```
1 "C:\Program Files\Java\jdk-16\bin\java.exe" "-
   iavaagent:C:\Program Files\JetBrains\IntelliJ IDEA
   2020.3.3\lib\idea_rt.jar=55591:C:\Program Files\
   JetBrains\IntelliJ IDEA 2020.3.3\bin" -Dfile.encoding
   =UTF-8 -classpath C:\Users\cwhay\Documents\cs10\libs\
   opency.jar;C:\Users\cwhay\Documents\cs10\libs\
   openblas-windows-x86_64.jar;C:\Users\cwhay\Documents\
   cs10\libs\javacv.jar;C:\Users\cwhay\Documents\cs10\
   libs\opencv-windows-x86_64.jar;C:\Users\cwhay\
   Documents\cs10\libs\json-simple-1.1.1.jar;C:\Users\
   cwhay\Documents\cs10\libs\net-datastructures-4-0.jar;
   C:\Users\cwhay\Documents\cs10\out\production\cs10
   POSTagTests
 2 Processed observation (i) 1 of 5
 3
       currentStates: [#]
       currentScores: {#=0.0}
 4
 5
       nextStates: [NP, N]
       nextScores: {NP=-97.0, N=-93.0}
 7 Processed observation (chase) 2 of 5
       currentStates: [NP, N]
8
       currentScores: {NP=-97.0, N=-93.0}
9
       nextStates: [V, CNJ]
10
       nextScores: {V=-82.0, CNJ=-191.0}
11
12 Processed observation (the) 3 of 5
13
       currentStates: [V, CNJ]
14
       currentScores: {V=-82.0, CNJ=-191.0}
15
       nextStates: [NP, V, CNJ, N]
       nextScores: {NP=-178.0, V=-287.0, CNJ=-180.0, N=-
16
   178.0}
17 Processed observation (dog) 4 of 5
       currentStates: [NP, V, CNJ, N]
18
       currentScores: {NP=-178.0, V=-287.0, CNJ=-180.0,
19
   N=-178.0
       nextStates: [NP, V, CNJ, N]
20
21
       nextScores: {NP=-278.0, V=-270.0, CNJ=-276.0, N=-
   172.0}
22 Processed observation (.) 5 of 5
23
       currentStates: [NP, V, CNJ, N]
       currentScores: {NP=-278.0, V=-270.0, CNJ=-276.0,
24
   N=-172.0
       nextStates: [NP, V, CNJ, N]
25
26
       nextScores: {NP=-366.0, V=-264.0, CNJ=-270.0, N=-
   366.0}
27 Viturbi Algorithm Finished!
```

```
28
29 Reconstructed Tags
       finalState: V
30
       backPointerList: [{NP=#, N=#}, {V=N, CNJ=N}, {NP=
31
  V, V=CNJ, CNJ=V, N=V}, {NP=CNJ, V=NP, CNJ=NP, N=CNJ
   }, {NP=V, V=N, CNJ=N, N=V}]
32
       tags: N V CNJ N V
33
34 Processed observation (while) 1 of 11
35
       currentStates: [#]
36
       currentScores: {#=0.0}
37
       nextStates: [NP, N]
38
       nextScores: {NP=-97.0, N=-93.0}
39 Processed observation (we) 2 of 11
40
       currentStates: [NP, N]
       currentScores: {NP=-97.0, N=-93.0}
41
       nextStates: [V, CNJ]
42
       nextScores: {V=-185.0, CNJ=-191.0}
43
44 Processed observation (watch) 3 of 11
45
       currentStates: [V, CNJ]
       currentScores: {V=-185.0, CNJ=-191.0}
46
       nextStates: [NP, V, CNJ, N]
47
       nextScores: {NP=-281.0, V=-181.0, CNJ=-283.0, N=-
48
   179.0}
49 Processed observation (,) 4 of 11
       currentStates: [NP, V, CNJ, N]
50
51
       currentScores: {NP=-281.0, V=-181.0, CNJ=-283.0,
   N=-179.0
52
       nextStates: [NP, V, CNJ, N]
53
       nextScores: {NP=-277.0, V=-271.0, CNJ=-277.0, N=-
   277.0}
54 Processed observation (you) 5 of 11
55
       currentStates: [NP, V, CNJ, N]
       currentScores: {NP=-277.0, V=-271.0, CNJ=-277.0,
56
   N=-277.0
57
       nextStates: [NP, V, CNJ, N]
       nextScores: {NP=-367.0, V=-369.0, CNJ=-369.0, N=-
58
   367.0}
59 Processed observation (chase) 6 of 11
       currentStates: [NP, V, CNJ, N]
60
61
       currentScores: {NP=-367.0, V=-369.0, CNJ=-369.0,
   N=-367.0
62
       nextStates: [NP, V, CNJ, N]
63
       nextScores: {NP=-355.0, V=-356.0, CNJ=-465.0, N=-
```

```
63 465.0}
64 Processed observation (the) 7 of 11
       currentStates: [NP, V, CNJ, N]
65
       currentScores: {NP=-355.0, V=-356.0, CNJ=-465.0
66
  , N=-465.0
67
       nextStates: [NP, V, CNJ, N]
68
       nextScores: {NP=-452.0, V=-447.0, CNJ=-453.0, N
   =-452.0
69 Processed observation (dog) 8 of 11
       currentStates: [NP, V, CNJ, N]
70
       currentScores: {NP=-452.0, V=-447.0, CNJ=-453.0
71
  , N=-452.0
72
       nextStates: [NP, V, CNJ, N]
73
       nextScores: {NP=-543.0, V=-544.0, CNJ=-545.0, N
   =-439.0
74 Processed observation (and) 9 of 11
       currentStates: [NP, V, CNJ, N]
75
76
       currentScores: {NP=-543.0, V=-544.0, CNJ=-545.0
  , N=-439.0
77
       nextStates: [NP, V, CNJ, N]
78
       nextScores: {NP=-640.0, V=-531.0, CNJ=-427.0, N
   =-640.0
79 Processed observation (cat) 10 of 11
       currentStates: [NP, V, CNJ, N]
80
81
       currentScores: {NP=-640.0, V=-531.0, CNJ=-427.0
  , N=-640.0
82
       nextStates: [NP, V, CNJ, N]
83
       nextScores: {NP=-525.0, V=-523.0, CNJ=-629.0, N
   =-419.0
84 Processed observation (.) 11 of 11
85
       currentStates: [NP, V, CNJ, N]
       currentScores: {NP=-525.0, V=-523.0, CNJ=-629.0
86
  , N=-419.0
       nextStates: [NP, V, CNJ, N]
87
       nextScores: {NP=-619.0, V=-511.0, CNJ=-517.0, N
88
  =-619.0
89 Viturbi Algorithm Finished!
90
91 Reconstructed Tags
92
      finalState: V
       backPointerList: [{NP=#, N=#}, {V=N, CNJ=N}, {NP
93
  =V, V=CNJ, CNJ=V, N=V}, {NP=V, V=N, CNJ=N, N=V}, {NP
  =V, V=NP, CNJ=V, N=V}, {NP=V, V=NP, CNJ=NP, N=V}, {
  NP=V, V=NP, CNJ=NP, N=V}, {NP=V, V=NP, CNJ=V, N=V
```

```
File - POSTagTests
 93 }, {NP=V, V=N, CNJ=N, N=V}, {NP=CNJ, V=CNJ, CNJ=V, N
    =CNJ}, {NP=V, V=N, CNJ=N, N=V}]
 94
        tags: N CNJ V NP V NP V N CNJ N V
 95
 96 I chase the dog .
 97 Computed: N V CNJ N V
 98 Expected: N V CNJ N .
 99 Correct: PRO V DET N .
100 Accuracy: {right=2, wrong=3}
101
102 While we watch , you chase the dog and cat .
103 Computed: N CNJ V NP V NP V N CNJ N V
104 Expected: N CNJ V NP V NP V N CNJ N .
105 Correct: WH PRO V , PRO V DET N CNJ N .
106 Accuracy: {right=4, wrong=7}
107
108
109 Process finished with exit code 0
110
```