**ASSIGNMENT – HYPER TUNING OPERATORS**

**Support Vector Machine:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl.No.** | **Kernel** | **C** | **degree** | **R^2 score** |
| 1 | Linear | 0.1/10/100 | 3 | -0.08/0.46/0.62 |
| ***2*** | Poly | 0.1/10/100 | 5 | -0.08/0.08/0.64 |
| 3 | Rbf | 0.1/10/100 | 2 | -0.08/-0.03/0.32 |
| 4 | ***Sigmoid*** | 100/150/200 | 1 | 0.52/0.53/0.54 |

**Decision Tree Regressor**

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| --- | --- | --- | --- | --- |
| **Sl.No.** | **Regressor Type (criterion)** | **Splitter type** | **Depth\_Max** | **R^2 score** |
| 1 | Squared error | best | None/10 | 0.69/0.72 |
| ***2*** | ***Squared error*** | random | None/100 | 0.63/0.75 |
| 3 | ***absolute\_error*** | best | None/100 | 0.67/0.69 |
| 4 | ***absolute\_error*** | random | None/100 | 0.74/0.71 |
| 5 | ***Poisson*** | best | None/100 | 0.67/0.69 |
| 6 | ***Poisson*** | random | None/100 | 0.58/0.62 |
| 7 | ***friedman\_mse*** | best | None/50 | 0.69/0.71 |
| 8 | ***friedman\_mse*** | random | None/50 | 0.70/0.70 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl.no** | ***n\_estimators*** | ***criterion*** | ***max\_depth(None/int)*** | **R^2 score** |
| 1 | 100 | ***friedman\_mse*** | None/100 | 0.85/0.85 |
| 2 | 50 | ***friedman\_mse*** | None/10 | 0.85/0.86 |
| 3 | 10 | ***friedman\_mse*** | None/10 | 0.84/0.85 |
| 4 | 100 | ***poisson*** | None/100 | 0.83/0.83 |
| 5 | 50 | ***poisson*** | None/10 | 0.83/0.82 |
| 6 | 10 | ***poisson*** | None/10 | 0.81/0.82 |
| 7 | 100 | ***squared\_error*** | None/100 | 0.85/0.85 |
| 8 | 50 | ***squared\_error*** | None/10 | 0.85/0.85 |
| 9 | 10 | ***squared\_error*** | None/10 | 0.84/0.85 |

**Forest Tree Regressor**