**Support Vector Machine Regression**

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| --- | --- | --- | --- | --- | --- |
| **S.No** | **C (Penalty parameter)** | **Linear(r\_score)** | **RBF(r\_score)** | **Poly(r\_score)** | **Sigmoid(r\_score)** |
| 1 | C=0.01 | 0.93353 | -0.05748 | -0.05742 | -0.05748 |
| 2 | C=0.1 | 0.93752 | -0.05746 | -0.05682 | -0.05748 |
| 3 | C=1 | 0.89507 | -0.05731 | -0.05089 | -0.05749 |
| 4 | C=10 | -2.43721 | -0.05580 | 0.025312 | -0.05761 |
| 5 | C=100 | -357.079 | -0.03023 | 0.465662 | -0.05878 |
| 6 | C=1000 | -36014.020 | 0.160600 | 0.640323 | -0.07070 |

In SVM regression, better prediction comes at kernel=’linear, C=0.1

**Decision Tree**

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| --- | --- | --- | --- |
| **S.No** | **criterion** | **splitter** | **R\_score** |
| 1 | squared\_error | best | 0.915493 |
| 2 | squared\_error | random | 0.828899 |
| 3 | friedman\_mse | best | 0.946860 |
| 4 | friedman\_mse | random | 0.842515 |
| 5 | absolute\_error | best | 0.940407 |
| 6 | absolute\_error | random | 0.924842 |
| 7 | poisson | best | 0.945842 |
| 8 | poisson | random | 0.859826 |

In Decision Tree, using these hyper tuning parameters (criterion=’friedman\_mse’, splitter=’best’) gives better model.