CFG DEMO:

Full coverage of the validation data can be found in *output\cmdLine* directory however we will capture a few interesting sentence examples below.

Processed sentence >> On Monday, John ate the apple in his office.

POS tags >> [('On', 'IN'), ('Monday', 'NNP'), (',', ','), ('John', 'NNP'), ('ate', 'VBP'), ('the', 'DT'), ('apple', 'NN'), ('in', 'IN'), ('his', 'PRP$'), ('office', 'NN'), ('.', '.')]

Parsed tree:

A screenshot of a computer screen

Description automatically generated

The main difference between these trees is the interpretation of the verb ‘ate’. This is a common shortcoming of the CFG, namely that the verbs have a variety of interpretations. It is not easy to capture the complexity of verb usage, so more consideration is needed for those productions.

Processed sentence >> Heart rate greater than 90 beats/minute.

POS tags >> [('Heart', 'NNP'), ('rate', 'NN'), ('greater', 'JJR'), ('than', 'IN'), ('90', 'CD'), ('beats/minute', 'NN'), ('.', '.')]

Parsed tree:

A computer screen shot of a diagram

Description automatically generated

Processed sentence >> Leukocyte count greater than 12000 or less than 4000 /microliters or over 10% immature forms or bands.

Printing POS tags >> [('Leukocyte', 'NNP'), ('count', 'NN'), ('greater', 'JJR'), ('than', 'IN'), ('12000', 'CD'), ('or', 'CC'), ('less', 'JJR'), ('than', 'IN'), ('4000', 'CD'), ('/microliters', 'NNS'), ('or', 'CC'), ('over', 'RB'), ('10', 'CD'), ('%', 'NN'), ('immature', 'NN'), ('forms', 'NNS'), ('or', 'CC'), ('bands', 'NNS'), ('.', '.')]

Parsed tree:

A diagram of a computer

Description automatically generated

These two examples demonstrate how the Cardinal phrases add depth to the tree structure when the complex Noun phrases or preposition phrases cannot.