**SVM**

“Support Vector Machine” (SVM) is a supervised [machine learning algorithm](https://courses.analyticsvidhya.com/courses/introduction-to-data-science-2?utm_source=blog&utm_medium=understandingsupportvectormachinearticle) which can be used for both classification or regression challenges. However,  it is mostly used in classification problems. In this algorithm, we plot each data item as a point in n-dimensional space (where n is number of features you have) with the value of each feature being the value of a particular coordinate. Then, we perform classification by finding the hyper-plane that differentiate the two classes very well.

**What does SVM do?**

Given a set of training examples, each marked as belonging to one or the other of two categories, an SVM training algorithm builds a model that assigns new examples to one category or the other, making it a non-probabilistic binary linear classifier.

Let you have basic understandings from this [article](https://www.geeksforgeeks.org/getting-started-with-classification/) before you proceed further. Here I’ll discuss an example about SVM classification of [cancer](http://archive.ics.uci.edu/ml/datasets/Breast+Cancer+Wisconsin+%28Diagnostic%29) UCI datasets using machine learning tools i.e. scikit-learn compatible with Python.  
**Pre-requisites:**[Numpy](https://www.geeksforgeeks.org/numpy-in-python-set-1-introduction/), [Pandas](https://www.geeksforgeeks.org/data-analysis-visualization-python/), [matplot-lib](https://www.geeksforgeeks.org/graph-plotting-in-python-set-1/), [scikit-learn](https://www.geeksforgeeks.org/learning-model-building-scikit-learn-python-machine-learning-library/)