**PHASE-2**

In order to analyse the Socio Economic Analyse we use Support Vector Machine Algorithm . Support Vector Machine (SVM) is one of the most popular Supervised Learning algorithms, which is used for Classification as well as Regression problems.

**SVM Classification Algorithm:**

STEP-1:-Pr**eparation of Data**

Collect a labeled dataset with features and corresponding class labels.

Ensure that the dataset is divided into a training set and a testing set.

STEP-2:-**Feature Scaling:**

Sandardize or normalize the features to ensure they have similar scales. This step can help the SVM perform better and converge faster during training.

STEP-3:-**Training the SVM:**

Select a suitable SVM kernel function based on the nature of your data (e.g., linear, polynomial, radial basis function).

STEP-4:-**Hyperparameter Tuning:**

Perform hyperparameter tuning to optimize the SVM's performance. Key hyperparameters include the regularization parameter 'C' and kernel-specific parameters (e.g., kernel degree, gamma for the RBF kernel).

Use techniques like cross-validation to find the best hyperparameter values that yield the highest accuracy or other suitable evaluation metrics on the validation set.

STEP-5:-**Evaluation and Testing:**

Apply the trained SVM model to the testing dataset to make predictions on unseen data points.

**OUPUT SVM ALGORITHM:**

