|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X | Y | W | B | Eta | Max Epochs of G.D. | Max Epochs of M.G.D. | Errors Of G.d. | Errors of M.G.D. |
| [0.5,2.5] | [0.2,0.9] | -2 | -2 | 1.0 | 1000 | 1000 | 2.4291865713546816e-11 | 1.232595164407831e-32 |
| [0.5,2.5] | [0.2,0.9] | -2 | -2 | 0.1 | 1000 | 1000 | 0.01644945958207577 | 2.149692909353993e-12 |
| [0.5,2.5] | [0.2,0.9] | -2 | -2 | 0.1 | 10000 | 10000 | 2.594121140497871e-11 | 2.3866123870846627e-30 |
| [0.5,2.5] | [0.2,0.9] | -2 | -2 | 0.01 | 10000 | 10000 | 0.016325286656504637 | 2.2933667923750387e-11 |
| [0.5,2.5] | [0.2,0.9] | -2 | -2 | 0.01 | 100000 | 100000 | 2.610841456443096e-11 | 2.8529185452197e-28 |
| [0.5,2.5] | [0.2,0.9] | -2 | 2 | 1.0 | 1000 | 1000 | 1.1244207810459215e-11 | 1.232595164407831e-32 |
| [0.5,2.5] | [0.2,0.9] | 2 | -2 | 1.0 | 1000 | 1000 | 2.176675555317394e-14 | 9.629649721936179e-33 |
| [0.5,2.5] | [0.2,0.9] | 4 | -4 | 1.0 | 1000 | 1000 | 0.004885834591410132 | 3.7748226909989823e-31 |
| [0.5,2.5] | [0.2,0.9] | -4 | 4 | 1.0 | 1000 | 100 | 0.4049946601207528 | 0.42310978245068587 |
| [0.5,2.5] | [0.2,0.9] | -1 | 1 | 1.0 | 1000 | 1000 | 7.88578500814133e-12 | 3.232810496720504e-08 |
| [0.5,2.5] | [0.2,0.9] | 1 | -1 | 1.0 | 1000 | 1000 | 3.1498259698306356e-12 | 7.703719777548943e-33 |
| [0.5,2.5] | [0.2,0.9] | 0 | 0 | 1.0 | 1000 | 1000 | 5.577670818272945e-12 | 2.5037089277034066e-32 |
| [0.5,2.5,4.5] | [0.2,0.9,1.6] | 2 | 2 | 1.0 | 1000 | 100 | 0.18127773054168123 | 0.1849856938654163 |
| [0.5,2.5,4.5] | [0.2,0.9,1.6] | 2 | 2 | 0.01 | 100000 | 1000 | 0.1812777305420885 | 0.18352166211366638 |
| [0.5,2.5,4.5] | [0.2,0.9,1.6] | 4 | 4 | 1.0 | 1000 | 100 | 0.18127774305093794 | 0.18499087657138114 |
| [0.5,2.5,4.5] | [0.2,0.9,1.6] | -4 | -4 | 1.0 | 1000 | 100 | 1.7037669303682488 | 1.703982549754516 |
| [0.5,2.5,4.5] | [0.2,0.9,1.6] | 4 | -4 | 1.0 | 1000 | 100 | 0.18488617092381204 | 0.18488833566118307 |

* **Conclusion**:- From above table we can say that momentum gradient descent is faster than gradient decent. In momentum gradient descent,Same data as gradient descent we can get smaller error than gradient descent. Sometime we get same error as gradient descent in momentum gradient descent at laser epochs.