In the week 5 assignment 4, I worked on Option 3, where I set up an experiment to compare transformer models. For the experiment, I developed a comparative analysis program to evaluate two distinct translation methodologies: the Helsinki-NLP/opus-mt-en-fr model from Hugging Face's transformers library and the transformer-based GoogleTranslators Library.

The implementation processes a 100-word sample of English text (summary of my GNMT residency paper) through both translation systems from English to French language. To conduct a systematic analysis of the translations, I utilized Python's difflib library, which enables precise identification of commonalities and variations between the two outputs. My learning from this experiment is that this analytical approach provides a detailed examination of how each system interprets and translates the source text. Both systems translate effectively, but Google favors natural language while Hugging Face preserves technical terms. For example, in the comparison output, it can be seen that Hugging Face kept: "Neural Machine Translation while Google translated it to: "la traduction de la machine neurale".