1.**MULTIPLE LINEAR REGRESSION** (R2 value)=0.9258

2.**SUPPORT VECTOR MACHINE**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.NO** | **HYPER PARAMETER** | **LINEAR**  **R2 value** | **RBF(NON LINEAR)**  **R2 value** | **POLY**  **R2 value** | **SIGMOID**  **R2 value** |
| 1 | C10 | -0.0396 | -0.0568 | -0.0536 | -0.5471 |
| 2 | C100 | 0.1064 | -0.0507 | -0.0198 | -0.0304 |
| 3 | C500 | 0.5928 | -0.0243 | 0.1146 | 0.0705 |
| 4 | C1000 | 0.7802 | 0.0067 | 0.2661 | 0.1850 |
| 5 | C2000 | 0.8767 | 0.0675 | 0.4810 | 0.3970 |
| 6 | C3000 | 0.8956 | 0.1232 | 0.6370 | 0.5913 |

SVM regression hyper parameter c3000 and linear R2 value 0.8956

**3.Decision Tree Regression**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.NO** | **CRITERION** | **SPLITTER** | **R2 VALUE** |
| 1 | Squared\_error | Best | 0.9155 |
| 2 | Friedman\_mse | Best | 0.9135 |
| 3 | Absolute\_error | Best | 0.9498 |
| 4 | Poisson | Best | 0.9438 |
| 5 | Squared\_error | Random | 0.9031 |
| 6 | Friedman\_mse | Random | 0.5178 |
| 7 | Absolute\_error | Random | 0.8764 |
| 8 | Poisson | Random | 0.8498 |

**Decision tree regression** -**criterion Absolute\_error and splitter best** –Good Model for this particular scenario.

R2 value is 0.9498  
It is good Performance compare to both Multi linear and SVM