Overview of NLP

a. Natural Language processing to me is the ability to translate human voice into words and sentences and be able to identify what the voice is saying.
b. Artificial Intelligence is an umbrella under which many different subtopics exist including one of them being NLP.
c. Natural Language Understanding is interpreting what the voice is saying and putting that into words, while Natural Language Generation is about producing words to fit topics and make sentences that are flowing.
d. Language Translation like Google Translate, Predictive texting on iOS, Sentiment Analysis through frameworks like TensorFlow
e. Rules based approaches use linguistic rules to follow to make predictions or decisions based on what was being inputted. A chatbot could be an example of using such an approach to identify what is being said to it.
   Statistical and Probabilistic approaches use data to process based on certain numbers like the word frequencies or percentages of certain attributes based on the data. This approach uses a fair bit amount of processing power. An example of this approach would be some machine learning algorithms like naïve bayes.
   The final approach which is Deep Learning is the latest development and uses the most amount of processing power and a ton of data for it to work. It uses a combination of the other approaches to compute weights and output final values. An example of this would be Language translation models.

f. I personally am interested in NLP because of the vast number of advancements that have been made in recent years and it is really interesting to think about being able to translate human voice or a different language into words and sentences. I plan to read the textbooks and go through documentation/watch videos about the topics we are learning to help me through the personal projects.