

pfnl

November 28, 2018

1 Part A

1.1 Lexicon

```
In [1]: from statements import *  
        lx = Lexicon()  
        lx.add("John", "P")  
        lx.add("Mary", "P")  
        lx.add("Mary", "P")  
        lx.add("like", "T")  
        lx.getAll("P")
```

```
['Mary', 'John']  
True  
False  
Rule 3  
fly
```

```
Out[1]: ['Mary', 'John']
```

1.2 Factbase

```
In [2]: fb = FactBase()  
        fb.addUnary("duck", "John")  
        fb.addBinary("love", "John", "Mary")
```

```
In [3]: fb.queryUnary("duck", "John") # returns True
```

```
Out[3]: True
```

```
In [4]: fb.queryBinary("love", "Mary", "John") # Return False
```

```
Out[4]: False
```

1.3 3sg Converter

```
In [5]: verb_stem("goes")
```

Rule 5

```
Out[5]: 'go'
```

```
In [6]: verb_stem("boxes")
```

Rule 5

Not in brown corpus

```
Out[6]: ''
```

```
In [7]: verb_stem("attaches")
```

Rule 5

```
Out[7]: 'attach'
```

```
In [8]: verb_stem("washes")
```

Rule 5

Not in brown corpus

```
Out[8]: ''
```

```
In [9]: verb_stem("dresses")
```

Rule 5

Not in brown corpus

```
Out[9]: ''
```

```
In [10]: verb_stem("fixes")
```

Rule 5

Not in brown corpus

```
Out[10]: ''
```

```
In [11]: verb_stem("fizzes")
```

Rule 5

Not in brown corpus

Out[11]: ''

In [12]: verb_stem("loses")

Rule 6

Out[12]: 'lose'

In [13]: verb_stem("dazes")

Rule 6

Not in brown corpus

Out[13]: ''

In [14]: verb_stem("lapses")

Rule 6

Out[14]: 'lapse'

In [15]: verb_stem("analyses")

Rule 6

Not in brown corpus

Out[15]: ''

In [16]: verb_stem("likes")

Rule 8

Out[16]: 'like'

In [17]: verb_stem("hates")

Rule 8

Out[17]: 'hate'

In [18]: verb_stem("bathes")

Rule 8

Not in brown corpus

Out[18]: ''

In [19]: verb_stem("flies")

Rule 3

Out[19]: 'fly'

In [20]: verb_stem("flys")

Not in brown corpus

Out[20]: ''