Exercise 1

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Part 1

- I/PRP need/VBP a/DT flight/NN from/IN Atlanta/NN
  - Incorrect tag: "Atlanta" should be tagged as NNP (proper noun) instead of NN (noun).
- Does/VBZ this/DT flight/NN serve/VB dinner/NNS
  - Incorrect tag: "dinner" should be tagged as NN (noun) instead of NNS (plural noun).
- I/PRP have/VB a/DT friend/NN living/VBG in/IN Denver/NNP
  - Incorrect tag: "living" should be tagged as VBG (verb, gerund or present participle) instead of VBN (verb, past participle).
- Can/VBP you/PRP list/VB the/DT nonstop/JJ afternoon/NN flights/NNS
  - Incorrect tag: "nonstop" should be tagged as JJ (adjective) instead of JJR (adjective, comparative).

Part 2

It is a nice night:

- "It" - PRP
- "is" - VBZ
- "a" - DT
- "nice" - JJ
- "night" - NN

This crap game is over a garage in Fifty-second Street:

- "This" - DT
- "crap" - NN
- "game" - NN
- "is" - VBZ
- "over" - IN
- "a" - DT
- "garage" - NN
- "in" - IN
- "Fifty-second" - JJ
- "Street" - NN

Nobody ever takes the newspapers she sells:

- "Nobody" - NN
- "ever" - RB
- "takes" - VBZ
- "the" - DT
- "newspapers" - NNS

- "she" - PRP
- "sells" - VBZ

He is a tall, skinny guy with a long, sad, mean-looking kisser, and a mournful voice:

- "He" - PRP
- "is" - VBZ
- "a" - DT
- "tall" - JJ
- "," - ,
- "skinny" - JJ
- "guy" - NN
- "with" - IN
- "a" - DT
- "long" - JJ
- "," - ,
- "sad" - JJ
- "," - ,
- "mean-looking" - JJ
- "kisser" - NN
- "," - ,
- "and" - CC
- "a" - DT
- "mournful" - JJ
- "voice" - NN

I am sitting in Mindy's restaurant putting on the gefillte fish, which is a dish I am very fond of:

- "I" - PRP
- "am" - VBP
- "sitting" - VBG
- "in" - IN
- "Mindy's" - NNP
- "restaurant" - NN
- "putting" - VBG
- "on" - IN
- "the" - DT
- "gefillte" - JJ
- "fish" - NN
- "," - ,
- "which" - WD
- "is" - VBZ
- "a" - DT
- "dish" - NN
- "I" - PRP
- "am" - VBP
- "very" - RB
- "fond" - JJ

- "of" - IN

When a guy and a doll get to taking peeks back and forth at each other, why there you are indeed:

- "When" - WRB
- "a" - DT
- "guy" - NN
- "and" - CC
- "a" - DT
- "doll" - NN
- "get" - VBP
- "to" - TO
- "taking" - VBG
- "peeks" - NNS
- "back" - RB
- "and" - CC
- "forth" - RB
- "at" - IN
- "each" - DT
- "other" - JJ
- "," - ,
- "why" - WRB
- "there" - EX
- "you" - PRP
- "are" - VBP
- "indeed" - RB

Part 3

I didn't have somebody to compare my responses with, but I believe that labeling variations could result from varying readings of the text or varying familiarity with the Penn Treebank tagset. It's critical to discuss and comprehend one another's justifications for our labeling choices in order to maintain correctness.

Part 5

Named Entity Recognition (NER) is a task in NLP that involves identifying and classifying named entities such as persons, organizations, locations, and dates, in text. Some possible applications of NER are:

- Information extraction: NER can be used to extract important information from text, such as names of individuals, organizations, locations, and dates, to build knowledge bases, databases, or to perform further analysis.
- Sentiment analysis: By identifying named entities, NER can be used to determine the sentiment expressed towards a particular entity in text, such as a person, organization, or product, which can be useful in marketing and advertising.
- Event extraction: NER can be used to extract information about events such as location, date, and participants, to build event databases, news summaries, or to analyze public opinion.

Part-of-Speech (POS) Tagging is a task in NLP that involves identifying and labeling words in text with their appropriate parts of speech, such as nouns, verbs, adjectives, and adverbs. Some possible applications of

POS Tagging are:

- Sentiment analysis: By identifying the parts of speech in text, POS Tagging can be used to analyze the sentiment expressed in text, as different parts of speech may carry different sentiment implications.
- Text summarization: POS Tagging can be used to identify important words and phrases in text, such as nouns and adjectives, which can then be used to generate a summary of the text.
- Word sense disambiguation: By identifying the parts of speech in text, POS Tagging can be used to disambiguate words with multiple meanings, such as homonyms, by choosing the appropriate sense based on the context in which the word appears.

Text classification is a task in NLP that involves assigning a label or category to a given text document. Some possible applications of text classification are:

- Spam filtering: Text classification can be used to classify email messages as spam or not spam, to filter unwanted messages from the inbox.
- News classification: Text classification can be used to classify news articles into different categories, such as sports, politics, technology, etc., to help users filter news that they are interested in.
- Sentiment analysis: Text classification can be used to classify the sentiment expressed in text, such as positive, negative, or neutral, to determine the overall public opinion towards a particular topic or entity.