1. Simple Linear Regression (only for one input and one output)
2. Multi Linear Regression ( for multiple input and multiple output)
   1. Drop dummies drop first = True is used to convert text values to numerical

**0.789**

1. Support Vector Machine

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S. No | C | Linear | Poly | Rbf | Sigmoid |
| 1 | 10 | -0.0016 | -0.0931 | -0.0819 | -0.090 |
| 2 | 100 | 0.543 | -0.0997 | -0.124 | -0.1181 |
| 3 | 500 | 0.6270 | -0.082 | -0.124 | -0.456 |
| 4 | 1000 | 0.6340 | -0.055 | 0.117 | -1.66 |
| 5 | 2000 | 0.689 | -0.0027 | 0.107 | -5.616 |
| 6 | 3000 | 0.7590 | 0.0489 | -0.096 | -12.01 |

1. Decision tree

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S. No | Criterion | Splitter | Max features | R score |
| 1 | squared\_error | Best | Sqrt | 0.708 |
| 2 | squared\_error | Best | Log2 | 0.7145 |
| 3 | squared\_error | Random | Sqrt | 0.663 |
| 4 | squared\_error | random | Log2 | 0.582 |
| 5 | friedman\_mse | Best | Sqrt | 0.696 |
| 6 | friedman\_mse | Best | Log2 | 0.751 |
| 7 | friedman\_mse | Random | Sqrt | 0.722 |
| 8 | friedman\_mse | random | Log2 | 0.667 |
| 9 | Absolute\_error | Best | Sqrt | 0.723 |
| 10 | Absolute\_error | Best | Log2 | 0.706 |
| 11 | Absolute\_error | Random | Sqrt | 0.735 |
| 12 | Absolute\_error | random | Log2 | 0.619 |
| 13 | poisson | Best | Sqrt | 0.6551 |
| 14 | poisson | Best | Log2 | 0.631 |
| 15 | poisson | Random | Sqrt | 0.723 |
| 16 | poisson | random | Log2 | 0.740 |

1. Random forest Regressor

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S. No | Criterion | N\_estimators | Max features | R score |
| 1 | squared\_error | 10 | Sqrt | 0.862 |
| 2 | squared\_error | 10 | Log2 | 0.859 |
| 3 | squared\_error | 100 | Sqrt | 0.871 |
| **4** | **squared\_error** | **100** | **Log2** | **0.873** |
| 5 | friedman\_mse | 10 | Sqrt | 0.8392 |
| 6 | friedman\_mse | 10 | Log2 | 0.8570 |
| 7 | friedman\_mse | 100 | Sqrt | 0.870 |
| 8 | friedman\_mse | 100 | Log2 | 0.8704 |
| 9 | Absolute\_error | 10 | Sqrt | 0.854 |
| 10 | Absolute\_error | 10 | Log2 | 0.858 |
| **11** | **Absolute\_error** | **100** | **Sqrt** | **0.873** |
| 12 | Absolute\_error | 100 | Log2 | 0.869 |
| 13 | poisson | 10 | Sqrt | 0.812 |
| 14 | poisson | 10 | Log2 | 0.817 |
| 15 | poisson | 100 | Sqrt | 0.8331 |
| 16 | poisson | 100 | Log2 | 0.8272 |
| 17 | mae | 10 | Sqrt | 0.850 |
| 18 | mae | 10 | Log2 | 0.850 |
| 19 | mae | 100 | Sqrt | 0.871 |
| 20 | mae | 100 | Log2 | 0.8728 |

The R square value of absolute error is 0.873 which Is better than others