

### 1. Multiple Linear Regressions:

Default Score: 0.9358680970046241

Post data preprocessing score: 0.9358680970046518

### 2. Support Vector Machine: <Regression>

| Kernel  | C<Penalty score> | R2_score              |                                     |
|---------|------------------|-----------------------|-------------------------------------|
|         |                  | No Data preprocessing | Data preprocessing - StandardScaler |
| linear  | 0                | 0.8950779234313312    | -0.05569157045504447                |
| linear  | 0.4              | 0.9439403318727383    | -0.056768120125677335               |
| poly    | 0                | -0.050890117824376135 | -0.05710387514922144                |
| poly    | 7                | 0.0003139656520918521 | -0.05481174839831082                |
| rbf     | 0<No Change>     | -0.05731730927224388  | -0.057418393916219834               |
| sigmoid | 0<No Change>     | -0.0574991971677592   | -0.057209358534722865               |

### 3. Decision Tree: <Regression>

Default Score: 0.9535299731993166

|    | criterion      | splitter | max_features | r2_score            |
|----|----------------|----------|--------------|---------------------|
| 1  | Squared_error  | best     | 15           | 0.9360397811774501  |
| 2  | Squared_error  | random   | 15           | 0.6429941108253381  |
| 3  | friedman_mse   | best     | 5            | 0.9164700351873948  |
| 4  | friedman_mse   | random   | 5            | 0.9592165460495146  |
| 5  | friedman_mse   | random   | sqrt         | 0.06796707842605798 |
| 6  | friedman_mse   | random   | Log2         | 0.553793927954391   |
| 7  | Absolute_error | best     | 5            | 0.963205660164946   |
| 8  | Absolute_error | best     | sqrt         | 0.42739438947329267 |
| 9  | Absolute_error | best     | Log2         | 0.8041423563735397  |
| 10 | Absolute_error | random   | 5            | 0.942555942191377   |
| 11 | Absolute_error | random   | sqrt         | 0.9047457636072191  |
| 12 | Absolute_error | random   | Log2         | 0.36982361058218793 |
| 13 | poisson        | best     | 5            | 0.92052488189648    |
| 14 | poisson        | best     | Sqrt         | 0.8300635801997542  |
| 15 | Poisson        | best     | Log2         | 0.5738599008630552  |
| 16 | poisson        | random   | 10           | 0.8657390646231864  |
| 17 | Poisson        | random   | Sqrt         | 0.35749809827437573 |
| 18 | poisson        | random   | Log2         | 0.22297663472317908 |