

1. first 10 tokens in last 10% of text is : ['...', 'again', 'algorithm', 'allow', 'animation', 'apart', 'arrived', 'attention', 'banking', 'billington']
2. To check the readability of the text, I calculated Automated Readability Index of the text.  
AutomatedReadabilityIndex of TestText is: 15.448300791589595

### (a)

By ARI scores the shortened texts are difficult to read.

- n = 20

*AutomatedReadabilityIndex of shorten text is : 233.92066763777615*

*Few lines of shorten text is :*

edsger dijkstra universities edsger dijkstra universities december 8 1996 edsger dijkstra addressed graduates college natural sciences texas at austin this text his speech ladies gentlemen begin with would like thank college natural sciences most honouring invitation address its newest flock

- n = 35

*AutomatedReadabilityIndex of shorten text is : 205.46445843828715*

*Few lines of shorten text is :*

edsger dijkstra universities edsger dijkstra universities december 8 1996 edsger dijkstra addressed graduates college natural sciences texas at austin this text his speech ladies gentlemen begin like thank college natural sciences most honouring invitation address newest flock bachelors this most

- n = 50

*AutomatedReadabilityIndex of shorten text is : 187.1607854050711*

*Few lines of shorten text is :*

edsger dijkstra edsger dijkstra december 8 1996 edsger dijkstra addressed graduates college natural sciences texas at austin text his speech ladies gentlemen begin like thank college natural sciences most honouring invitation address newest flock bachelors most festive day shall my best past

- n = 65

*AutomatedReadabilityIndex of shorten text is : 173.7191817572099*

*Few lines of shorten text is :*

edsger dijkstra edsger dijkstra december 8 1996 edsger dijkstra addressed graduates college natural sciences texas austin text his speech ladies gentlemen begin thank college natural sciences most honouring invitation address newest flock bachelors most festive day shall my best past inalienable

### (b)

The input text is :

to begin with I would like to thank the College of Natural Sciences for the most honouring Invitation to address its newest flock of Bachelors on this most festive day. I shall do my best.

n = 20

Output : flock bachelors on this festive day shall do my best

AutomatedReadabilityIndex of shorten text is : 3.8230000000000004

Total words in input text is : 37

Total words in output is : 10

Total words removed : 27

words removed are : ['begin', 'i', 'to', 'would', 'thank', 'address', 'its', 'with', 'like', 'the', 'of', 'for', 'newest', 'sciences', '.', 'most', 'invitation', 'natural', 'honouring', 'college']

### 3.

The constructed tire data structure is :

```
{'f': {'e': {'w': {}}, 'i': {'e': {'l': {'d': {'s': {}}}} }, 'a': {'r': {'m': {'e': {'r': {}}}} },
't': {'h': {'a': {'t': {}}, 'e': {'i': {'r': {}}, 'i': {'n': {'g': {}}}} }, 'o': {'o': {'w': {'i': {'c': {'e': {}}}} },
' ': {},
'a': {'n': {'o': {'t': {'h': {'e': {'r': {}}}} }, 'd': {}}, 'r': {'e': {}},
'w': {'a': {'y': {}}, 's': {}},
'!': {},
'r': {'e': {'p': {'l': {'i': {'e': {'d': {}}}} }, 'a': {'n': {}},
'g': {'l': {'a': {'d': {}}, 'o': {'o': {'d': {}}, 'i': {'n': {'g': {}}}} },
'n': {'o': {'w': {}}, 'e': {'i': {'g': {'h': {'b': {'o': {'r': {'s': {}}}} } } } },
':': {},
'c': {'a': {'n': {}}, 'm': {'e': {}}, 'o': {'n': {'c': {'e': {'r': {'n': {}}}} } },
'i': {'n': {}},
',': {},
'd': {'a': {'y': {'s': {}}, 'o': {}},
'h': {'i': {'s': {}}, 'e': {'r': {}}, 'o': {'w': {}}, 'r': {'s': {'e': {}}}} },
'`': {'`': {}},
'w': {'i': {'t': {'h': {}}, 'o': {'r': {'k': {}}, 'e': {'r': {'e': {}}, 'h': {'o': {'y': {}}}} },
'y': {'o': {'u': {}},
'o': {'n': {'e': {}}, 'h': {}},
'b': {'a': {'c': {'k': {}}, 'd': {}}, 'e': {'f': {'o': {'r': {'e': {}}}} }, 'r': {'o': {'u': {'g': {'h': {'t': {}}}} } },
'"': {'s': {}}, "'": {},
'k': {'n': {'o': {'w': {'s': {}}}} },
'.': {},
'e': {'x': {'p': {'r': {'e': {'s': {'s': {}}}} } },
'm': {'u': {'c': {'h': {}},
'l': {'u': {'c': {'k': {'y': {}}}} }
```

**Input text :** One day, his horse ran away. The neighbors came to express their concern: "Oh, that's too bad. How are you going to work the fields now?" The farmer replied: "Good thing, Bad thing, Who knows?" In a few days, his horse came back and brought another horse with her. Now, the neighbors were glad: "Oh, how lucky! Now you can do twice as much work as before!" The farmer replied: "Good thing, Bad thing, Who knows?"

**Output text :** on da , hi hor ra aw . the ne cam to e the co : ` oh , tha 's to bad . how ar y goi to wo the fi no ? " the fa re : ` goo thi , bad thi , wh k ? " i a fe da , hi hor cam bac and br ano hor wi he . no , the ne we gl : ` oh , how l ! no y can do tw as m wo as be ! " the fa re : ` goo thi , bad thi , wh k ? "

*"Though the resulting text is difficult to read it is easier to store, uniquely identify and process text."*

**Compression :** 0.7548543689320388