Chapter 6

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Setup

```
text.v <- scan(file = "./SupportingMaterials/data/plainText/melville.txt",
               what = "character",
               sep = "\n")
start.v <- which(text.v == "CHAPTER 1. Loomings.")
end.v <- which(text.v == "orphan.")
novel.lines.v <- text.v[start.v:end.v]
novel.lines.v <- unlist(novel.lines.v)

chap.positions.v <- grep("^CHAPTER \\d", novel.lines.v)
last.position.v <- length(novel.lines.v)
chap.positions.v <- c(chap.positions.v,
                      last.position.v)
chapter.freqs.l <- list()
chapter.raws.l <- list()
for (i in 1:length(chap.positions.v)) {
  if(i != length(chap.positions.v)){
    chapter.title <- novel.lines.v[chap.positions.v[i]]
    start <- chap.positions.v[i] + 1
    end <- chap.positions.v[i + 1] - 1
    chapter.lines.v <- novel.lines.v[start:end]
    chapter.words.v <- tolower(paste(chapter.lines.v,
```

```
                                    collapse = " "))
    chapter.words.l <- strsplit(chapter.words.v,
                                "\\W")
    chapter.words.v <- unlist(chapter.words.l)
    chapter.words.v <- chapter.words.v[which(chapter.words.v != "")]
    chapter.freq.t <- table(chapter.words.v)
    chapter.raws.l[[chapter.title]] <- chapter.freq.t
    chapter.freqs.t.rel <- 100 * (chapter.freq.t/sum(chapter.freq.t))
    chapter.freqs.l[[chapter.title]] <- chapter.freqs.t.rel
  }
}
```

Lexical Variety and the Type-Token Ratio

Mean Word Frequency

```
length(chapter.raws.l)
```

```
## [1] 135
```

```
names(chapter.raws.l)
```

```
##   [1] "CHAPTER 1. Loomings."
##   [2] "CHAPTER 2. The Carpet-Bag."
##   [3] "CHAPTER 3. The Spouter-Inn."
##   [4] "CHAPTER 4. The Counterpane."
##   [5] "CHAPTER 5. Breakfast."
##   [6] "CHAPTER 6. The Street."
##   [7] "CHAPTER 7. The Chapel."
##   [8] "CHAPTER 8. The Pulpit."
##   [9] "CHAPTER 9. The Sermon."
##  [10] "CHAPTER 10. A Bosom Friend."
##  [11] "CHAPTER 11. Nightgown."
##  [12] "CHAPTER 12. Biographical."
##  [13] "CHAPTER 13. Wheelbarrow."
##  [14] "CHAPTER 14. Nantucket."
##  [15] "CHAPTER 15. Chowder."
##  [16] "CHAPTER 16. The Ship."
##  [17] "CHAPTER 17. The Ramadan."
##  [18] "CHAPTER 18. His Mark."
##  [19] "CHAPTER 19. The Prophet."
##  [20] "CHAPTER 20. All Astir."
##  [21] "CHAPTER 21. Going Aboard."
##  [22] "CHAPTER 22. Merry Christmas."
##  [23] "CHAPTER 23. The Lee Shore."
##  [24] "CHAPTER 24. The Advocate."
##  [25] "CHAPTER 25. Postscript."
##  [26] "CHAPTER 26. Knights and Squires."
##  [27] "CHAPTER 27. Knights and Squires."
##  [28] "CHAPTER 28. Ahab."
##  [29] "CHAPTER 29. Enter Ahab; to Him, Stubb."
##  [30] "CHAPTER 30. The Pipe."
##  [31] "CHAPTER 31. Queen Mab."
```

```
##  [32] "CHAPTER 32. Cetology."
##  [33] "CHAPTER 33. The Specksnyder."
##  [34] "CHAPTER 34. The Cabin-Table."
##  [35] "CHAPTER 35. The Mast-Head."
##  [36] "CHAPTER 36. The Quarter-Deck."
##  [37] "CHAPTER 37. Sunset."
##  [38] "CHAPTER 38. Dusk."
##  [39] "CHAPTER 39. First Night Watch."
##  [40] "CHAPTER 40. Midnight, Forecastle."
##  [41] "CHAPTER 41. Moby Dick."
##  [42] "CHAPTER 42. The Whiteness of The Whale."
##  [43] "CHAPTER 43. Hark!"
##  [44] "CHAPTER 44. The Chart."
##  [45] "CHAPTER 45. The Affidavit."
##  [46] "CHAPTER 46. Surmises."
##  [47] "CHAPTER 47. The Mat-Maker."
##  [48] "CHAPTER 48. The First Lowering."
##  [49] "CHAPTER 49. The Hyena."
##  [50] "CHAPTER 50. Ahab's Boat and Crew. Fedallah."
##  [51] "CHAPTER 51. The Spirit-Spout."
##  [52] "CHAPTER 52. The Albatross."
##  [53] "CHAPTER 53. The Gam."
##  [54] "CHAPTER 54. The Town-Ho's Story."
##  [55] "CHAPTER 55. Of the Monstrous Pictures of Whales."
##  [56] "CHAPTER 56. Of the Less Erroneous Pictures of Whales, and the True"
##  [57] "CHAPTER 57. Of Whales in Paint; in Teeth; in Wood; in Sheet-Iron; in"
##  [58] "CHAPTER 58. Brit."
##  [59] "CHAPTER 59. Squid."
##  [60] "CHAPTER 60. The Line."
##  [61] "CHAPTER 61. Stubb Kills a Whale."
##  [62] "CHAPTER 62. The Dart."
##  [63] "CHAPTER 63. The Crotch."
##  [64] "CHAPTER 64. Stubb's Supper."
##  [65] "CHAPTER 65. The Whale as a Dish."
##  [66] "CHAPTER 66. The Shark Massacre."
##  [67] "CHAPTER 67. Cutting In."
##  [68] "CHAPTER 68. The Blanket."
##  [69] "CHAPTER 69. The Funeral."
##  [70] "CHAPTER 70. The Sphynx."
##  [71] "CHAPTER 71. The Jeroboam's Story."
##  [72] "CHAPTER 72. The Monkey-Rope."
##  [73] "CHAPTER 73. Stubb and Flask Kill a Right Whale; and Then Have a Talk"
##  [74] "CHAPTER 74. The Sperm Whale's Head--Contrasted View."
##  [75] "CHAPTER 75. The Right Whale's Head--Contrasted View."
##  [76] "CHAPTER 76. The Battering-Ram."
##  [77] "CHAPTER 77. The Great Heidelburgh Tun."
##  [78] "CHAPTER 78. Cistern and Buckets."
##  [79] "CHAPTER 79. The Prairie."
##  [80] "CHAPTER 80. The Nut."
##  [81] "CHAPTER 81. The Pequod Meets The Virgin."
##  [82] "CHAPTER 82. The Honour and Glory of Whaling."
##  [83] "CHAPTER 83. Jonah Historically Regarded."
##  [84] "CHAPTER 84. Pitchpoling."
##  [85] "CHAPTER 85. The Fountain."
```

```
##  [86] "CHAPTER 86. The Tail."
##  [87] "CHAPTER 87. The Grand Armada."
##  [88] "CHAPTER 88. Schools and Schoolmasters."
##  [89] "CHAPTER 89. Fast-Fish and Loose-Fish."
##  [90] "CHAPTER 90. Heads or Tails."
##  [91] "CHAPTER 91. The Pequod Meets The Rose-Bud."
##  [92] "CHAPTER 92. Ambergris."
##  [93] "CHAPTER 93. The Castaway."
##  [94] "CHAPTER 94. A Squeeze of the Hand."
##  [95] "CHAPTER 95. The Cassock."
##  [96] "CHAPTER 96. The Try-Works."
##  [97] "CHAPTER 97. The Lamp."
##  [98] "CHAPTER 98. Stowing Down and Clearing Up."
##  [99] "CHAPTER 99. The Doubloon."
## [100] "CHAPTER 100. Leg and Arm."
## [101] "CHAPTER 101. The Decanter."
## [102] "CHAPTER 102. A Bower in the Arsacides."
## [103] "CHAPTER 103. Measurement of The Whale's Skeleton."
## [104] "CHAPTER 104. The Fossil Whale."
## [105] "CHAPTER 105. Does the Whale's Magnitude Diminish?--Will He Perish?"
## [106] "CHAPTER 106. Ahab's Leg."
## [107] "CHAPTER 107. The Carpenter."
## [108] "CHAPTER 108. Ahab and the Carpenter."
## [109] "CHAPTER 109. Ahab and Starbuck in the Cabin."
## [110] "CHAPTER 110. Queequeg in His Coffin."
## [111] "CHAPTER 111. The Pacific."
## [112] "CHAPTER 112. The Blacksmith."
## [113] "CHAPTER 113. The Forge."
## [114] "CHAPTER 114. The Gilder."
## [115] "CHAPTER 115. The Pequod Meets The Bachelor."
## [116] "CHAPTER 116. The Dying Whale."
## [117] "CHAPTER 117. The Whale Watch."
## [118] "CHAPTER 118. The Quadrant."
## [119] "CHAPTER 119. The Candles."
## [120] "CHAPTER 120. The Deck Towards the End of the First Night Watch."
## [121] "CHAPTER 121. Midnight.--The Forecastle Bulwarks."
## [122] "CHAPTER 122. Midnight Aloft.--Thunder and Lightning."
## [123] "CHAPTER 123. The Musket."
## [124] "CHAPTER 124. The Needle."
## [125] "CHAPTER 125. The Log and Line."
## [126] "CHAPTER 126. The Life-Buoy."
## [127] "CHAPTER 127. The Deck."
## [128] "CHAPTER 128. The Pequod Meets The Rachel."
## [129] "CHAPTER 129. The Cabin."
## [130] "CHAPTER 130. The Hat."
## [131] "CHAPTER 131. The Pequod Meets The Delight."
## [132] "CHAPTER 132. The Symphony."
## [133] "CHAPTER 133. The Chase--First Day."
## [134] "CHAPTER 134. The Chase--Second Day."
## [135] "CHAPTER 135. The Chase.--Third Day."
```

```
class(chapter.raws.l$`CHAPTER 1. Loomings.`)
```

```
## [1] "table"
```

```
sum(chapter.raws.l[[1]])
```

```
## [1] 2244
```

```
length(chapter.raws.l[[1]])
```

```
## [1] 854
```

```
sum(chapter.raws.l[[1]]) / length(chapter.raws.l[[1]])
```

```
## [1] 2.627635
```

```
mean(chapter.raws.l[[1]])
```

```
## [1] 2.627635
```

Extracting Word Usage Means

```
lapply(chapter.raws.l, mean)
```

```
## $`CHAPTER 1. Loomings.`
## [1] 2.627635
##
## $`CHAPTER 2. The Carpet-Bag.`
## [1] 2.339775
##
## $`CHAPTER 3. The Spouter-Inn.`
## [1] 3.719777
##
## $`CHAPTER 4. The Counterpane.`
## [1] 2.536364
##
## $`CHAPTER 5. Breakfast.`
## [1] 1.994695
##
## $`CHAPTER 6. The Street.`
## [1] 1.871622
##
## $`CHAPTER 7. The Chapel.`
## [1] 1.958678
##
## $`CHAPTER 8. The Pulpit.`
## [1] 2.127473
##
## $`CHAPTER 9. The Sermon.`
## [1] 3.096939
##
## $`CHAPTER 10. A Bosom Friend.`
## [1] 2.527419
##
## $`CHAPTER 11. Nightgown.`
## [1] 2.079545
##
## $`CHAPTER 12. Biographical.`
## [1] 2.129187
```

```
##
## $`CHAPTER 13. Wheelbarrow.`
## [1] 2.409471
##
## $`CHAPTER 14. Nantucket.`
## [1] 1.914787
##
## $`CHAPTER 15. Chowder.`
## [1] 2.354651
##
## $`CHAPTER 16. The Ship.`
## [1] 3.692105
##
## $`CHAPTER 17. The Ramadan.`
## [1] 2.905824
##
## $`CHAPTER 18. His Mark.`
## [1] 2.545788
##
## $`CHAPTER 19. The Prophet.`
## [1] 2.988124
##
## $`CHAPTER 20. All Astir.`
## [1] 2.256039
##
## $`CHAPTER 21. Going Aboard.`
## [1] 2.288981
##
## $`CHAPTER 22. Merry Christmas.`
## [1] 2.525602
##
## $`CHAPTER 23. The Lee Shore.`
## [1] 1.620087
##
## $`CHAPTER 24. The Advocate.`
## [1] 2.411175
##
## $`CHAPTER 25. Postscript.`
## [1] 1.737805
##
## $`CHAPTER 26. Knights and Squires.`
## [1] 2.13913
##
## $`CHAPTER 27. Knights and Squires.`
## [1] 2.325581
##
## $`CHAPTER 28. Ahab.`
## [1] 2.314845
##
## $`CHAPTER 29. Enter Ahab; to Him, Stubb.`
## [1] 2.365714
##
## $`CHAPTER 30. The Pipe.`
## [1] 1.607735
```

```
##
## $`CHAPTER 31. Queen Mab.`
## [1] 2.839744
##
## $`CHAPTER 32. Cetology.`
## [1] 3.477622
##
## $`CHAPTER 33. The Specksnyder.`
## [1] 2.107296
##
## $`CHAPTER 34. The Cabin-Table.`
## [1] 2.572082
##
## $`CHAPTER 35. The Mast-Head.`
## [1] 2.560311
##
## $`CHAPTER 36. The Quarter-Deck.`
## [1] 2.874747
##
## $`CHAPTER 37. Sunset.`
## [1] 1.759197
##
## $`CHAPTER 38. Dusk.`
## [1] 1.719828
##
## $`CHAPTER 39. First Night Watch.`
## [1] 1.709091
##
## $`CHAPTER 40. Midnight, Forecastle.`
## [1] 2.402635
##
## $`CHAPTER 41. Moby Dick.`
## [1] 2.89142
##
## $`CHAPTER 42. The Whiteness of The Whale.`
## [1] 2.699409
##
## $`CHAPTER 43. Hark!`
## [1] 1.848837
##
## $`CHAPTER 44. The Chart.`
## [1] 2.556382
##
## $`CHAPTER 45. The Affidavit.`
## [1] 3.040851
##
## $`CHAPTER 46. Surmises.`
## [1] 2.149573
##
## $`CHAPTER 47. The Mat-Maker.`
## [1] 2.11036
##
## $`CHAPTER 48. The First Lowering.`
## [1] 3.087089
```

```
##
## $`CHAPTER 49. The Hyena.`
## [1] 2.076167
##
## $`CHAPTER 50. Ahab's Boat and Crew. Fedallah.`
## [1] 2.202151
##
## $`CHAPTER 51. The Spirit-Spout.`
## [1] 2.269345
##
## $`CHAPTER 52. The Albatross.`
## [1] 1.920635
##
## $`CHAPTER 53. The Gam.`
## [1] 2.559505
##
## $`CHAPTER 54. The Town-Ho's Story.`
## [1] 3.748727
##
## $`CHAPTER 55. Of the Monstrous Pictures of Whales.`
## [1] 2.533686
##
## $`CHAPTER 56. Of the Less Erroneous Pictures of Whales, and the True`
## [1] 2.295652
##
## $`CHAPTER 57. Of Whales in Paint; in Teeth; in Wood; in Sheet-Iron; in`
## [1] 1.965377
##
## $`CHAPTER 58. Brit.`
## [1] 2.090909
##
## $`CHAPTER 59. Squid.`
## [1] 1.970464
##
## $`CHAPTER 60. The Line.`
## [1] 2.462046
##
## $`CHAPTER 61. Stubb Kills a Whale.`
## [1] 2.44186
##
## $`CHAPTER 62. The Dart.`
## [1] 2.087591
##
## $`CHAPTER 63. The Crotch.`
## [1] 1.873518
##
## $`CHAPTER 64. Stubb's Supper.`
## [1] 3.114257
##
## $`CHAPTER 65. The Whale as a Dish.`
## [1] 2.204846
##
## $`CHAPTER 66. The Shark Massacre.`
## [1] 1.865103
```

```
##
## $`CHAPTER 67. Cutting In.`
## [1] 2.096045
##
## $`CHAPTER 68. The Blanket.`
## [1] 2.389328
##
## $`CHAPTER 69. The Funeral.`
## [1] 1.730469
##
## $`CHAPTER 70. The Sphynx.`
## [1] 1.951965
##
## $`CHAPTER 71. The Jeroboam's Story.`
## [1] 2.694639
##
## $`CHAPTER 72. The Monkey-Rope.`
## [1] 2.554878
##
## $`CHAPTER 73. Stubb and Flask Kill a Right Whale; and Then Have a Talk`
## [1] 3.148305
##
## $`CHAPTER 74. The Sperm Whale's Head--Contrasted View.`
## [1] 2.707993
##
## $`CHAPTER 75. The Right Whale's Head--Contrasted View.`
## [1] 2.396154
##
## $`CHAPTER 76. The Battering-Ram.`
## [1] 2.136585
##
## $`CHAPTER 77. The Great Heidelburgh Tun.`
## [1] 1.922388
##
## $`CHAPTER 78. Cistern and Buckets.`
## [1] 2.484398
##
## $`CHAPTER 79. The Prairie.`
## [1] 2.159453
##
## $`CHAPTER 80. The Nut.`
## [1] 2.347044
##
## $`CHAPTER 81. The Pequod Meets The Virgin.`
## [1] 3.139633
##
## $`CHAPTER 82. The Honour and Glory of Whaling.`
## [1] 2.35497
##
## $`CHAPTER 83. Jonah Historically Regarded.`
## [1] 2.197772
##
## $`CHAPTER 84. Pitchpoling.`
## [1] 1.873563
```

```
##
## $`CHAPTER 85. The Fountain.`
## [1] 2.902507
##
## $`CHAPTER 86. The Tail.`
## [1] 2.52168
##
## $`CHAPTER 87. The Grand Armada.`
## [1] 3.008766
##
## $`CHAPTER 88. Schools and Schoolmasters.`
## [1] 2.130125
##
## $`CHAPTER 89. Fast-Fish and Loose-Fish.`
## [1] 2.610108
##
## $`CHAPTER 90. Heads or Tails.`
## [1] 2.323851
##
## $`CHAPTER 91. The Pequod Meets The Rose-Bud.`
## [1] 2.952109
##
## $`CHAPTER 92. Ambergris.`
## [1] 2.063025
##
## $`CHAPTER 93. The Castaway.`
## [1] 2.284327
##
## $`CHAPTER 94. A Squeeze of the Hand.`
## [1] 2.199659
##
## $`CHAPTER 95. The Cassock.`
## [1] 1.751748
##
## $`CHAPTER 96. The Try-Works.`
## [1] 2.38601
##
## $`CHAPTER 97. The Lamp.`
## [1] 1.597403
##
## $`CHAPTER 98. Stowing Down and Clearing Up.`
## [1] 2.066
##
## $`CHAPTER 99. The Doubloon.`
## [1] 2.810901
##
## $`CHAPTER 100. Leg and Arm.`
## [1] 3.028169
##
## $`CHAPTER 101. The Decanter.`
## [1] 2.531825
##
## $`CHAPTER 102. A Bower in the Arsacides.`
## [1] 2.152589
```

```
##
## $`CHAPTER 103. Measurement of The Whale's Skeleton.`
## [1] 2.26764
##
## $`CHAPTER 104. The Fossil Whale.`
## [1] 2.176737
##
## $`CHAPTER 105. Does the Whale's Magnitude Diminish?--Will He Perish?`
## [1] 2.398782
##
## $`CHAPTER 106. Ahab's Leg.`
## [1] 2.121896
##
## $`CHAPTER 107. The Carpenter.`
## [1] 2.018939
##
## $`CHAPTER 108. Ahab and the Carpenter.`
## [1] 2.788136
##
## $`CHAPTER 109. Ahab and Starbuck in the Cabin.`
## [1] 2.203791
##
## $`CHAPTER 110. Queequeg in His Coffin.`
## [1] 2.704976
##
## $`CHAPTER 111. The Pacific.`
## [1] 1.541516
##
## $`CHAPTER 112. The Blacksmith.`
## [1] 1.946721
##
## $`CHAPTER 113. The Forge.`
## [1] 2.425
##
## $`CHAPTER 114. The Gilder.`
## [1] 1.678663
##
## $`CHAPTER 115. The Pequod Meets The Bachelor.`
## [1] 2.036036
##
## $`CHAPTER 116. The Dying Whale.`
## [1] 1.705882
##
## $`CHAPTER 117. The Whale Watch.`
## [1] 1.943089
##
## $`CHAPTER 118. The Quadrant.`
## [1] 2.153664
##
## $`CHAPTER 119. The Candles.`
## [1] 2.826039
##
## $`CHAPTER 120. The Deck Towards the End of the First Night Watch.`
## [1] 1.57265
```

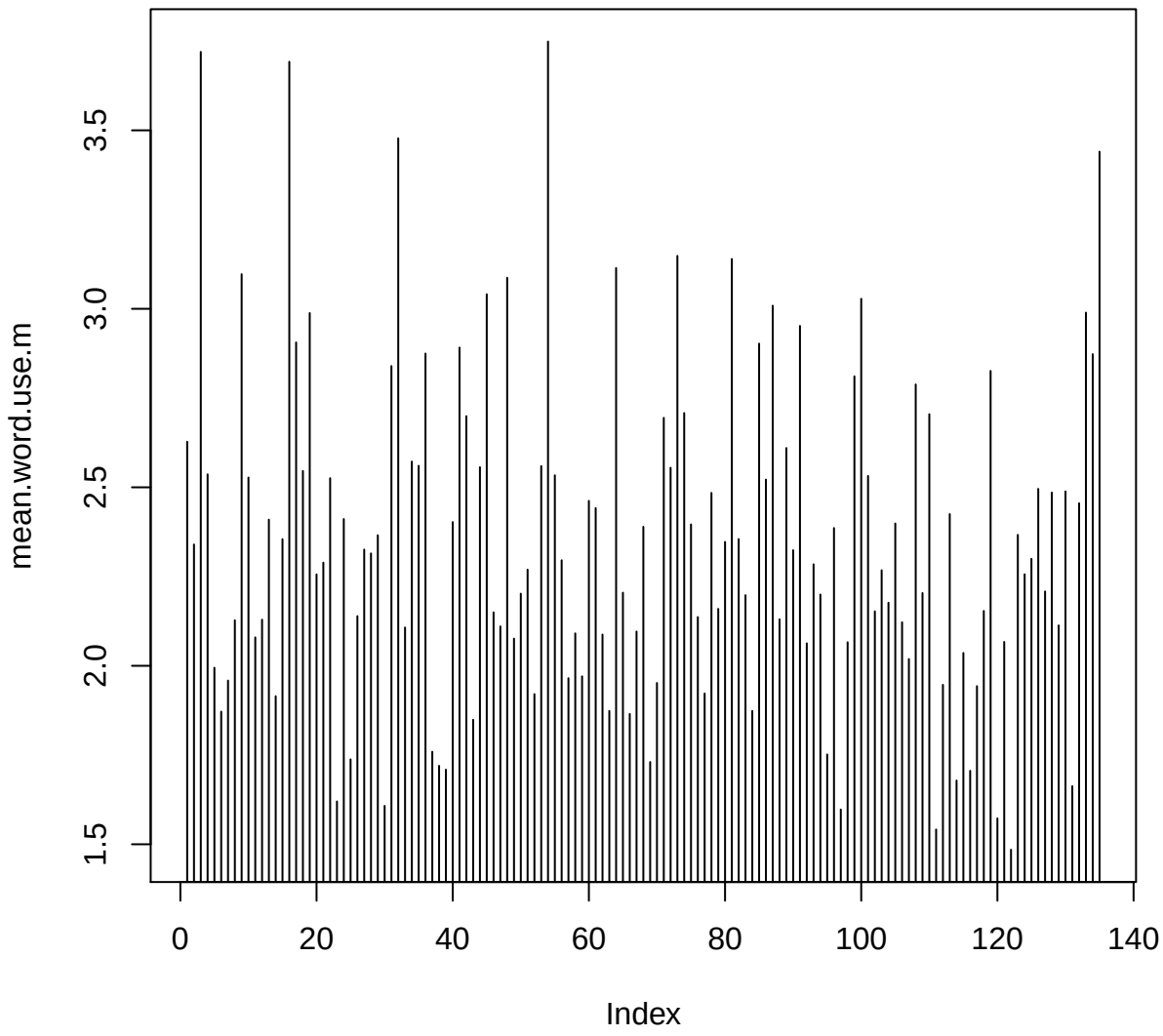
```
##
## $`CHAPTER 121. Midnight.--The Forecastle Bulwarks.`
## [1] 2.066879
##
## $`CHAPTER 122. Midnight Aloft.--Thunder and Lightning.`
## [1] 1.484848
##
## $`CHAPTER 123. The Musket.`
## [1] 2.366853
##
## $`CHAPTER 124. The Needle.`
## [1] 2.256458
##
## $`CHAPTER 125. The Log and Line.`
## [1] 2.299799
##
## $`CHAPTER 126. The Life-Buoy.`
## [1] 2.495622
##
## $`CHAPTER 127. The Deck.`
## [1] 2.208333
##
## $`CHAPTER 128. The Pequod Meets The Rachel.`
## [1] 2.485269
##
## $`CHAPTER 129. The Cabin.`
## [1] 2.113074
##
## $`CHAPTER 130. The Hat.`
## [1] 2.488473
##
## $`CHAPTER 131. The Pequod Meets The Delight.`
## [1] 1.662835
##
## $`CHAPTER 132. The Symphony.`
## [1] 2.455224
##
## $`CHAPTER 133. The Chase--First Day.`
## [1] 2.989318
##
## $`CHAPTER 134. The Chase--Second Day.`
## [1] 2.872989
##
## $`CHAPTER 135. The Chase.--Third Day.`
## [1] 3.440168
```

```
mean.word.use.m <- do.call(rbind, lapply(chapter.raws.l, mean))

dim(mean.word.use.m)
```

```
## [1] 135   1
```

```
plot(mean.word.use.m,
     type = "h")
```




```
scale(mean.word.use.m)
```

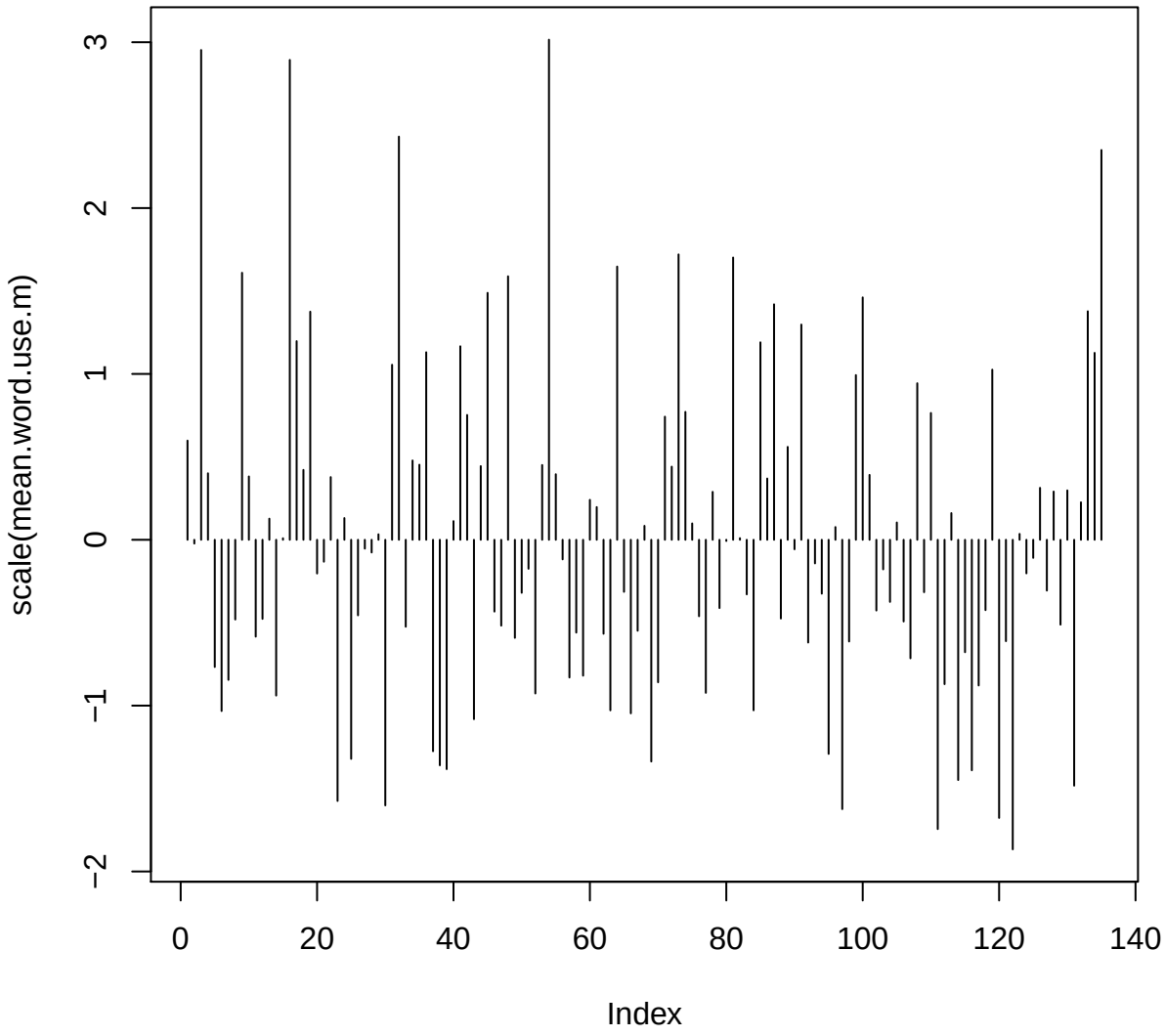
```
##                                                      [,1]
## CHAPTER 1. Loomings.                          0.597840379
## CHAPTER 2. The Carpet-Bag.                   -0.022905734
## CHAPTER 3. The Spouter-Inn.                   2.952953119
## CHAPTER 4. The Counterpane.                   0.401022089
## CHAPTER 5. Breakfast.                        -0.767040875
## CHAPTER 6. The Street.                       -1.032438184
## CHAPTER 7. The Chapel.                       -0.844709099
## CHAPTER 8. The Pulpit.                       -0.480717214
## CHAPTER 9. The Sermon.                        1.609855250
## CHAPTER 10. A Bosom Friend.                   0.381734497
## CHAPTER 11. Nightgown.                       -0.584067917
```

```
## CHAPTER 12. Biographical.                                                -0.477020954
## CHAPTER 13. Wheelbarrow.                                                  0.127388251
## CHAPTER 14. Nantucket.                                                   -0.939355744
## CHAPTER 15. Chowder.                                                      0.009174415
## CHAPTER 16. The Ship.                                                     2.893281747
## CHAPTER 17. The Ramadan.                                                  1.197732389
## CHAPTER 18. His Mark.                                                     0.421343957
## CHAPTER 19. The Prophet.                                                  1.375204290
## CHAPTER 20. All Astir.                                                   -0.203475184
## CHAPTER 21. Going Aboard.                                                -0.132437147
## CHAPTER 22. Merry Christmas.                                              0.377816408
## CHAPTER 23. The Lee Shore.                                               -1.574850724
## CHAPTER 24. The Advocate.                                                 0.131062855
## CHAPTER 25. Postscript.                                                  -1.321002742
## CHAPTER 26. Knights and Squires.                                         -0.455577917
## CHAPTER 27. Knights and Squires.                                         -0.053512094
## CHAPTER 28. Ahab.                                                        -0.076664176
## CHAPTER 29. Enter Ahab; to Him, Stubb.                                    0.033031110
## CHAPTER 30. The Pipe.                                                    -1.601487916
## CHAPTER 31. Queen Mab.                                                    1.055235454
## CHAPTER 32. Cetology.                                                     2.430766428
## CHAPTER 33. The Specksnyder.                                             -0.524225903
## CHAPTER 34. The Cabin-Table.                                              0.478046556
## CHAPTER 35. The Mast-Head.                                                0.452663178
## CHAPTER 36. The Quarter-Deck.                                             1.130718389
## CHAPTER 37. Sunset.                                                      -1.274871729
## CHAPTER 38. Dusk.                                                        -1.359769260
## CHAPTER 39. First Night Watch.                                           -1.382922002
## CHAPTER 40. Midnight, Forecastle.                                         0.112648458
## CHAPTER 41. Moby Dick.                                                    1.166671059
## CHAPTER 42. The Whiteness of The Whale.                                   0.752616049
## CHAPTER 43. Hark!                                                        -1.081570853
## CHAPTER 44. The Chart.                                                    0.444189275
## CHAPTER 45. The Affidavit.                                                1.488906815
## CHAPTER 46. Surmises.                                                    -0.433060158
## CHAPTER 47. The Mat-Maker.                                               -0.517618163
## CHAPTER 48. The First Lowering.                                           1.588615860
## CHAPTER 49. The Hyena.                                                   -0.591353106
## CHAPTER 50. Ahab's Boat and Crew. Fedallah.                              -0.319680363
## CHAPTER 51. The Spirit-Spout.                                            -0.174780640
## CHAPTER 52. The Albatross.                                               -0.926745125
## CHAPTER 53. The Gam.                                                      0.450925377
## CHAPTER 54. The Town-Ho's Story.                                          3.015382714
## CHAPTER 55. Of the Monstrous Pictures of Whales.                          0.395247131
## CHAPTER 56. Of the Less Erroneous Pictures of Whales, and the True       -0.118051944
## CHAPTER 57. Of Whales in Paint; in Teeth; in Wood; in Sheet-Iron; in     -0.830263062
## CHAPTER 58. Brit.                                                        -0.559563191
## CHAPTER 59. Squid.                                                       -0.819292613
## CHAPTER 60. The Line.                                                     0.240762795
## CHAPTER 61. Stubb Kills a Whale.                                          0.197233944
## CHAPTER 62. The Dart.                                                    -0.566717856
## CHAPTER 63. The Crotch.                                                  -1.028349263
## CHAPTER 64. Stubb's Supper.                                               1.647200168
## CHAPTER 65. The Whale as a Dish.                                         -0.313868224
```

```
## CHAPTER 66. The Shark Massacre.                                      -1.046495821
## CHAPTER 67. Cutting In.                                              -0.548487608
## CHAPTER 68. The Blanket.                                              0.083952236
## CHAPTER 69. The Funeral.                                             -1.336822485
## CHAPTER 70. The Sphynx.                                              -0.859184301
## CHAPTER 71. The Jeroboam's Story.                                     0.742328946
## CHAPTER 72. The Monkey-Rope.                                          0.440946862
## CHAPTER 73. Stubb and Flask Kill a Right Whale; and Then Have a Talk  1.720622378
## CHAPTER 74. The Sperm Whale's Head--Contrasted View.                  0.771127407
## CHAPTER 75. The Right Whale's Head--Contrasted View.                  0.098671463
## CHAPTER 76. The Battering-Ram.                                       -0.461066144
## CHAPTER 77. The Great Heidelburgh Tun.                               -0.922964628
## CHAPTER 78. Cistern and Buckets.                                      0.288963030
## CHAPTER 79. The Prairie.                                             -0.411753360
## CHAPTER 80. The Nut.                                                 -0.007230435
## CHAPTER 81. The Pequod Meets The Virgin.                              1.701922374
## CHAPTER 82. The Honour and Glory of Whaling.                          0.009861042
## CHAPTER 83. Jonah Historically Regarded.                             -0.329123200
## CHAPTER 84. Pitchpoling.                                             -1.028251293
## CHAPTER 85. The Fountain.                                             1.190579394
## CHAPTER 86. The Tail.                                                 0.369358529
## CHAPTER 87. The Grand Armada.                                         1.419719015
## CHAPTER 88. Schools and Schoolmasters.                               -0.474997860
## CHAPTER 89. Fast-Fish and Loose-Fish.                                 0.560046263
## CHAPTER 90. Heads or Tails.                                          -0.057243108
## CHAPTER 91. The Pequod Meets The Rose-Bud.                            1.297543016
## CHAPTER 92. Ambergris.                                               -0.619692436
## CHAPTER 93. The Castaway.                                            -0.142473033
## CHAPTER 94. A Squeeze of the Hand.                                   -0.325053794
## CHAPTER 95. The Cassock.                                             -1.290935028
## CHAPTER 96. The Try-Works.                                            0.076797894
## CHAPTER 97. The Lamp.                                                -1.623768457
## CHAPTER 98. Stowing Down and Clearing Up.                            -0.613277551
## CHAPTER 99. The Doubloon.                                             0.993038836
## CHAPTER 100. Leg and Arm.                                             1.461559041
## CHAPTER 101. The Decanter.                                            0.391234062
## CHAPTER 102. A Bower in the Arsacides.                               -0.426556610
## CHAPTER 103. Measurement of The Whale's Skeleton.                    -0.178458052
## CHAPTER 104. The Fossil Whale.                                       -0.374482175
## CHAPTER 105. Does the Whale's Magnitude Diminish?--Will He Perish?    0.104339598
## CHAPTER 106. Ahab's Leg.                                             -0.492742176
## CHAPTER 107. The Carpenter.                                          -0.714759792
## CHAPTER 108. Ahab and the Carpenter.                                  0.943947148
## CHAPTER 109. Ahab and Starbuck in the Cabin.                         -0.316141832
## CHAPTER 110. Queequeg in His Coffin.                                  0.764621130
## CHAPTER 111. The Pacific.                                            -1.744282676
## CHAPTER 112. The Blacksmith.                                         -0.870492016
## CHAPTER 113. The Forge.                                               0.160875769
## CHAPTER 114. The Gilder.                                             -1.448536714
## CHAPTER 115. The Pequod Meets The Bachelor.                          -0.677892321
## CHAPTER 116. The Dying Whale.                                        -1.389840983
## CHAPTER 117. The Whale Watch.                                        -0.878323861
## CHAPTER 118. The Quadrant.                                           -0.424236852
## CHAPTER 119. The Candles.                                             1.025683493
```

```
## CHAPTER 120. The Deck Towards the End of the First Night Watch.      -1.677146274
## CHAPTER 121. Midnight.--The Forecastle Bulwarks.                     -0.611382103
## CHAPTER 122. Midnight Aloft.--Thunder and Lightning.                 -1.866481938
## CHAPTER 123. The Musket.                                              0.035486406
## CHAPTER 124. The Needle.                                             -0.202571824
## CHAPTER 125. The Log and Line.                                       -0.109110109
## CHAPTER 126. The Life-Buoy.                                           0.313165563
## CHAPTER 127. The Deck.                                               -0.306347684
## CHAPTER 128. The Pequod Meets The Rachel.                             0.290840005
## CHAPTER 129. The Cabin.                                              -0.511765986
## CHAPTER 130. The Hat.                                                 0.297749143
## CHAPTER 131. The Pequod Meets The Delight.                           -1.482668444
## CHAPTER 132. The Symphony.                                            0.226051026
## CHAPTER 133. The Chase--First Day.                                    1.377780085
## CHAPTER 134. The Chase--Second Day.                                   1.126926370
## CHAPTER 135. The Chase.--Third Day.                                   2.350000110
## attr(,"scaled:center")
## [1] 2.350397
## attr(,"scaled:scale")
## [1] 0.4637324
```

```
plot(scale(mean.word.use.m),
     type = "h")
```



Ranking the Values

```
order(mean.word.use.m)
```

```
##   [1] 122 111 120  97  30  23 131 114 116  39  38  69  25  95  37  43  66   6
##  [19]  63  84  14  52  77 117 112  70   7  57  59   5 107 115  92  98 121  49
##  [37]  11  62  58  67  33  47 129 106   8  12  88  76  26  46 102 118  79 104
##  [55]  83  94  50 109  65 127  20 124 103  51  93  21  56 125  28  90  27   2
##  [73]  80  15  82  29 123  96  68  75 105  40  13  24 113  61 132  60  78 128
##  [91] 130 126  86  22  10 101  55   4  18  72  44  53  35  34  89   1  71  42
## [109] 110  74 108  99 119  31 134  36  41  85  17  91  19 133  87 100  45  48
## [127]   9  64  81  73 135  32  16   3  54
```

```
order(mean.word.use.m,
      decreasing =  TRUE)
```

```
##   [1]  54   3  16  32 135  73  81  64   9  48  45 100  87 133  19  91  17  85
##  [19]  41  36 134  31 119  99 108  74 110  42  71   1  89  34  35  53  44  72
##  [37]  18   4  55 101  10  22  86 126 130 128  78  60 132  61 113  24  13  40
##  [55] 105  75  68  96 123  29  82  15  80   2  27  90  28 125  56  21  93  51
##  [73] 103 124  20 127  65 109  50  94  83 104  79 118 102  46  26  76  88  12
##  [91]   8 106 129  47  33  67  58  62  11  49 121  98  92 115 107   5  59  57
## [109]   7  70 112 117  77  52  14  84  63   6  66  43  37  95  25  69  38  39
## [127] 116 114 131  23  30  97 120 111 122
```

```
mean.word.use.m[order(mean.word.use.m,
                      decreasing = TRUE), ]
```

```
##                                       CHAPTER 54. The Town-Ho's Story.
##                                                               3.748727
##                                           CHAPTER 3. The Spouter-Inn.
##                                                               3.719777
##                                                 CHAPTER 16. The Ship.
##                                                               3.692105
##                                                 CHAPTER 32. Cetology.
##                                                               3.477622
##                                     CHAPTER 135. The Chase.--Third Day.
##                                                               3.440168
## CHAPTER 73. Stubb and Flask Kill a Right Whale; and Then Have a Talk
##                                                               3.148305
##                                CHAPTER 81. The Pequod Meets The Virgin.
##                                                               3.139633
##                                           CHAPTER 64. Stubb's Supper.
##                                                               3.114257
##                                               CHAPTER 9. The Sermon.
##                                                               3.096939
##                                        CHAPTER 48. The First Lowering.
##                                                               3.087089
##                                            CHAPTER 45. The Affidavit.
##                                                               3.040851
##                                          CHAPTER 100. Leg and Arm.
##                                                               3.028169
##                                       CHAPTER 87. The Grand Armada.
##                                                               3.008766
##                                     CHAPTER 133. The Chase--First Day.
##                                                               2.989318
##                                             CHAPTER 19. The Prophet.
##                                                               2.988124
##                               CHAPTER 91. The Pequod Meets The Rose-Bud.
##                                                               2.952109
##                                           CHAPTER 17. The Ramadan.
##                                                               2.905824
##                                          CHAPTER 85. The Fountain.
##                                                               2.902507
##                                             CHAPTER 41. Moby Dick.
##                                                               2.891420
##                                        CHAPTER 36. The Quarter-Deck.
```

```
##                                                 2.874747
##                           CHAPTER 134. The Chase--Second Day.
##                                                 2.872989
##                                       CHAPTER 31. Queen Mab.
##                                                 2.839744
##                                    CHAPTER 119. The Candles.
##                                                 2.826039
##                                    CHAPTER 99. The Doubloon.
##                                                 2.810901
##                          CHAPTER 108. Ahab and the Carpenter.
##                                                 2.788136
##          CHAPTER 74. The Sperm Whale's Head--Contrasted View.
##                                                 2.707993
##                          CHAPTER 110. Queequeg in His Coffin.
##                                                 2.704976
##                 CHAPTER 42. The Whiteness of The Whale.
##                                                 2.699409
##                       CHAPTER 71. The Jeroboam's Story.
##                                                 2.694639
##                                        CHAPTER 1. Loomings.
##                                                 2.627635
##                   CHAPTER 89. Fast-Fish and Loose-Fish.
##                                                 2.610108
##                                CHAPTER 34. The Cabin-Table.
##                                                 2.572082
##                                  CHAPTER 35. The Mast-Head.
##                                                 2.560311
##                                       CHAPTER 53. The Gam.
##                                                 2.559505
##                                    CHAPTER 44. The Chart.
##                                                 2.556382
##                                CHAPTER 72. The Monkey-Rope.
##                                                 2.554878
##                                       CHAPTER 18. His Mark.
##                                                 2.545788
##                                  CHAPTER 4. The Counterpane.
##                                                 2.536364
##             CHAPTER 55. Of the Monstrous Pictures of Whales.
##                                                 2.533686
##                                   CHAPTER 101. The Decanter.
##                                                 2.531825
##                                  CHAPTER 10. A Bosom Friend.
##                                                 2.527419
##                                CHAPTER 22. Merry Christmas.
##                                                 2.525602
##                                       CHAPTER 86. The Tail.
##                                                 2.521680
##                                  CHAPTER 126. The Life-Buoy.
##                                                 2.495622
##                                       CHAPTER 130. The Hat.
##                                                 2.488473
##                 CHAPTER 128. The Pequod Meets The Rachel.
##                                                 2.485269
##                              CHAPTER 78. Cistern and Buckets.
```

```
##                                                    2.484398
##                                          CHAPTER 60. The Line.
##                                                    2.462046
##                                      CHAPTER 132. The Symphony.
##                                                    2.455224
##                                   CHAPTER 61. Stubb Kills a Whale.
##                                                    2.441860
##                                        CHAPTER 113. The Forge.
##                                                    2.425000
##                                       CHAPTER 24. The Advocate.
##                                                    2.411175
##                                        CHAPTER 13. Wheelbarrow.
##                                                    2.409471
##                                  CHAPTER 40. Midnight, Forecastle.
##                                                    2.402635
##   CHAPTER 105. Does the Whale's Magnitude Diminish?--Will He Perish?
##                                                    2.398782
##                CHAPTER 75. The Right Whale's Head--Contrasted View.
##                                                    2.396154
##                                         CHAPTER 68. The Blanket.
##                                                    2.389328
##                                      CHAPTER 96. The Try-Works.
##                                                    2.386010
##                                        CHAPTER 123. The Musket.
##                                                    2.366853
##                           CHAPTER 29. Enter Ahab; to Him, Stubb.
##                                                    2.365714
##                       CHAPTER 82. The Honour and Glory of Whaling.
##                                                    2.354970
##                                             CHAPTER 15. Chowder.
##                                                    2.354651
##                                             CHAPTER 80. The Nut.
##                                                    2.347044
##                                      CHAPTER 2. The Carpet-Bag.
##                                                    2.339775
##                                   CHAPTER 27. Knights and Squires.
##                                                    2.325581
##                                        CHAPTER 90. Heads or Tails.
##                                                    2.323851
##                                                CHAPTER 28. Ahab.
##                                                    2.314845
##                                     CHAPTER 125. The Log and Line.
##                                                    2.299799
##   CHAPTER 56. Of the Less Erroneous Pictures of Whales, and the True
##                                                    2.295652
##                                         CHAPTER 21. Going Aboard.
##                                                    2.288981
##                                         CHAPTER 93. The Castaway.
##                                                    2.284327
##                                    CHAPTER 51. The Spirit-Spout.
##                                                    2.269345
##                  CHAPTER 103. Measurement of The Whale's Skeleton.
##                                                    2.267640
##                                          CHAPTER 124. The Needle.
```

```
##                                                 2.256458
##                                  CHAPTER 20. All Astir.
##                                                 2.256039
##                                  CHAPTER 127. The Deck.
##                                                 2.208333
##                             CHAPTER 65. The Whale as a Dish.
##                                                 2.204846
##                    CHAPTER 109. Ahab and Starbuck in the Cabin.
##                                                 2.203791
##                     CHAPTER 50. Ahab's Boat and Crew. Fedallah.
##                                                 2.202151
##                              CHAPTER 94. A Squeeze of the Hand.
##                                                 2.199659
##                       CHAPTER 83. Jonah Historically Regarded.
##                                                 2.197772
##                                CHAPTER 104. The Fossil Whale.
##                                                 2.176737
##                                     CHAPTER 79. The Prairie.
##                                                 2.159453
##                                  CHAPTER 118. The Quadrant.
##                                                 2.153664
##                        CHAPTER 102. A Bower in the Arsacides.
##                                                 2.152589
##                                      CHAPTER 46. Surmises.
##                                                 2.149573
##                             CHAPTER 26. Knights and Squires.
##                                                 2.139130
##                                CHAPTER 76. The Battering-Ram.
##                                                 2.136585
##                         CHAPTER 88. Schools and Schoolmasters.
##                                                 2.130125
##                                   CHAPTER 12. Biographical.
##                                                 2.129187
##                                     CHAPTER 8. The Pulpit.
##                                                 2.127473
##                                   CHAPTER 106. Ahab's Leg.
##                                                 2.121896
##                                    CHAPTER 129. The Cabin.
##                                                 2.113074
##                                 CHAPTER 47. The Mat-Maker.
##                                                 2.110360
##                               CHAPTER 33. The Specksnyder.
##                                                 2.107296
##                                   CHAPTER 67. Cutting In.
##                                                 2.096045
##                                         CHAPTER 58. Brit.
##                                                 2.090909
##                                    CHAPTER 62. The Dart.
##                                                 2.087591
##                                   CHAPTER 11. Nightgown.
##                                                 2.079545
##                                    CHAPTER 49. The Hyena.
##                                                 2.076167
##                  CHAPTER 121. Midnight.--The Forecastle Bulwarks.
```

```
##                                                    2.066879
##                            CHAPTER 98. Stowing Down and Clearing Up.
##                                                    2.066000
##                                          CHAPTER 92. Ambergris.
##                                                    2.063025
##                         CHAPTER 115. The Pequod Meets The Bachelor.
##                                                    2.036036
##                                       CHAPTER 107. The Carpenter.
##                                                    2.018939
##                                            CHAPTER 5. Breakfast.
##                                                    1.994695
##                                               CHAPTER 59. Squid.
##                                                    1.970464
## CHAPTER 57. Of Whales in Paint; in Teeth; in Wood; in Sheet-Iron; in
##                                                    1.965377
##                                             CHAPTER 7. The Chapel.
##                                                    1.958678
##                                           CHAPTER 70. The Sphynx.
##                                                    1.951965
##                                        CHAPTER 112. The Blacksmith.
##                                                    1.946721
##                                      CHAPTER 117. The Whale Watch.
##                                                    1.943089
##                                CHAPTER 77. The Great Heidelburgh Tun.
##                                                    1.922388
##                                         CHAPTER 52. The Albatross.
##                                                    1.920635
##                                            CHAPTER 14. Nantucket.
##                                                    1.914787
##                                          CHAPTER 84. Pitchpoling.
##                                                    1.873563
##                                           CHAPTER 63. The Crotch.
##                                                    1.873518
##                                            CHAPTER 6. The Street.
##                                                    1.871622
##                                     CHAPTER 66. The Shark Massacre.
##                                                    1.865103
##                                                 CHAPTER 43. Hark!
##                                                    1.848837
##                                               CHAPTER 37. Sunset.
##                                                    1.759197
##                                          CHAPTER 95. The Cassock.
##                                                    1.751748
##                                           CHAPTER 25. Postscript.
##                                                    1.737805
##                                          CHAPTER 69. The Funeral.
##                                                    1.730469
##                                                 CHAPTER 38. Dusk.
##                                                    1.719828
##                                       CHAPTER 39. First Night Watch.
##                                                    1.709091
##                                        CHAPTER 116. The Dying Whale.
##                                                    1.705882
##                                              CHAPTER 114. The Gilder.
```

```
##                                                         1.678663
##                           CHAPTER 131. The Pequod Meets The Delight.
##                                                         1.662835
##                                              CHAPTER 23. The Lee Shore.
##                                                         1.620087
##                                                  CHAPTER 30. The Pipe.
##                                                         1.607735
##                                                  CHAPTER 97. The Lamp.
##                                                         1.597403
##      CHAPTER 120. The Deck Towards the End of the First Night Watch.
##                                                         1.572650
##                                               CHAPTER 111. The Pacific.
##                                                         1.541516
##                  CHAPTER 122. Midnight Aloft.--Thunder and Lightning.
##                                                         1.484848
```

Calculating the TTR Inside *lapply*

```
length(chapter.raws.l[[1]]) / sum(chapter.raws.l[[1]]) * 100
```

```
## [1] 38.05704
```

```
ttr.l <- lapply(chapter.raws.l, function(x) {length(x)/sum(x)*100})
ttr.m <- do.call(rbind, ttr.l)
ttr.m[order(ttr.m, decreasing = TRUE), ]
```

```
##                  CHAPTER 122. Midnight Aloft.--Thunder and Lightning.
##                                                         67.34694
##                                               CHAPTER 111. The Pacific.
##                                                         64.87119
##      CHAPTER 120. The Deck Towards the End of the First Night Watch.
##                                                         63.58696
##                                                  CHAPTER 97. The Lamp.
##                                                         62.60163
##                                                  CHAPTER 30. The Pipe.
##                                                         62.19931
##                                              CHAPTER 23. The Lee Shore.
##                                                         61.72507
##                           CHAPTER 131. The Pequod Meets The Delight.
##                                                         60.13825
##                                                CHAPTER 114. The Gilder.
##                                                         59.57121
##                                           CHAPTER 116. The Dying Whale.
##                                                         58.62069
##                                         CHAPTER 39. First Night Watch.
##                                                         58.51064
##                                                    CHAPTER 38. Dusk.
##                                                         58.14536
##                                                CHAPTER 69. The Funeral.
##                                                         57.78781
##                                                 CHAPTER 25. Postscript.
##                                                         57.54386
##                                                CHAPTER 95. The Cassock.
##                                                         57.08583
```

```
##                                                 CHAPTER 37. Sunset.
##                                                                56.84411
##                                                   CHAPTER 43. Hark!
##                                                                54.08805
##                                          CHAPTER 66. The Shark Massacre.
##                                                                53.61635
##                                                  CHAPTER 6. The Street.
##                                                                53.42960
##                                                 CHAPTER 63. The Crotch.
##                                                                53.37553
##                                               CHAPTER 84. Pitchpoling.
##                                                                53.37423
##                                                  CHAPTER 14. Nantucket.
##                                                                52.22513
##                                               CHAPTER 52. The Albatross.
##                                                                52.06612
##                                    CHAPTER 77. The Great Heidelburgh Tun.
##                                                                52.01863
##                                             CHAPTER 117. The Whale Watch.
##                                                                51.46444
##                                           CHAPTER 112. The Blacksmith.
##                                                                51.36842
##                                                CHAPTER 70. The Sphynx.
##                                                                51.23043
##                                                 CHAPTER 7. The Chapel.
##                                                                51.05485
## CHAPTER 57. Of Whales in Paint; in Teeth; in Wood; in Sheet-Iron; in
##                                                                50.88083
##                                                    CHAPTER 59. Squid.
##                                                                50.74946
##                                                 CHAPTER 5. Breakfast.
##                                                                50.13298
##                                           CHAPTER 107. The Carpenter.
##                                                                49.53096
##                                CHAPTER 115. The Pequod Meets The Bachelor.
##                                                                49.11504
##                                                CHAPTER 92. Ambergris.
##                                                                48.47251
##                                  CHAPTER 98. Stowing Down and Clearing Up.
##                                                                48.40271
##                             CHAPTER 121. Midnight.--The Forecastle Bulwarks.
##                                                                48.38213
##                                                CHAPTER 49. The Hyena.
##                                                                48.16568
##                                                CHAPTER 11. Nightgown.
##                                                                48.08743
##                                                  CHAPTER 62. The Dart.
##                                                                47.90210
##                                                     CHAPTER 58. Brit.
##                                                                47.82609
##                                                CHAPTER 67. Cutting In.
##                                                                47.70889
##                                           CHAPTER 33. The Specksnyder.
##                                                                47.45418
```

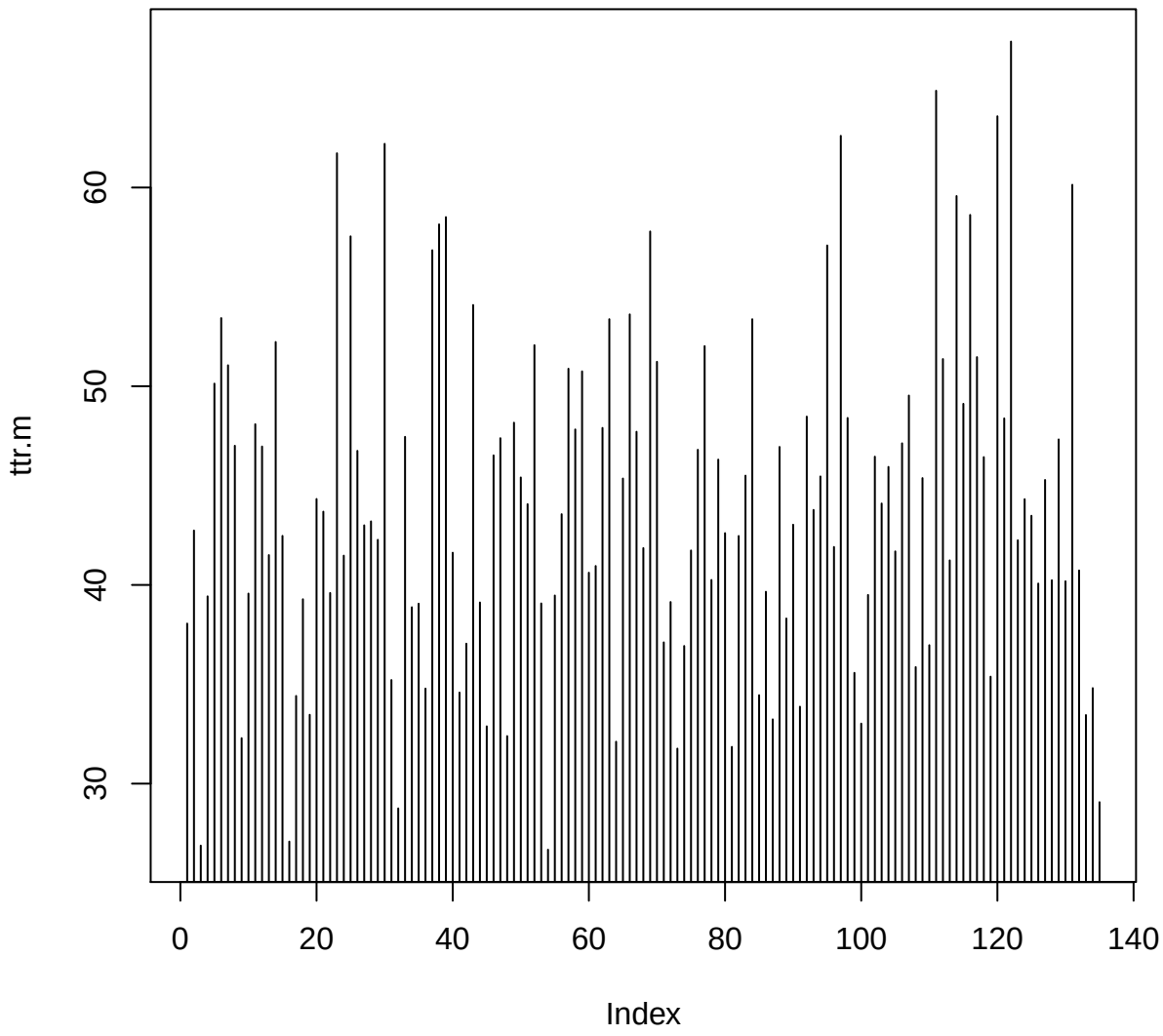
```
##                                          CHAPTER 47. The Mat-Maker.
##                                                              47.38527
##                                             CHAPTER 129. The Cabin.
##                                                              47.32441
##                                           CHAPTER 106. Ahab's Leg.
##                                                              47.12766
##                                             CHAPTER 8. The Pulpit.
##                                                              47.00413
##                                          CHAPTER 12. Biographical.
##                                                              46.96629
##                                 CHAPTER 88. Schools and Schoolmasters.
##                                                              46.94561
##                                        CHAPTER 76. The Battering-Ram.
##                                                              46.80365
##                                      CHAPTER 26. Knights and Squires.
##                                                              46.74797
##                                               CHAPTER 46. Surmises.
##                                                              46.52087
##                                 CHAPTER 102. A Bower in the Arsacides.
##                                                              46.45570
##                                          CHAPTER 118. The Quadrant.
##                                                              46.43249
##                                            CHAPTER 79. The Prairie.
##                                                              46.30802
##                                       CHAPTER 104. The Fossil Whale.
##                                                              45.94032
##                                CHAPTER 83. Jonah Historically Regarded.
##                                                              45.50063
##                                     CHAPTER 94. A Squeeze of the Hand.
##                                                              45.46160
##                            CHAPTER 50. Ahab's Boat and Crew. Fedallah.
##                                                              45.41016
##                           CHAPTER 109. Ahab and Starbuck in the Cabin.
##                                                              45.37634
##                                       CHAPTER 65. The Whale as a Dish.
##                                                              45.35465
##                                              CHAPTER 127. The Deck.
##                                                              45.28302
##                                             CHAPTER 20. All Astir.
##                                                              44.32548
##                                           CHAPTER 124. The Needle.
##                                                              44.31725
##                       CHAPTER 103. Measurement of The Whale's Skeleton.
##                                                              44.09871
##                                        CHAPTER 51. The Spirit-Spout.
##                                                              44.06557
##                                           CHAPTER 93. The Castaway.
##                                                              43.77656
##                                           CHAPTER 21. Going Aboard.
##                                                              43.68756
##   CHAPTER 56. Of the Less Erroneous Pictures of Whales, and the True
##                                                              43.56061
##                                        CHAPTER 125. The Log and Line.
##                                                              43.48206
```

```
##                                                  CHAPTER 28. Ahab.
##                                                            43.19944
##                                        CHAPTER 90. Heads or Tails.
##                                                            43.03202
##                                   CHAPTER 27. Knights and Squires.
##                                                            43.00000
##                                         CHAPTER 2. The Carpet-Bag.
##                                                            42.73916
##                                               CHAPTER 80. The Nut.
##                                                            42.60679
##                                               CHAPTER 15. Chowder.
##                                                            42.46914
##                        CHAPTER 82. The Honour and Glory of Whaling.
##                                                            42.46339
##                              CHAPTER 29. Enter Ahab; to Him, Stubb.
##                                                            42.27053
##                                           CHAPTER 123. The Musket.
##                                                            42.25020
##                                         CHAPTER 96. The Try-Works.
##                                                            41.91097
##                                           CHAPTER 68. The Blanket.
##                                                            41.85277
##                CHAPTER 75. The Right Whale's Head--Contrasted View.
##                                                            41.73355
##   CHAPTER 105. Does the Whale's Magnitude Diminish?--Will He Perish?
##                                                            41.68782
##                                  CHAPTER 40. Midnight, Forecastle.
##                                                            41.62096
##                                           CHAPTER 13. Wheelbarrow.
##                                                            41.50289
##                                          CHAPTER 24. The Advocate.
##                                                            41.47356
##                                            CHAPTER 113. The Forge.
##                                                            41.23711
##                                   CHAPTER 61. Stubb Kills a Whale.
##                                                            40.95238
##                                         CHAPTER 132. The Symphony.
##                                                            40.72948
##                                              CHAPTER 60. The Line.
##                                                            40.61662
##                                   CHAPTER 78. Cistern and Buckets.
##                                                            40.25120
##                           CHAPTER 128. The Pequod Meets The Rachel.
##                                                            40.23710
##                                              CHAPTER 130. The Hat.
##                                                            40.18529
##                                        CHAPTER 126. The Life-Buoy.
##                                                            40.07018
##                                              CHAPTER 86. The Tail.
##                                                            39.65610
##                                       CHAPTER 22. Merry Christmas.
##                                                            39.59451
##                                        CHAPTER 10. A Bosom Friend.
##                                                            39.56605
```

```
##                                     CHAPTER 101. The Decanter.
##                                                        39.49721
##                     CHAPTER 55. Of the Monstrous Pictures of Whales.
##                                                        39.46820
##                                   CHAPTER 4. The Counterpane.
##                                                        39.42652
##                                         CHAPTER 18. His Mark.
##                                                        39.28058
##                                  CHAPTER 72. The Monkey-Rope.
##                                                        39.14081
##                                       CHAPTER 44. The Chart.
##                                                        39.11779
##                                        CHAPTER 53. The Gam.
##                                                        39.07005
##                                     CHAPTER 35. The Mast-Head.
##                                                        39.05775
##                                  CHAPTER 34. The Cabin-Table.
##                                                        38.87900
##                            CHAPTER 89. Fast-Fish and Loose-Fish.
##                                                        38.31259
##                                         CHAPTER 1. Loomings.
##                                                        38.05704
##                               CHAPTER 71. The Jeroboam's Story.
##                                                        37.11073
##                           CHAPTER 42. The Whiteness of The Whale.
##                                                        37.04514
##                              CHAPTER 110. Queequeg in His Coffin.
##                                                        36.96890
##                  CHAPTER 74. The Sperm Whale's Head--Contrasted View.
##                                                        36.92771
##                              CHAPTER 108. Ahab and the Carpenter.
##                                                        35.86626
##                                       CHAPTER 99. The Doubloon.
##                                                        35.57578
##                                       CHAPTER 119. The Candles.
##                                                        35.38521
##                                          CHAPTER 31. Queen Mab.
##                                                        35.21445
##                             CHAPTER 134. The Chase--Second Day.
##                                                        34.80696
##                                   CHAPTER 36. The Quarter-Deck.
##                                                        34.78566
##                                          CHAPTER 41. Moby Dick.
##                                                        34.58508
##                                       CHAPTER 85. The Fountain.
##                                                        34.45298
##                                        CHAPTER 17. The Ramadan.
##                                                        34.41365
##                        CHAPTER 91. The Pequod Meets The Rose-Bud.
##                                                        33.87408
##                                        CHAPTER 19. The Prophet.
##                                                        33.46582
##                                 CHAPTER 133. The Chase--First Day.
##                                                        33.45245
```

```
##                                       CHAPTER 87. The Grand Armada.
##                                                               33.23621
##                                          CHAPTER 100. Leg and Arm.
##                                                               33.02326
##                                         CHAPTER 45. The Affidavit.
##                                                               32.88553
##                                     CHAPTER 48. The First Lowering.
##                                                               32.39297
##                                              CHAPTER 9. The Sermon.
##                                                               32.28995
##                                           CHAPTER 64. Stubb's Supper.
##                                                               32.11039
##                               CHAPTER 81. The Pequod Meets The Virgin.
##                                                               31.85085
## CHAPTER 73. Stubb and Flask Kill a Right Whale; and Then Have a Talk
##                                                               31.76312
##                                    CHAPTER 135. The Chase.--Third Day.
##                                                               29.06835
##                                                CHAPTER 32. Cetology.
##                                                               28.75528
##                                                CHAPTER 16. The Ship.
##                                                               27.08482
##                                           CHAPTER 3. The Spouter-Inn.
##                                                               26.88333
##                                       CHAPTER 54. The Town-Ho's Story.
##                                                               26.67572
```

```
plot(ttr.m,
     type = "h")
```



Exercise

1

```
ttr.v <- as.vector(ttr.m)
chapter.lengths.m <- do.call(rbind, lapply(chapter.raws.l, sum))
chap.len.v <- as.vector(chapter.lengths.m)
cor(ttr.v, chap.len.v)
```

```
## [1] -0.7971883
```

2

```
mean.word.use.v <- as.vector(mean.word.use.m)
cor(mean.word.use.v, chap.len.v)
```

```
## [1] 0.8924301
```

3

```
cor(ttr.v, chap.len.v)
```

```
## [1] -0.7971883
```

```
my.cors.v <- NULL
for (i in 1:10000) {
  my.cors.v <- c(my.cors.v,
                 cor(sample(ttr.v), chap.len.v))
}

min(my.cors.v)
```

```
## [1] -0.3095835
```

```
max(my.cors.v)
```

```
## [1] 0.3613647
```

```
range(my.cors.v)
```

```
## [1] -0.3095835  0.3613647
```

```
mean(my.cors.v)
```

```
## [1] -0.001105127
```

```
sd(my.cors.v)
```

```
## [1] 0.08609251
```