**1. Multiple Linear Regression (R2 value)= 0.9358**

**2. Support Vector Machine:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S.No | Hyper Parameter | Linear | RBF | Poly | Sigmoid | Precomputed |
| 1 | C=10 | -0.039 | -0.0568 | -0.0536 | -0.0547 | Not working |
| 2 | C=100 | 0.1064 | -0.0507 | -0.0198 | -0.0304 | Not working |
| 3 | C=500 | 0.5928 | -0.0243 | 0.1146 | 0.0705 | Not working |
| 4 | C=1000 | 0.7802 | 0.0067 | 0.2661 | 0.1850 | Not working |
| 5 | C=2000 | 0.8767 | 0.06751 | 0.48100 | 0.3970 | Not working |
| 6 | C=5000 | 0.9003 | 0.2124 | 0.7936 | 0.7306 | Not working |

For c=5000 only in Linear the R2 value is 0.900 nearly to 1.

**3. Decision Tree**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.No | **criterion** | **splitter** | **max\_features** | **R.Value** |
| 1 | ***squared\_error*** | ***best*** | ***auto*** | 0.9013 |
| 2 | ***squared\_error*** | ***best*** | ***sqrt*** | 0.4354 |
| 3 | ***squared\_error*** | ***best*** | ***log2*** | 0.2275 |
| 4 | ***squared\_error*** | ***random*** | ***auto*** | 0.7822 |
| 5 | ***squared\_error*** | ***random*** | ***sqrt*** | 0.5269 |
| 6 | ***squared\_error*** | ***random*** | ***log2*** | 0.5119 |
| 7 | ***friedman\_mse*** | ***best*** | ***auto*** | 0.9259 |
| 8 | ***friedman\_mse*** | ***best*** | ***sqrt*** | 0.4380 |
| 9 | ***friedman\_mse*** | ***best*** | ***log2*** | 0.6170 |
| 10 | ***friedman\_mse*** | ***random*** | ***auto*** | 0.8840 |
| 11 | ***friedman\_mse*** | ***random*** | ***sqrt*** | -0.3558 |
| 12 | ***friedman\_mse*** | ***random*** | ***log2*** | 0.5082 |
| 13 | ***absolute\_error*** | ***best*** | ***auto*** | 0.9244 |
| 14 | ***absolute\_error*** | ***best*** | ***sqrt*** | 0.9175 |
| 15 | ***absolute\_error*** | ***best*** | ***log2*** | 0.6528 |
| 16 | ***absolute\_error*** | ***random*** | ***auto*** | 0.9507 |
| 17 | ***absolute\_error*** | ***random*** | ***sqrt*** | -0.4437 |
| 18 | ***absolute\_error*** | ***random*** | ***log2*** | -0.0184 |
| 19 | ***poisson*** | ***best*** | ***auto*** | 0.9256 |
| 20 | ***poisson*** | ***best*** | ***sqrt*** | 0.6846 |
| 21 | ***poisson*** | ***best*** | ***log2*** | 0.6863 |
| 22 | ***poisson*** | ***random*** | ***auto*** | 0.90414 |
| 23 | ***poisson*** | ***random*** | ***sqrt*** | 0.9258 |
| 24 | ***poisson*** | ***random*** | ***log2*** | 0.5258 |