```
In [1]:
          import spacy
          nlp = spacy.load('en core web sm')
In [2]:
In [5]:
          doc1 = nlp(u"I am a runner running a race because I love to run since I
In [6]:
          for token in doc1:
              print(token.text, '\t', token.pos , '\t', token.lemma, '\t', token.lemma, '\t', token.lemma, '\t'
                                                       -PRON-
          Т
                    PRON
                             561228191312463089
                    VERB
                             10382539506755952630
          am
                                                       be
                    DET
                             11901859001352538922
          runner
                    NOUN
                             12640964157389618806
                                                       runner
          running
                                      12767647472892411841
                                                                run
                    DET
                             11901859001352538922
          а
                             8048469955494714898
          race
                    NOUN
                                                       race
                             ADP
                                      16950148841647037698
                                                                because
          because
                    PRON
                             561228191312463089
                                                       -PRON-
                             3702023516439754181
          love
                    VERB
                                                       love
                    PART
                             3791531372978436496
                                                       to
          to
          run
                    VERB
                             12767647472892411841
                                                       run
                             10066841407251338481
          since
                    ADP
                                                       since
                             561228191312463089
          Ι
                    PRON
                                                       -PRON-
                    VERB
                             12767647472892411841
          ran
                                                       run
          today
                    NOUN
                             11042482332948150395
                                                       today
In [17]:
          def show lemmas(text):
              for token in text:
                   print(f'{token.text:{12}} {token.pos_:{6}}{token.lemma:<{22}} {token.pos_:{6}}</pre>
```

```
In [18]:
         show_lemmas(doc1)
         Ι
                       PRON
                              561228191312463089
                                                       -PRON-
                       VERB
                              10382539506755952630
                                                       be
         am
                              11901859001352538922
         а
                       DET
                                                       а
                       NOUN
                              12640964157389618806
         runner
                                                       runner
                       VERB
                              12767647472892411841
                                                       run
         running
                       DET
                              11901859001352538922
                                                       а
                              8048469955494714898
         race
                       NOUN
                                                       race
         because
                       ADP
                              16950148841647037698
                                                       because
                       PRON
                              561228191312463089
                                                       -PRON-
         Ι
                              3702023516439754181
                                                       love
         love
                       VERB
                              3791531372978436496
         to
                       PART
                                                       to
                              12767647472892411841
         run
                       VERB
                                                       run
         since
                       ADP
                              10066841407251338481
                                                       since
                              561228191312463089
         Ι
                       PRON
                                                       -PRON-
                       VERB
                              12767647472892411841
         ran
                                                       run
         today
                       NOUN
                              11042482332948150395
                                                       today
         doc2 = nlp(u"I saw ten mice today!")
In [19]:
In [20]:
         show lemmas(doc2)
         Ι
                       PRON
                              561228191312463089
                                                       -PRON-
                       VERB
                              11925638236994514241
                                                       see
         saw
                       NUM
                              7970704286052693043
                                                       ten
         ten
                              1384165645700560590
         mice
                       NOUN
                                                       mouse
                       NOUN
                              11042482332948150395
                                                       today
         today
          !
                       PUNCT 17494803046312582752
                                                       !
In [ ]:
```