Abalone Data Set

https://archive.ics.uci.edu/ml/datasets/abalone

num_iters = 10000
the_10_rates = [0.0001, 0.0002, 0.0003, 0.0005, 0.0007, 0.0009, 0.0014, 0.0004, 0.003, 0.0023]

```
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]
COST: 9.043492004517779
Thetas [[ 6.56320772  0.02623583  0.68436788  0.78739013  0.45444605 -0.1335695
   0.08026092]]
Last 10 costs [9.05381605 9.05266802 9.05152022 9.05037265 9.04922531 9.04807819
 9.0469313  9.04578464 9.04463821 9.043492  ]
======================================================================
Run#: 2
The seed for random thetas initializing:  5
Thetas initial vector: [0.22199317 0.87073231 0.20671916 0.91861091 0.48841119
0.61174386
 0.76590786]
COST: 4.226422923187407
Thetas [[ 8.61961285  0.67820957  0.13902886  0.83439529  0.22043645 -0.28176192
   0.3137429 ]]
Last 10 costs [4.22969374 4.22932976 4.22896592 4.22860222 4.22823865 4.22787523
 4.22751194 4.2271488  4.22678579 4.22642292]
======================================================================
Run#: 3
The seed for random thetas initializing:  0
Thetas initial vector: [0.5488135  0.71518937 0.60276338 0.54488318 0.4236548
0.64589411
 0.43758721]
COST: 3.3891807975389603
Thetas [[ 9.46664951  0.58121788  0.63351283  0.74273506  0.29293962 -0.43146591
   0.07235491]]
Last 10 costs [3.38995721 3.38987078 3.38978439 3.38969804 3.38961173 3.38952546
 3.38943923 3.38935305 3.3892669  3.3891808 ]
======================================================================
Run#: 4
The seed for random thetas initializing:  4
Thetas initial vector: [0.96702984 0.54723225 0.97268436 0.71481599 0.69772882
0.2160895
 0.97627445]
COST: 3.086690691452135
Thetas [[ 9.87334312  0.35014783  0.99759375  0.84436703  0.58720785 -1.23571502
   0.34539972]]
Last 10 costs [3.08687112 3.08685106 3.086831   3.08681095 3.0867909  3.08677085
 3.0867508  3.08673076 3.08671073 3.08669069]
======================================================================
Run#: 5
The seed for random thetas initializing:  4
Thetas initial vector: [0.96702984 0.54723225 0.97268436 0.71481599 0.69772882
0.2160895
 0.97627445]
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COST: 3.0220680188567504
Thetas [[ 9.92552795  0.37075171  1.09385513  0.88564819  0.75643855 -1.52465329
   0.30480631]]
Last 10 costs [3.02224136 3.02222209 3.02220283 3.02218356 3.0221643  3.02214504
 3.02212578 3.02210653 3.02208727 3.02206802]
========================================================================
Run#: 6
The seed for random thetas initializing:  4
Thetas initial vector: [0.96702984 0.54723225 0.97268436 0.71481599 0.69772882
0.2160895
 0.97627445]
COST: 2.9724643334893806
Thetas [[ 9.93258236  0.37431677  1.16803898  0.89625491  0.93715999 -1.76920841
   0.27581005]]
Last 10 costs [2.9726471  2.97262678 2.97260647 2.97258616 2.97256585 2.97254555
 2.97252524 2.97250494 2.97248463 2.97246433]
========================================================================
Run#: 7
The seed for random thetas initializing:  0
Thetas initial vector: [0.5488135  0.71518937 0.60276338 0.54488318 0.4236548
0.64589411
 0.43758721]
COST: 2.91702802035047
Thetas [[ 9.93367673  0.56739524  1.08356432  0.89636541  1.27414262 -2.02146707
   0.07365623]]
Last 10 costs [2.91726913 2.91724233 2.91721553 2.91718874 2.91716195 2.91713516
 2.91710837 2.91708158 2.9170548  2.91702802]
========================================================================
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]
COST: 3.1620152437846625
Thetas [[ 9.76787284  0.75846249  0.86564394  0.77582753  0.33240254 -1.00974393
   0.164687  ]]
Last 10 costs [3.16225669 3.16222982 3.16220297 3.16217612 3.16214928 3.16212245
 3.16209564 3.16206883 3.16204203 3.16201524]
========================================================================
Run#: 9
The seed for random thetas initializing:  7
Thetas initial vector: [0.07630829 0.77991879 0.43840923 0.72346518 0.97798951
0.53849587
 0.50112046]
COST: 2.6876368682002325
Thetas [[ 9.93368446  0.39455313  1.2037354   0.76793887  2.87377291 -3.27145449
  -0.14325101]]
Last 10 costs [2.68784772 2.68782428 2.68780084 2.68777741 2.68775398 2.68773055
 2.68770713 2.6876837  2.68766028 2.68763687]
========================================================================
Run#: 10
The seed for random thetas initializing:  3
Thetas initial vector: [0.5507979  0.70814782 0.29090474 0.51082761 0.89294695
0.89629309
 0.12558531]
COST: 2.761050839815651
Thetas [[ 9.93368446  0.53117688  1.09724193  0.82108038  2.31551773 -2.7943503
```

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  -0.12766703]]
Last 10 costs [2.76128777 2.76126143 2.7612351  2.76120876 2.76118244 2.76115611
 2.76112979 2.76110347 2.76107715 2.76105084]
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