Training Day-6 Report:

Regression Algorithms:-

There are many different types of regression algorithms, but some of the most common include:

- **Linear Regression**
  - Linear regression is one of the simplest and most widely used statistical models. This assumes that there is a linear relationship between the independent and dependent variables. This means that the change in the dependent variable is proportional to the change in the independent variables.
- **Polynomial Regression**
  - Polynomial regression is used to model nonlinear relationships between the dependent variable and the independent variables. It adds polynomial terms to the linear regression model to capture more complex relationships.
- **Support Vector Regression (SVR)**
  - Support vector regression (SVR) is a type of regression algorithm that is based on the support vector machine (SVM) algorithm. SVM is a type of algorithm that is used for classification tasks, but it can also be used for regression tasks. SVR works by finding a hyperplane that minimizes the sum of the squared residuals between the predicted and actual values.
- **Decision Tree Regression**
  - Decision tree regression is a type of regression algorithm that builds a decision tree to predict the target value. A decision tree is a tree-like structure that consists of nodes and branches. Each node represents a decision, and each branch represents the outcome of that decision. The goal of decision tree regression is to build a tree that can accurately predict the target value for new data points.
- **Random Forest Regression**
  - Random forest regression is an ensemble method that combines multiple decision trees to predict the target value. Ensemble methods are a type of machine learning algorithm that combines multiple models to improve the performance of the overall model. Random forest regression works by building a large

number of decision trees, each of which is trained on a different subset of the training data. The final prediction is made by averaging the predictions of all of the trees.