.95339335
0.00394827]
COST: 14.27068601099464
Thetas [[21.87647128 -1.00680056 0.67975008 -0.58359622 0.96495112 -1.13695222
  4.52231394 -0.70276311 -1.66406497 0.38578674 -0.46486899 -1.80676816
  1.1757867511
Last 10 costs [14.27517526 14.27467442 14.2741741 14.27367428 14.27317497
14.27267617
14.27217787 14.27168008 14.27118279 14.27068601]
_____
Run#: 3
The seed for random thetas initializing: 5
Thetas initial vector: [0.22199317 0.87073231 0.20671916 0.91861091 0.48841119
0.61174386
0.76590786\ 0.51841799\ 0.2968005\quad 0.18772123\ 0.08074127\ 0.7384403
0.44130922]
COST: 14.33933820434085
Thetas [[21.85990334 -0.83823377 0.56952709 -0.41577914 0.94190854 -0.9140062
  4.61139746 -0.83191351 -1.46766715 0.51883456 -0.81112067 -1.79390527
  1.241892 ]]
Last 10 costs [14.34406169 14.34353477 14.34300836 14.34248249 14.34195713
14.3414323
14.34090799 14.34038421 14.33986095 14.3393382 1
______
Run#: 4
The seed for random thetas initializing: 6
Thetas initial vector: [0.89286015 0.33197981 0.82122912 0.04169663 0.10765668
0.59505206
0.52981736 0.41880743 0.33540785 0.62251943 0.43814143 0.73588211
0.518036411
COST: 14.260204530373937
Thetas [[21.88013696 -1.00113508 0.65415148 -0.76041266 0.937552 -0.86279909
  4.51008197 -0.78731354 -1.64321344 0.63117237 -0.69515578 -1.78877129
  1.2463469411
```

```
Last 10 costs [14.26460706 14.26411591 14.26362526 14.26313511 14.26264544
14.26215628
14.2616676 14.26117942 14.26069173 14.26020453]
Run#: 5
The seed for random thetas initializing: 10
Thetas initial vector: [0.77132064 0.02075195 0.63364823 0.74880388 0.49850701
0.22479665
0.19806286 0.76053071 0.16911084 0.08833981 0.68535982 0.95339335
0.003948271
COST: 14.27068601099464
Thetas [[21.87647128 -1.00680056 0.67975008 -0.58359622 0.96495112 -1.13695222
  4.52231394 -0.70276311 -1.66406497 0.38578674 -0.46486899 -1.80676816
  1.1757867511
Last 10 costs [14.27517526 14.27467442 14.2741741 14.27367428 14.27317497
14.27267617
14.27217787 14.27168008 14.27118279 14.27068601]
______
Run#: 6
The seed for random thetas initializing: 1
Thetas initial vector: [4.17022005e-01 7.20324493e-01 1.14374817e-04 3.02332573e-
1.46755891e-01 9.23385948e-02 1.86260211e-01 3.45560727e-01
3.96767474e-01 5.38816734e-01 4.19194514e-01 6.85219500e-01
2.04452250e-01]
COST: 14.236401808946379
Thetas [[21.86578549 -0.9315265  0.47648061 -0.63217537  0.9502319 -1.09846027
  4.50952114 -0.78348794 -1.56605938 0.62144789 -0.63271897 -1.92022397
  1.2190282711
Last 10 costs [14.24081714 14.24032451 14.23983239 14.23934078 14.23884968
14.23835909
14.23786901 14.23737943 14.23689037 14.236401811
______
Run#: 7
The seed for random thetas initializing: 10
Thetas initial vector: [0.77132064 0.02075195 0.63364823 0.74880388 0.49850701
0.22479665
0.19806286 0.76053071 0.16911084 0.08833981 0.68535982 0.95339335
0.003948271
COST: 14.27068601099464
Thetas [[21.87647128 -1.00680056 0.67975008 -0.58359622 0.96495112 -1.13695222
  4.52231394 -0.70276311 -1.66406497 0.38578674 -0.46486899 -1.80676816
  1.1757867511
Last 10 costs [14.27517526 14.27467442 14.2741741 14.27367428 14.27317497
14.27267617
14.27217787 14.27168008 14.27118279 14.27068601]
______
Run#: 8
The seed for random thetas initializing: 8
Thetas initial vector: [0.8734294 0.96854066 0.86919454 0.53085569 0.23272833
0.0113988
0.43046882 0.40235136 0.52267467 0.4783918 0.55535647 0.54338602
0.760895581
COST: 14.245113445580053
Thetas [[21.87955092 -0.89039941 0.60646048 -0.51307931 0.94553632 -1.13563479
  4.52871618 -0.726963 -1.58959101 0.54170132 -0.62617315 -1.88457878
  1.2722532311
```

Last 10 costs [14.24951134 14.24902069 14.24853055 14.2480409 14.24755175 14.2470631

14.24657494 14.24608728 14.24560012 14.24511345]

Run#: 9

The seed for random thetas initializing: 3

Thetas initial vector: [0.5507979 0.70814782 0.29090474 0.51082761 0.89294695 0.89629309

 $0.12558531 \ 0.20724288 \ 0.0514672 \ 0.44080984 \ 0.02987621 \ 0.45683322$

0.649144051

COST: 14.252132373520062

Thetas [[21.86982022 -0.89935059 0.59884685 -0.62259708 0.95793698 -0.81147035 4.50851129 -0.94509702 -1.62600091 0.6710303 -0.86242944 -1.81085929 1.2576236]]

Last 10 costs [14.25660538 14.25610634 14.25560781 14.25510979 14.25461228 14.25411528

14.25361879 14.25312281 14.25262734 14.25213237]

Run#: 10

The seed for random thetas initializing: 5

Thetas initial vector: [0.22199317 0.87073231 0.20671916 0.91861091 0.48841119 0.61174386

 $0.76590786\ 0.51841799\ 0.2968005\ 0.18772123\ 0.08074127\ 0.7384403$

0.44130922]

COST: 14.33933820434085

Thetas [[21.85990334 -0.83823377 0.56952709 -0.41577914 0.94190854 -0.9140062 4.61139746 -0.83191351 -1.46766715 0.51883456 -0.81112067 -1.79390527 1.241892 1]

Last 10 costs [14.34406169 14.34353477 14.34300836 14.34248249 14.34195713 14.3414323

14.34090799 14.34038421 14.33986095 14.3393382]

