|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X | Y | W | B | eta | Max Epochs of GD | Max epochs of MGD | Errors of GD | Errors of MGD |
| [0.5,2.5] | [0.2,0.9] | -2 | -2 | 1.0 | 1000 | 100 | 2.4291865713546816e-11 | 0.01371051226712522 |
| [0.4,2.4] | [0.5,0.6] | -2 | -2 | 1.0 | 1000 | 100 | 6.162975822039155e-32 | 2.3959281939910832e-05 |
| [0.8,2.4] | [0.1,0.4] | -2 | -2 | 1.0 | 1000 | 100 | 8.57089754538853e-06 | 5.639578998376496e-05 |
| [0.7,2.3] | [0.2,0.5] | -2 | -2 | 1.0 | 1000 | 100 | 8.312124683802942e-11 | 1.3088096413489948e-05 |
| [0.6,2.2] | [0.3,0.6] | -2 | -2 | 1.0 | 1000 | 100 | 5.4903920108500063e-17 | 2.507685979470884e-05 |
| [0.5,2.1] | [0.1,0.2] | -2 | -2 | 1.0 | 1000 | 100 | 6.099000204709002e-06 | 3.096977205805526e-05 |
| [0.5,2.1] | [0.1,0.2] | -2 | -2 | 1.0 | 100 | 100 | 0.019590648281008514 | 3.096977205805526e-05 |
| [0.5,2.1] | [0.1,0.2] | -2 | -2 | 1.1 | 1000 | 100 | 6.099000204709002e-06 | 3.096977205805526e-05 |
| [1.3,2.7] | [1.0,1.2] | -2 | -2 | 1.0 | 1000 | 100 | 0.020110967273688704 | 0.01999999999999999 |
| [1.3,2.7] | [1.0,1.2] | -4 | -4 | 1.0 | 1000 | 100 | 1.2198601082127476 | 1.219865783121571 |
| [1.3,2.7] | [1.0,1.2] | -4 | -4 | 1.0 | 1000 | 100 | 1.2198601082127476 | 1.219865783121571 |
| [1.2,2.6] | [1.0,1.1] | -4 | -4 | 1.0 | 100 | 100 | 1.1048428570273865 | 1.1047752790691303 |
| [1.1,2.5] | [1.0,1.0] | -4 | -4 | 1.0 | 1000 | 100 | 0.9995476704027462 | 0.9996008793145776 |
| [1.1,2.5] | [1.0,1.0] | -4 | -4 | 1.0 | 100 | 10 | 0.9997624829085128 | 0.9997696307836342 |

Coclusion : From above table we can say that Gradient Descent is slower than the Momentum Gradient Descent. Here, We take same values for GD and MGD we can say that MGD has a samaller error rate than the GD.