

### Decision Tree:

| S. No. | criterion      | max_features | splitter | r_score |
|--------|----------------|--------------|----------|---------|
| 1.     | friedman_mse   | sqrt         | best     | 0.9274  |
| 2.     | squared_error  | sqrt         | best     | 0.7997  |
| 3.     | absolute_error | sqrt         | best     | 0.8234  |
| 4.     | poisson        | sqrt         | best     | 0.3774  |
| 5.     | friedman_mse   | sqrt         | random   | 0.9558  |
| 6.     | squared_error  | sqrt         | random   | 0.9258  |
| 7.     | absolute_error | sqrt         | random   | 0.6439  |
| 8.     | poisson        | sqrt         | random   | 0.7803  |
| 9.     | friedman_mse   | log2         | best     | 0.8431  |
| 10.    | squared_error  | log2         | best     | 0.6051  |
| 11.    | absolute_error | log2         | best     | 0.7968  |
| 12.    | poisson        | log2         | best     | 0.6037  |
| 13.    | friedman_mse   | log2         | random   | 0.6709  |
| 14.    | squared_error  | log2         | random   | 0.4145  |
| 15.    | absolute_error | log2         | random   | 0.7706  |
| 16.    | poisson        | log2         | random   | 0.4143  |
| 17.    | friedman_mse   | auto         | best     | 0.9789  |
| 18.    | squared_error  | auto         | best     | 0.9574  |
| 19.    | absolute_error | auto         | best     | 0.9715  |
| 20.    | poisson        | auto         | best     | 0.9714  |
| 21.    | friedman_mse   | auto         | random   | 0.9760  |
| 22.    | squared_error  | auto         | random   | 0.9638  |
| 23.    | absolute_error | auto         | random   | 0.9645  |
| 24.    | poisson        | auto         | random   | 0.9242  |

The Decision Tree Regression use  $R^2$  value (friedman\_mse, auto, best) = 0.9789