Ans

1)

1. I/PRP need/VBP a/DT flight/NN from/IN Atlanta/NN

Correct Tag - Atlanta/NNP

1. Does/VBZ this/DT flight/NN serve/VB dinner/NNS

Correct Tag - dinner/NN

1. I/PRP have/VB a/DT friend/NN living/VBG in/IN Denver/NNP

Correct Tag - have/VBP

1. Can/VBP you/PRP list/VB the/DT nonstop/JJ afternoon/NN flights/NNS

Correct Tag – Can/MD

2.

**In order to run this file type below command. I have written code in Python.**

**python posTag.py infile (file name)**

example:

python posTag.py input.txt

Below is the output for above program.

Initial error rate =

0.0494638986281

Top 5 error words are: "that", "have", "more", "'s", "plans"

Error rate after applying rule 1 =

0.0475289872994

Error rate after applying rule 2 =

0.0472525713953

Error rate after applying rule 3 =

0.0466560949707

Error rate after applying rule 4 =

0.0460450703406

Error rate after applying rule 5 =

0.0457395580255

I have applied below rule:

1. *if next of 'that' starts with VB, then tag it as WDT*
2. *Rule 2: if previous of 'that' is IN, then tag it as DT*
3. *Rule 3: if 'New' and previous is not '.', then tag it as NNP*
4. *Rule 4: if previous of "'s" is PRP/DT/EX, then tag it as VBZ*
5. *Rule 5: if previous of 'plans' starts with VB, then tag it as NNS*

3. To get the output for this part. Run the below python code

Viterbi.py

Command to run:

**python viterbi.py**

Ans 4)

The PDF for ques 4 has been attached in the zip file. File name is **Question4.pdf**