To find following the machine learning regression method using in r2 value

1.**MULTIPLE LINEAR REGRESSION** (R2 value) = 0.9346

2. **SUPPORT VECTOR MACHINE:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Hyper Parameter (r score)** | **Linear (r score)** | **Rbf(Non-Linear) (r score)** | **Poly  (r score)** | **Sigmoid (r score)** |
| 1. | C=10 | -8844 | -3621 | -1907 | -3635 |
| 2. | C=100 | -89 | -3600 | -1845 | -3655 |
| 3. | C=1000 | 0.47 | -436 | -13 | -33 |
| 4. | C=3000 | 0.86 | -42 | -0.42 | -0.99 |

**3.DECISION TREE:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **criterion** | **splitter** | **max\_features** | **R Score** |
| 1. | *squared\_error* | *best* | *sqrt* | 0.1467 |
| 2. | *squared\_error* | best | log2 | 0.6568 |
| 3. | *squared\_error* | random | *sqrt* | 0.8417 |
| 4. | *squared\_error* | random | log2 | 0.5763 |
| 5. | Friedman\_mse | *best* | *sqrt* | -0.7116 |
| 6. | Friedman\_mse | best | log2 | 0.6662 |
| 7. | Friedman\_mse | random | *sqrt* | 0.5347 |
| 8. | Friedman\_mse | random | log2 | 0.6034 |
| 9. | Absolute\_error | *best* | *sqrt* | 0.8650 |
| 10. | Absolute\_error | best | log2 | 0.7404 |
| 11. | Absolute\_error | random | *sqrt* | 0.3864 |
| 12. | Absolute\_error | random | log2 | 0.4796 |
| 13. | poisson | *best* | *sqrt* | 0.6881 |
| 14. | poisson | best | log2 | -2.7565 |
| 15. | poisson | random | *sqrt* | 0.2213 |
| 16. | poisson | random | log2 | 0.1219 |
| 17. | *squared\_error* | best | Default=none | 0.9194 |
| 18. | *squared\_error* | random | Default=none | 0.9117 |
| 19. | Friedman\_mse | best | Default=none | 0.9094 |
| 20. | Friedman\_mse | random | Default=none | 0.8879 |
| 21. | poisson | best | Default=none | 0.9207 |
| 22. | poisson | random | Default=none | 0.9025 |