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**CSE 5441 – Lab# 1 Report**

# Test Cases

## Test Case 1

File – testgird\_1, Learning Rate = 0.1, Affect Rate = 0.1

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dissipation converged in 52 iterations,

with max DSV = 118.918450 and min DSV = 107.278672

affect rate = 0.100000 epsilon = 0.100000

elapsed convergence loop time (clock) : 0

elapsed convergence loop time (time) : 0

elapsed convergence loop time (chrono) : 9.9

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real 0m0.018s

user 0m0.000s

sys 0m0.002s

## Test Case 2

File – testgird\_2, Learning Rate = 0.1, Affect Rate = 0.1

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dissipation converged in 245 iterations,

with max DSV = 55.835885 and min DSV = 50.266851

affect rate = 0.100000 epsilon = 0.100000

elapsed convergence loop time (clock) : 0

elapsed convergence loop time (time) : 0

elapsed convergence loop time (chrono) : 240.5

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real 0m0.013s

user 0m0.002s

sys 0m0.001s

## Test Case 3

File – testgird\_50\_78, Learning Rate = 0.1, Affect Rate = 0.1

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dissipation converged in 1508 iterations,

with max DSV = 23.369508 and min DSV = 21.035843

affect rate = 0.100000 epsilon = 0.100000

elapsed convergence loop time (clock) : 0

elapsed convergence loop time (time) : 0

elapsed convergence loop time (chrono) : 2732.4

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real 0m0.016s

user 0m0.004s

sys 0m0.001s

## Test Case 4

File – testgird\_50\_201, Learning Rate = 0.1, Affect Rate = 0.1

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dissipation converged in 2286 iterations,

with max DSV = 4.788754 and min DSV = 4.309887

affect rate = 0.100000 epsilon = 0.100000

elapsed convergence loop time (clock) : 10000

elapsed convergence loop time (time) : 0

elapsed convergence loop time (chrono) : 11380.8

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real 0m0.025s

user 0m0.012s

sys 0m0.002s

## Test Case 5

File – testgird\_200\_116, Learning Rate = 0.1, Affect Rate = 0.1

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dissipation converged in 14458 iterations,

with max DSV = 0.812728 and min DSV = 0.731459

affect rate = 0.100000 epsilon = 0.100000

elapsed convergence loop time (clock) : 480000

elapsed convergence loop time (time) : 1

elapsed convergence loop time (chrono) : 488108.8

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real 0m0.499s

user 0m0.485s

sys 0m0.001s

## Test Case 6

File – testgird\_400\_1636, Learning Rate = 0.1, Affect Rate = 0.1

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dissipation converged in 22280 iterations,

with max DSV = 1.181786 and min DSV = 1.063610

affect rate = 0.100000 epsilon = 0.100000

elapsed convergence loop time (clock) : 1130000

elapsed convergence loop time (time) : 1

elapsed convergence loop time (chrono) : 1165851.4

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real 0m1.202s

user 0m1.142s

sys 0m0.000s

## Test Case 7

File – testgrid\_400\_12206, Learning Rate = 0.1, Affect Rate = 0.1

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dissipation converged in 75197 iterations,

with max DSV = 0.086671 and min DSV = 0.078004

affect rate = 0.100000 epsilon = 0.100000

elapsed convergence loop time (clock) : 33080000

elapsed convergence loop time (time) : 33

elapsed convergence loop time (chrono) : 33545557.3

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real 0m33.605s

user 0m33.114s

sys 0m0.027s

## Test Case 8 – running for more than 3 minutes

File – testgrid\_400\_12206, Learning Rate = 0.03, Affect Rate = 0.03

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dissipation converged in 434142 iterations,

with max DSV = 0.084946 and min DSV = 0.082397

affect rate = 0.030000 epsilon = 0.030000

elapsed convergence loop time (clock) : 191100000

elapsed convergence loop time (time) : 193

elapsed convergence loop time (chrono) : 192843549.0

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real 3m12.902s

user 3m11.030s

sys 0m0.132s

## Summary of Timing Results

I have used here four different types of timing modules. **Clock** timing provides the number of clock ticks taken by the program to run to execution. It is equivalent to the ‘user’ time given by the UNIX ‘time’ utility and is not useful for profiling programs that may incur latencies due to the bus or network communication. **Time** provides the number of seconds taken by the program to execute and is not ideal for profiling program performance due to higher granularity. It is like ‘real’ time output of the UNIX ‘time’ utility. With **Chrono**, I have used real time and hence it outputs the execution time in milliseconds.