

Instructions

1. A dataset called **YiLei_Poem** is provided.
2. Write a program to design third order Markov Model and apply it to the given dataset to generate the 7 lines of poem.
3. A sample of third order model for the small text

```
" The quick brown fox jumps over the lazy dog and the quick white  
cat jumps over the lazy rabbit"
```

```
pi
```

```
{'the': 1.0}
```

```
A1
```

```
{'the': ['quick']}
```

```
A2
```

```
{('the', 'quick'): ['brown']}
```

```
A3
```

```
{('the', 'quick', 'brown'): ['fox'],  
( 'quick', 'brown', 'fox'): ['jumps'],  
( 'brown', 'fox', 'jumps'): ['over'],  
( 'fox', 'jumps', 'over'): ['the'],  
( 'jumps', 'over', 'the'): ['lazy', 'lazy'],  
( 'over', 'the', 'lazy'): ['dog', 'rabbit'],  
( 'the', 'lazy', 'dog'): ['and'],  
( 'lazy', 'dog', 'and'): ['the'],  
( 'dog', 'and', 'the'): ['quick'],  
( 'and', 'the', 'quick'): ['white'],  
( 'the', 'quick', 'white'): ['cat'],  
( 'quick', 'white', 'cat'): ['jumps'],  
( 'white', 'cat', 'jumps'): ['over'],  
( 'cat', 'jumps', 'over'): ['the'],  
( 'the', 'lazy', 'rabbit'): ['<end>']}
```