|  |  |  |
| --- | --- | --- |
| **no\_of\_trails** | **Mean of empirical data** | **Graph** |
| 10000 | 0.008722 |  |
| 20000 | 0.0087335 | ­­ |
| 30000 | 0.008762 |  |
| 40000 | 0.008726 |  |
| 50000 | 0.0087484 |  |
| 60000 | 0.00875 |  |
| 70000 | 0.00875229 |  |
| 80000 | 0.00874788 |  |
| 90000 | 0.00872711 |  |
| 100000 | 0.0087295 |  |

The mean of empirical distribution is floating and not converging to a specific number. The reason is because Cauchy Distribution do not own the expected value. As a result, the mean of empirical data will not converge as n → ∞ with probability one.