

This is to inform you about the details for the upcoming group assignment submission for **Track 1**. You are required to submit **two Colab notebooks** as part of this assignment. The guidelines for each notebook are as follows:

**1. Dataset Preparation for Fine-Tuning:**

- Prepare the dataset up to the data-loading stage.
- Output relevant intermediate results and include detailed comments about the following:
  - The type of dataset used.
  - Cleansing techniques applied to the dataset.
- Perform **Exploratory Data Analysis (EDA)** on the cleaned data. Include any insights or analyses that you consider relevant.
- Print a few sample instances from your cleaned dataset to demonstrate the quality of the preprocessing.

**2. Word Embedding Visualization Using Co-occurrence Matrix:**

- Construct a co-occurrence matrix for a dataset of sentences. (Suggested dataset size: approximately **5,000–10,000 sentences** for meaningful results.)
- Apply **Principal Component Analysis (PCA)** to reduce the dimensionality of the matrix to 2D.
- Visualize the 2D word embeddings for a selected set of words (e.g., "**king**," "**queen**," "**man**," "**woman**," "**apple**," "**orange**").
- Compare your results with existing 2D embeddings (e.g., from **pre-trained models like Word2Vec, GloVe, or FastText**) and analyze the differences.