**Ex.No**.9 **Support Vector Machine**

**Date**: 26-09-23

**Aim**

To create an optimal hyperplane that categorizes new examples given labeled training data (Supervised learning).

**Procedure**

1. To do programming in R, first install “RStudio” and “R” in the system. RStudio is an integrated development environment [IDE] for R and python.
2. Select the File in taskbar →open New file →R script or use shortcut “ctrl+shift+N”
3. Install the ‘caTools’ package and load it in R.
4. Import a dataset from a csv file.
5. Apply the Support Vector Machine on the dataset.
6. Write the program in the script and save it using the extension R.
7. Run the program by clicking Run option or use the shortcut “ctrl+enter”.
8. See the output in the console tab.

**Concepts Involved**

**SUPPORT VECTOR MACHINE**

A Support Vector Machine (SVM) is a discriminative classifier formally defined by a

separating hyperplane. In other words, given labeled training data (supervised learning), the algorithm outputs an optimal hyperplane that categorizes new examples.