Results for machine learning regression method using r2\_score;

1. **Multiple linear regression r2\_score**= 0.9358680970046243

2. Support Vector machine r2 values are;

|  |  |  |
| --- | --- | --- |
| Support Vector Machine | | |
| **Kernel** | **C** | **r2score** |
| rbf | 0.1 | -0.05748 |
| rbf | 10 | -0.05681 |
| rbf | 100 | -0.05073 |
| rbf | 1000 | 0.006768 |
| rbf | 10000 | 0.371895 |
| poly | 0 | -0.0571 |
| poly | 1000 | 0.266164 |
| sigmoid | 0.1 | -0.05746 |
| sigmoid | 1000 | 0.185069 |
| linear | 0 | -0.05569 |
| linear | 1000 | 0.780284 |

**SVM regression r2\_score** (linear and hyper parameter(C=1000))= 0.780284

3.Decision Tree r2\_score are;

|  |  |  |
| --- | --- | --- |
| Decision Tree | | |
| **criterion** | **splitter** | **r2\_score** |
| friedman\_mse | random | 0.748834385 |
| absolute\_error | random | 0.9223865 |
| poisson | random | 0.889598139 |
| poisson | best | 0.917325577 |
| absolute\_error | best | 0.942765493 |
| friedman\_mse | best | 0.932810929 |
| 0 | best | 0.883065585 |

**Decision Tree r2\_score** (non-linear and hyper parameter (**criterion=** absolute\_error, **splitter=** best))= 0.942765493