

Task 2

For Task 2, I expanded the Task 1 - Sentence Transformer model to handle multi-task learning, specifically for sentence classification and sentiment analysis. This involved adding two separate linear layers as task-specific heads: one for Sentence Classification (Question, Statement and Command) and another for Sentiment Analysis (Positive, Negative, Neutral). These heads operate on the same shared embeddings produced by the BERT backbone but are tailored to their respective tasks. After obtaining the logits from the respective heads, a softmax function is applied to convert these logits into probabilities.

During training, the model adjusts the weights of each task-specific head separately based on their respective loss calculations. This approach allows each head to specialize by learning nuances relevant to its task while still benefiting from the shared understanding developed by the BERT backbone.