# Project title: Sentiment Analysis

**Group members:**

1. Akshay Garg (102116048)

2. Divya Arora(102116033)

3. Nikhil Dev(102116061)

4. Pushkar Kwatra(102116043)

**Project description:**

Sentiment analysis is a valuable application of natural language processing (NLP) that is used to analyse and classify the emotional tone expressed in a piece of text, such as a customer review, social media post, or news article. This analysis can provide insights into how people feel about a particular topic, brand, or product, which can be useful for businesses, governments, and individuals.

There are several use cases for sentiment analysis, including: Customer feedback analysis:

Businesses : They can use sentiment analysis to analyze customer feedback on social media or review sites to understand customer sentiment about their products or services. This information can help companies to identify areas for improvement and address customer complaints.

Brand monitoring: Sentiment analysis can be used to monitor brand reputation on social media and other online platforms. This can help companies to identify potential issues before they become major problems and to respond quickly to customer complaints.

Political analysis: Sentiment analysis can be used to analyze public opinion about political candidates and issues. This information can be used to gauge voter sentiment and to develop targeted campaign messages.

Market research: Sentiment analysis can be used to analyze consumer sentiment about products or services. This information can be used to inform product development, marketing campaigns, and other business decisions.

Risk management: Sentiment analysis can be used to monitor social media and other online platforms for potential risks to public safety, such as threats of violence or terrorist activity. Overall, sentiment analysis is a valuable tool for businesses, governments, and individuals to understand the emotional tone expressed in text and to make informed decisions based on that information.

**Algorithms and Technologies to be used:**

A basic sentiment analysis web application typically uses machine learning algorithms and natural language processing (NLP) techniques to analyze and classify the sentiment expressed in text data. Some of the common algorithms and technologies used in a basic sentiment analysis web app include:

* Natural Language Toolkit (NLTK): NLTK is a popular NLP library in Python that provides tools for tokenization, stemming, and other pre-processing tasks. It also includes pre-trained models for sentiment analysis that can be used in a web app.
* Flask: Flask is a popular Python web framework that allows developers to create web applications quickly and easily. It's a lightweight framework that provides a lot of flexibility.

**Input and output data:**

The input data for sentiment analysis is usually a piece of text, such as product review, or news article.

The output of sentiment analysis is a score of all the sentiment expressed in the input text and whether the given text represents positive ,negative or neutral sentiment.