1. Multiple linear regression

In Multiple Linear regression method r\_score : 0.789479034986701

1. SVM (Support Vector Machine)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| S.no |  | C value | linear | poly | Rbf | sigmoid | precomputed |
| 1 | R\_score | 10 | 0.4624 | 0.0387 | -0.032 | 0.0393 | NA |
| 2 | R\_score | 100 | 0.6288 | 0.6179 | 0.3200 | 0.5276 | NA |
| 3 | R\_score | 500 | 0.7631 | 0.8263 | 0.6642 | 0.4446 | NA |
| 4 | R\_score | 1000 | 0.7649 | 0.8566 | 0.8102 | 0.2874 | NA |
| 5 | R\_score | 2000 | 0.7440 | 0.8605 | 0.8547 | -0.593 | NA |

IN SVM kernel = “poly” ,C=2000 is has high r\_score value :0.8605

1. Decision\_tree

|  |  |  |  |
| --- | --- | --- | --- |
| S.no | Criterion | splitter | R\_score |
| 1 | Squared\_errror | Best | -0.1017 |
| 2 | Squares\_error | random | -0.1460 |
| 3 | Friedman\_mse | Best | -0.1684 |
| 4 | Friedman\_mse | Random | -0.1684 |
| 5 | Absolute\_error | Best | -0.1518 |
| 6 | Absolute\_error | Random | -0.1122 |
| 7 | Poisson | Best | -0.1017 |
| 8 | poisson | Random | -0.1193 |

1. Random Forest

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sno | N\_estimators | criterion | Max\_features | R\_score |
| 1 | 90 | Squared\_error | sqrt | 0.87098 |
| 2 | 80 | Squared\_error | sqrt | 0.87120 |
| 3 | 70 | Squared\_error | sqrt | 0.87072 |
| 4 | 60 | Squared\_error | sqrt | 0.87044 |
| 5 | 50 | Squared\_error | sqrt | 0.86958 |
| 6 | 90 | *friedman\_mse* | Log2 | 0.870991 |
| 7 | 80 | *friedman\_mse* | Log2 | 0.87107 |
| 8 | 70 | *friedman\_mse* | Log2 | 0.87051 |
| 9 | 60 | *friedman\_mse* | Log2 | 0.87019 |
| 10 | 50 | *Friedman\_mse* | Log2 | 0.87024 |
| 11 | 50 | *absolute\_error* | Sqrt | 0.87081 |
| 12 | 60 | *absolute\_error* | Sqrt | 0.87019 |
| 13 | 70 | *absolute\_error* | Sqrt | 0.87051 |
| 14 | 80 | *absolute\_error* | Sqrt | 0.87051 |
| 15 | 90 | *Absolute\_error* | sqrt | 0.87051 |
| 16 | 50 | *poisson* | Log2 | 0.8632 |
| 17 | 60 | *poisson* | Log2 | 0.8642 |
| 18 | 70 | *poisson* | Log2 | 0.8651 |
| 19 | 80 | *poisson* | Log2 | 0.8666 |
| 20 | 90 | *poisson* | Log2 | 0.8674 |
| 21 | 100 | *POISSON* | LOG2 | 0.86801 |
| 22 | 100 | *ABSOLUTE ERROR* | LOG2 | 0.87106 |
| 23 | 100 | *FRIEDMAN\_MSE* | SQRT | 0.87105 |
| 24 | 100 | *SQUARED\_ERROR* | SQRT | 0.87102 |

IN Random Forest Model kernel (n\_estimators=70,criterion="squared\_error ",max\_features="sqrt",random\_state=0) as Higest r\_score value