

# Assignment4

##Task 2

```
library(gutenbergr)
library(tidytext)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##   filter, lag

## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union
```

```
library(stringr)
library(tidyr)
library(ggplot2)
moon<-gutenberg_download(222)
```

```
## Determining mirror for Project Gutenberg from http://www.gutenberg.org/robot/harvest
```

```
## Using mirror http://aleph.gutenberg.org
```

```
moon_1<-mutate(moon,linenumber=row_number(),
               chapter=cumsum(str_detect(text,regex("^CHAPTER",ignore_case = TRUE))))
moon_2<-unnest_tokens(moon_1,word,text)
moon_3<-anti_join(moon_2,stop_words)
```

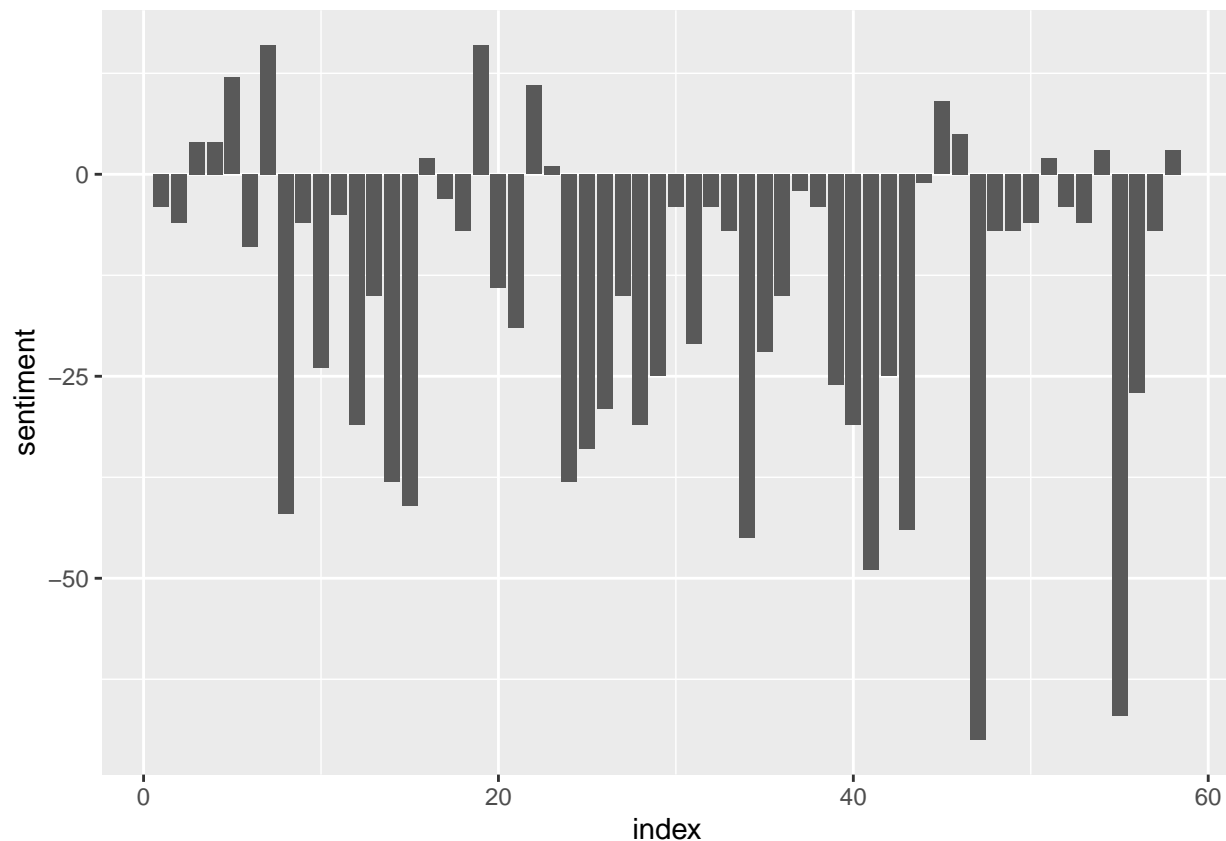
```
## Joining, by = "word"
```

```
moon_4<-inner_join(moon_3,get_sentiments("bing"))
```

```
## Joining, by = "word"
```

```
moon_5<-count(moon_4,index=chapter,sentiment)
moon_6<-spread(moon_5,sentiment,n)
moon_7<-mutate(moon_6,sentiment=positive-negative)
ggplot(moon_7,aes(index,sentiment))+geom_col()
```

```
## Warning: Removed 1 rows containing missing values (position_stack).
```



## Analysis I use chapter length and 'bing' sentiment dictionary to display the plotline of the book. "The Moon and Sixpence" is filled with bizarre and tragic encounters after the main character leaves home to pursue his dream. So the graph I create only had some positive sentiment words at the beginning, and most of the rest were negative.

## Task 3

```
devtools::install_github("Truenumbers/tnum/tnum")
```

```
## Skipping install of 'tnum' from a github remote, the SHA1 (dca65088) has not changed since last install
## Use `force = TRUE` to force installation
```

```
library(tidyverse)
```

```
## -- Attaching packages ----- tidyverse 1.3.1 --
```

```
## v tibble 3.1.4      v purrr 0.3.4
```

```
## v readr 2.0.1      v forcats 0.5.1
```

```
## -- Conflicts ----- tidyverse_conflicts() --
```

```
## x dplyr::filter() masks stats::filter()
```

```
## x dplyr::lag() masks stats::lag()
```

```
library(knitr)
```

```
library(kableExtra)
```

```
##
```

```
## Attaching package: 'kableExtra'
```

```
## The following object is masked from 'package:dplyr':
```

```
##
```

```
##      group_rows
```

```
library(tnnum)
library(sentimentr)
library(tidyverse)
tnnum.authorize("mssp1.bu.edu")
```

```
## Available spaces: testspace, MEPED, alion-rf, shared-testspace, test2, alion, NCNM, ED-900-Workshop,
```

```
## Numberspace set to: testspace
```

```
tnnum.setSpace("test2")
moon<-gutenberg_download(222)
source("Book2TN-v6A-1.R")
tnBooksFromLines(moon$text, "william/test2")
```

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## Posting 7344 characters
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```

```
tnum.getDBPathList(taxonomy="subject", levels=2)
```

```

## [1] "" "wells/hw_time"
## [3] "wells/hw_time_1" "Twain/Tom_Sawyer"
## [5] "twain/tom_sawyer" "cervantes/don_quixote"
## [7] "Dickens/david_copperfield" "dickens/david_copperfield"
## [9] "well/hw_time_1" "hw_time_1/heading"
## [11] "hw_time_1/section" "hw_time_2/heading"
## [13] "hw_time_2/section" "Alcott/Little_women"
## [15] "alcott/little_women" "Kafka/Metamorphosis"
## [17] "kafka/metamorphosis" "bronte/wuthering_heights"
## [19] "twain/wz_huck_1" "Thomas"
## [21] "thomas" "Thomas/Tess"
## [23] "thomas/tess" "wells/hw5"
## [25] "wells5/hw5" "Kipling/junglebook"
## [27] "kipling/junglebook" "cervantes/don_quixote_v2"
## [29] "jane_eyre/heading" "jane_eyre/section"
## [31] "wells6/hw6" "wells7/hw7"
## [33] "wells8/hw8" "wells9/hw9"
## [35] "Twain/Tom_Sawyer_TEST" "twain/tom_sawyer_test"
## [37] "barrie/Assignment4" "barrie/assignment4"
## [39] "wilde/section" "gatsby/hw_1"
## [41] "zweig/test1" "tnum_pp/assignment4"
## [43] "randb/heading" "randb/section"
## [45] "cervantes/don_quixote_v3" "cervantes/don_quixote_v4"
## [47] "Zweig/test1" "Twain/Tom_Sawyer2"
## [49] "twain/tom_sawyer2" "Zweig/test2"
## [51] "zweig/test2" "glasser/the_martian"
## [53] "wells10/hw10" "wells11/hw11"
## [55] "wells12/hw12" "hssb/book"
## [57] "hssb/book1" "glasser/the_martian_1"
## [59] "Glasser/the_martian_1" "jv_ttluts/textanalysis"
## [61] "Austen/persuasion" "austen/persuasion"

```

```
## [63] "hvsb/book3"
library(magrittr)

##
## Attaching package: 'magrittr'
## The following object is masked from 'package:purrr':
##
##   set_names
## The following object is masked from 'package:tidyr':
##
##   extract
##Get my book in sentence level
pq1 <- tnum.query("william/test2/section:* has ordinal", max = 7000)

## Returned 1 thru 7000 of 13225 results
pqdf1 <- tnum.objectsToDf(pq1)
bk_df <- pqdf1 %>% separate(col=subject, sep="/para", into = c("section", "para"))

bk_df %<>% separate(col=section, sep=":", into= c("out","section"))

bk_df %<>% separate(col=para, sep="/", into=c("pars", "sent"))

bk_df %<>% separate(col=pars, sep=":", into=c("out1", "para"))

bk_df %<>% separate(col=sent, sep=":", into=c("out2", "sent"))

bk_df %<>% rename(ordinal=numeric.value)

bk_df %<>% select(section, para, sent, ordinal)
pq2 <- tnum.query("william/test2/section:* has count:#", max = 7000)

## Returned 1 thru 7000 of 13225 results
pqdf2 <- tnum.objectsToDf(pq2)

bk_w_df <- pqdf2 %>% separate(col=subject, sep="e:", into=c("out", "sent1"))

bk_w_df %<>% rename(word_count = numeric.value)

bk_w_df %<>% select(sent1, word_count)

bk_df1 <- cbind2(bk_df, bk_w_df)

a <- filter(bk_df1, sent==sent1)

bk_df1 %<>% select(section, para, sent, ordinal, word_count)

pq3 <- tnum.query("william/test2/section:* has text", max = 7000)

## Returned 1 thru 7000 of 13225 results
```

```

pqdf3 <- tnum.objectsToDf(pq3)

bk_t_df <- pqdf3 %>% separate(col=subject, sep="e:", into=c("out", "sent1"))

bk_t_df %<>% rename(s_text = string.value)

bk_t_df %<>% select(s_text)

bk_df_2 <- cbind2(bk_df1, bk_t_df)

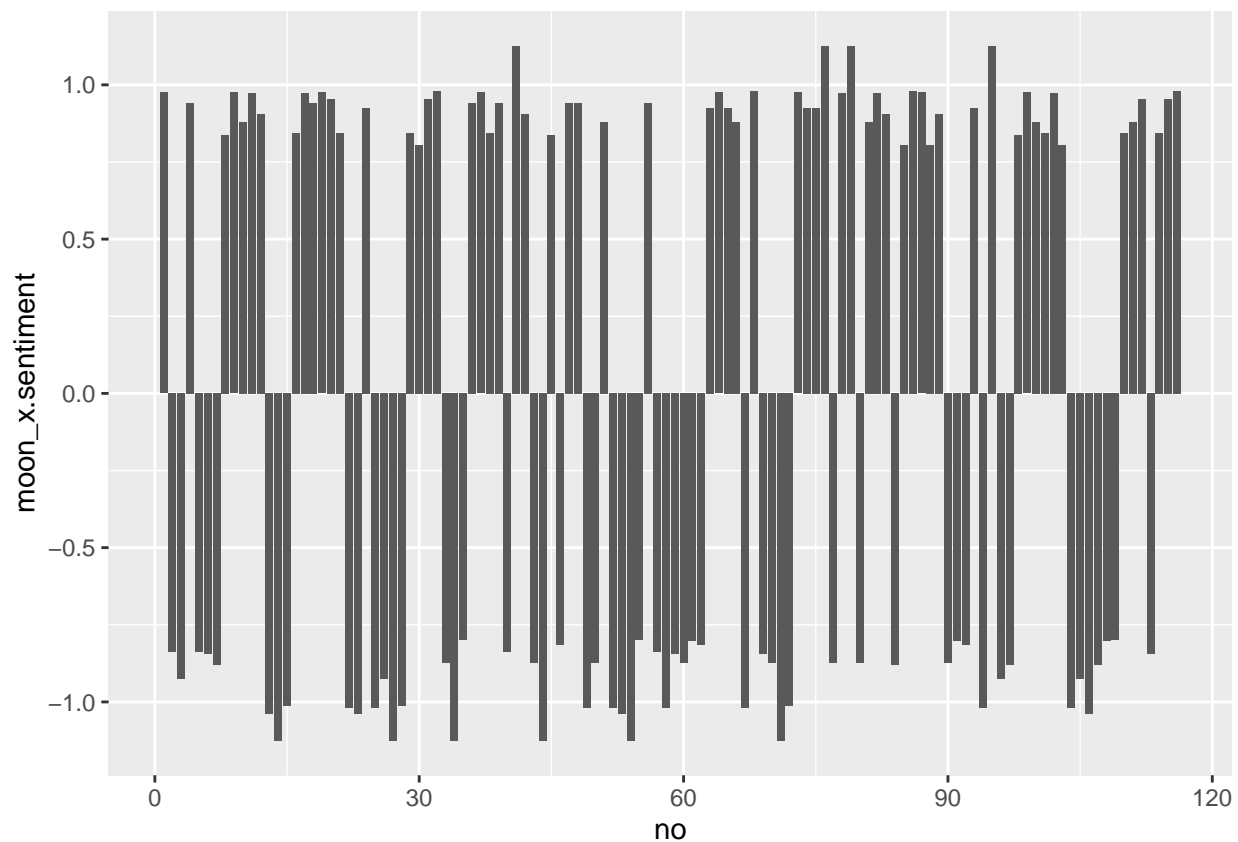
##Now do the sentiment analysis
library(sentimentr)

moon_a<- bk_df_2 %>%
  get_sentences() %>%
  sentiment() ->moon_x
moon_b<- data.frame(moon_x$ordinal,moon_x$sentiment)

moon_c<- mutate(moon_b,polarity_level = ifelse(moon_x.sentence < -0.8, "Negative",
                                              ifelse(moon_x.sentence > 0.8, "Positive","Neutral"))
moon_d<- filter(moon_c, !polarity_level == "Neutral")

moon_d$no<-order(moon_d[,1])
ggplot(moon_d,aes(no,moon_x.sentence))+geom_col()

```



*##Analysis* In sentence level sentiment analysis using sentimentr package, I first load my book into number

space. Then I use the polarity level function to assign the sentiment value to ‘positive’, ‘neutral’ and ‘negative’ levels. To plot the column diagram, I filtered the ‘neutral’s. As the plot showed, the positive and negative sentiment sentences are distributed equally. However, in my task 2, the negative sentiment is more significant. That’s because this book has a melancholy tone.

##Tag the characters and show the story line

```
q30 <- tnum.query("william/test2/section:# has * = REGEXP(\" Stroeve\")", max = 100)
```

## Returned 1 thru 100 of 117 results

```
qdf30 <- tnum.objectsToDf(q30)
```

```
tnum.tagByQuery("william/test2/section:# has * = REGEXP(\" Stroeve\")", adds=("Dirk Stroeve"))
```

## list(modifiedCount = 117, tagged = 117, removed = 0)

```
q31 <- tnum.query("william/test2/section:# has * = REGEXP(\" Strickland \")", max=1000)
```

## Returned 1 thru 437 of 437 results

```
qdf31 <- tnum.objectsToDf(q31)
```

```
tnum.tagByQuery("william/test2/section:# has * = REGEXP(\" Strickland \")", adds=("Charles Strickland"))
```

## list(modifiedCount = 437, tagged = 437, removed = 0)

```
pq4 <- tnum.query("william/test2/section:* has text", max = 7000)
```

## Returned 1 thru 7000 of 13225 results

```
pqdf4 <- tnum.objectsToDf(pq4)
```

```
bk_tag_df <- pqdf4 %>% select(tags)
```

```
bk_df_3 <- cbind2(bk_df, bk_tag_df)
```

```
bk_df_3 %>%
  na_if("") %>%
  na.omit
```

```
##      section para sent ordinal
## 3      0000 0020 0001      3
## 7      0000 0020 0005      7
## 20     0000 0021 0002     20
## 31     0000 0025 0003     31
## 41     0000 0029 0006     41
## 46     0000 0030 0002     46
## 50     0000 0030 0006     50
## 52     0000 0030 0008     52
## 73     0000 0035 0009     73
## 87     0000 0036 0011     87
## 295    0000 0125 0001    295
## 328    0000 0128 0006    328
## 332    0000 0128 0010    332
## 358    0000 0136 0005    358
## 380    0000 0144 0001    380
## 474    0000 0184 0001    474
## 528    0000 0227 0001    528
## 559    0000 0257 0001    559
## 623    0001 0022 0001    624
## 660    0001 0037 0003    661
```

## 663	0001 0038 0001	664
## 674	0001 0040 0003	675
## 683	0001 0040 0012	684
## 693	0001 0043 0001	694
## 704	0003 0001 0007	707
## 862	0003 0149 0003	865
## 872	0003 0151 0006	875
## 878	0003 0151 0012	881
## 900	0003 0160 0001	903
## 943	0004 0017 0001	947
## 958	0004 0024 0001	962
## 963	0004 0027 0001	967
## 979	0004 0040 0003	983
## 1021	0004 0066 0001	1025
## 1024	0004 0067 0003	1028
## 1025	0004 0068 0001	1029
## 1044	0004 0071 0001	1048
## 1068	0004 0079 0001	1072
## 1102	0007 0003 0001	1107
## 1105	0007 0003 0004	1110
## 1115	0007 0004 0007	1120
## 1149	0007 0023 0001	1154
## 1162	0007 0033 0001	1167
## 1171	0007 0034 0007	1176
## 1178	0007 0036 0002	1183
## 1205	0000 0020 0001	3
## 1209	0000 0020 0005	7
## 1222	0000 0021 0002	20
## 1233	0000 0025 0003	31
## 1243	0000 0029 0006	41
## 1248	0000 0030 0002	46
## 1252	0000 0030 0006	50
## 1254	0000 0030 0008	52
## 1275	0000 0035 0009	73
## 1289	0000 0036 0011	87
## 1497	0000 0125 0001	295
## 1530	0000 0128 0006	328
## 1534	0000 0128 0010	332
## 1560	0000 0136 0005	358
## 1582	0000 0144 0001	380
## 1676	0000 0184 0001	474
## 1730	0000 0227 0001	528
## 1761	0000 0257 0001	559
## 1825	0001 0022 0001	624
## 1862	0001 0037 0003	661
## 1865	0001 0038 0001	664
## 1876	0001 0040 0003	675
## 1885	0001 0040 0012	684
## 1895	0001 0043 0001	694
## 1906	0003 0001 0007	707
## 2064	0003 0149 0003	865
## 2074	0003 0151 0006	875
## 2080	0003 0151 0012	881
## 2102	0003 0160 0001	903



##	2145	0004	0017	0001	947
##	2160	0004	0024	0001	962
##	2165	0004	0027	0001	967
##	2181	0004	0040	0003	983
##	2223	0004	0066	0001	1025
##	2226	0004	0067	0003	1028
##	2227	0004	0068	0001	1029
##	2246	0004	0071	0001	1048
##	2270	0004	0079	0001	1072
##	2304	0007	0003	0001	1107
##	2307	0007	0003	0004	1110
##	2317	0007	0004	0007	1120
##	2351	0007	0023	0001	1154
##	2364	0007	0033	0001	1167
##	2373	0007	0034	0007	1176
##	2380	0007	0036	0002	1183
##	2421	0007	0061	0002	1224
##	2426	0007	0062	0005	1229
##	2436	0007	0068	0005	1239
##	2456	0007	0078	0001	1259
##	2462	0007	0078	0007	1265
##	2479	0007	0091	0006	1282
##	2508	0007	0104	0001	1311
##	2538	0007	0117	0003	1341
##	2540	0007	0126	0001	1343
##	2562	0011	0011	0001	1366
##	2570	0011	0012	0001	1374
##	2573	0011	0012	0004	1377
##	2581	0011	0013	0002	1385
##	2586	0011	0020	0001	1390
##	2609	0012	0020	0001	1414
##	2617	0012	0023	0001	1422
##	2621	0012	0027	0001	1426
##	2622	0012	0028	0001	1427
##	2676	0000	0020	0001	3
##	2680	0000	0020	0005	7
##	2693	0000	0021	0002	20
##	2704	0000	0025	0003	31
##	2714	0000	0029	0006	41
##	2719	0000	0030	0002	46
##	2723	0000	0030	0006	50
##	2725	0000	0030	0008	52
##	2746	0000	0035	0009	73
##	2760	0000	0036	0011	87
##	2968	0000	0125	0001	295
##	3001	0000	0128	0006	328
##	3005	0000	0128	0010	332
##	3031	0000	0136	0005	358
##	3053	0000	0144	0001	380
##	3147	0000	0184	0001	474
##	3201	0000	0227	0001	528
##	3232	0000	0257	0001	559
##	3296	0001	0022	0001	624
##	3333	0001	0037	0003	661

## 3336	0001 0038 0001	664
## 3347	0001 0040 0003	675
## 3356	0001 0040 0012	684
## 3366	0001 0043 0001	694
## 3377	0003 0001 0007	707
## 3535	0003 0149 0003	865
## 3545	0003 0151 0006	875
## 3551	0003 0151 0012	881
## 3573	0003 0160 0001	903
## 3616	0004 0017 0001	947
## 3631	0004 0024 0001	962
## 3636	0004 0027 0001	967
## 3652	0004 0040 0003	983
## 3694	0004 0066 0001	1025
## 3697	0004 0067 0003	1028
## 3698	0004 0068 0001	1029
## 3717	0004 0071 0001	1048
## 3741	0004 0079 0001	1072
## 3775	0007 0003 0001	1107
## 3778	0007 0003 0004	1110
## 3788	0007 0004 0007	1120
## 3822	0007 0023 0001	1154
## 3835	0007 0033 0001	1167
## 3844	0007 0034 0007	1176
## 3851	0007 0036 0002	1183
## 3892	0007 0061 0002	1224
## 3897	0007 0062 0005	1229
## 3907	0007 0068 0005	1239
## 3927	0007 0078 0001	1259
## 3933	0007 0078 0007	1265
## 3950	0007 0091 0006	1282
## 3979	0007 0104 0001	1311
## 4009	0007 0117 0003	1341
## 4011	0007 0126 0001	1343
## 4033	0011 0011 0001	1366
## 4041	0011 0012 0001	1374
## 4044	0011 0012 0004	1377
## 4052	0011 0013 0002	1385
## 4057	0011 0020 0001	1390
## 4080	0012 0020 0001	1414
## 4088	0012 0023 0001	1422
## 4092	0012 0027 0001	1426
## 4093	0012 0028 0001	1427
## 4147	0000 0020 0001	3
## 4151	0000 0020 0005	7
## 4164	0000 0021 0002	20
## 4175	0000 0025 0003	31
## 4185	0000 0029 0006	41
## 4190	0000 0030 0002	46
## 4194	0000 0030 0006	50
## 4196	0000 0030 0008	52
## 4217	0000 0035 0009	73
## 4231	0000 0036 0011	87
## 4439	0000 0125 0001	295

## 4472	0000 0128 0006	328
## 4476	0000 0128 0010	332
## 4502	0000 0136 0005	358
## 4524	0000 0144 0001	380
## 4618	0000 0184 0001	474
## 4672	0000 0227 0001	528
## 4678	0000 0020 0001	3
## 4682	0000 0020 0005	7
## 4695	0000 0021 0002	20
## 4706	0000 0025 0003	31
## 4716	0000 0029 0006	41
## 4721	0000 0030 0002	46
## 4725	0000 0030 0006	50
## 4727	0000 0030 0008	52
## 4741	0000 0020 0001	3
## 4745	0000 0020 0005	7
## 4758	0000 0021 0002	20
## 4769	0000 0025 0003	31
## 4779	0000 0029 0006	41
## 4784	0000 0030 0002	46
## 4788	0000 0030 0006	50
## 4790	0000 0030 0008	52
## 4811	0000 0035 0009	73
## 4825	0000 0036 0011	87
## 5033	0000 0125 0001	295
## 5066	0000 0128 0006	328
## 5070	0000 0128 0010	332
## 5092	0000 0020 0001	3
## 5096	0000 0020 0005	7
## 5109	0000 0021 0002	20
## 5120	0000 0025 0003	31
## 5130	0000 0029 0006	41
## 5135	0000 0030 0002	46
## 5139	0000 0030 0006	50
## 5141	0000 0030 0008	52
## 5162	0000 0035 0009	73
## 5176	0000 0036 0011	87
## 5384	0000 0125 0001	295
## 5417	0000 0128 0006	328
## 5421	0000 0128 0010	332
## 5447	0000 0136 0005	358
## 5469	0000 0144 0001	380
## 5563	0000 0184 0001	474
## 5617	0000 0227 0001	528
## 5648	0000 0257 0001	559
## 5712	0001 0022 0001	624
## 5749	0001 0037 0003	661
## 5752	0001 0038 0001	664
## 5763	0001 0040 0003	675
## 5772	0001 0040 0012	684
## 5782	0001 0043 0001	694
## 5793	0003 0001 0007	707
## 5951	0003 0149 0003	865
## 5961	0003 0151 0006	875

##	5967	0003	0151	0012	881
##	5989	0003	0160	0001	903
##	6032	0004	0017	0001	947
##	6047	0004	0024	0001	962
##	6052	0004	0027	0001	967
##	6068	0004	0040	0003	983
##	6110	0004	0066	0001	1025
##	6113	0004	0067	0003	1028
##	6114	0004	0068	0001	1029
##	6133	0004	0071	0001	1048
##	6157	0004	0079	0001	1072
##	6191	0007	0003	0001	1107
##	6194	0007	0003	0004	1110
##	6204	0007	0004	0007	1120
##	6238	0007	0023	0001	1154
##	6251	0007	0033	0001	1167
##	6260	0007	0034	0007	1176
##	6267	0007	0036	0002	1183
##	6308	0007	0061	0002	1224
##	6313	0007	0062	0005	1229
##	6323	0007	0068	0005	1239
##	6343	0007	0078	0001	1259
##	6349	0007	0078	0007	1265
##	6366	0007	0091	0006	1282
##	6395	0007	0104	0001	1311
##	6425	0007	0117	0003	1341
##	6427	0007	0126	0001	1343
##	6449	0011	0011	0001	1366
##	6457	0011	0012	0001	1374
##	6460	0011	0012	0004	1377
##	6468	0011	0013	0002	1385
##	6473	0011	0020	0001	1390
##	6496	0012	0020	0001	1414
##	6504	0012	0023	0001	1422
##	6508	0012	0027	0001	1426
##	6509	0012	0028	0001	1427
##	6563	0000	0020	0001	3
##	6567	0000	0020	0005	7
##	6580	0000	0021	0002	20
##	6591	0000	0025	0003	31
##	6601	0000	0029	0006	41
##	6606	0000	0030	0002	46
##	6610	0000	0030	0006	50
##	6612	0000	0030	0008	52
##	6633	0000	0035	0009	73
##	6647	0000	0036	0011	87
##	6855	0000	0125	0001	295
##	6888	0000	0128	0006	328
##	6892	0000	0128	0010	332
##	6918	0000	0136	0005	358
##	6940	0000	0144	0001	380
##					
##	3				
##	7				

Charles Strickland,Charles Strickland  
Charles Strickland,Charles Strickland

## 20	Charles Strickland,Charles Strickland
## 31	Charles Strickland,Charles Strickland
## 41	Charles Strickland,Charles Strickland
## 46	Charles Strickland,Charles Strickland
## 50	Charles Strickland,Charles Strickland
## 52	Charles Strickland,Charles Strickland
## 73	Charles Strickland,Charles Strickland
## 87	Charles Strickland,Charles Strickland
## 295	Charles Strickland,Charles Strickland
## 328	Charles Strickland,Charles Strickland
## 332	Charles Strickland,Charles Strickland
## 358	Charles Strickland,Charles Strickland
## 380	Charles Strickland,Charles Strickland
## 474	Charles Strickland,Charles Strickland
## 528	Charles Strickland,Charles Strickland
## 559	Charles Strickland,Charles Strickland
## 623	Charles Strickland,Charles Strickland
## 660	Charles Strickland,Charles Strickland
## 663	Charles Strickland,Charles Strickland
## 674	Charles Strickland,Charles Strickland
## 683	Charles Strickland,Charles Strickland
## 693	Charles Strickland,Charles Strickland
## 704	Charles Strickland,Charles Strickland
## 862	Charles Strickland,Charles Strickland
## 872	Charles Strickland,Charles Strickland
## 878	Charles Strickland,Charles Strickland
## 900	Charles Strickland,Charles Strickland
## 943	Charles Strickland,Charles Strickland
## 958	Charles Strickland,Charles Strickland
## 963	Charles Strickland,Charles Strickland
## 979	Charles Strickland,Charles Strickland
## 1021	Charles Strickland,Charles Strickland
## 1024	Stroeve,Dirk Stroeve
## 1025	Stroeve,Dirk Stroeve
## 1044	Stroeve,Dirk Stroeve
## 1068	Stroeve,Dirk Stroeve
## 1102	Stroeve,Dirk Stroeve,Charles Strickland,Dirk Stroeve,Charles Strickland,Dirk Stroeve,Charles Strickland
## 1105	Charles Strickland,Charles Strickland
## 1115	Stroeve,Dirk Stroeve
## 1149	Stroeve,Dirk Stroeve
## 1162	Stroeve,Dirk Stroeve
## 1171	Stroeve,Dirk Stroeve
## 1178	Stroeve,Dirk Stroeve
## 1205	Charles Strickland,Charles Strickland
## 1209	Charles Strickland,Charles Strickland
## 1222	Charles Strickland,Charles Strickland
## 1233	Charles Strickland,Charles Strickland
## 1243	Charles Strickland,Charles Strickland
## 1248	Charles Strickland,Charles Strickland
## 1252	Charles Strickland,Charles Strickland
## 1254	Charles Strickland,Charles Strickland
## 1275	Charles Strickland,Charles Strickland
## 1289	Charles Strickland,Charles Strickland
## 1497	Charles Strickland,Charles Strickland

## 1530	Charles Strickland,Charles Strickland
## 1534	Charles Strickland,Charles Strickland
## 1560	Charles Strickland,Charles Strickland
## 1582	Charles Strickland,Charles Strickland
## 1676	Charles Strickland,Charles Strickland
## 1730	Charles Strickland,Charles Strickland
## 1761	Charles Strickland,Charles Strickland
## 1825	Charles Strickland,Charles Strickland
## 1862	Charles Strickland,Charles Strickland
## 1865	Charles Strickland,Charles Strickland
## 1876	Charles Strickland,Charles Strickland
## 1885	Charles Strickland,Charles Strickland
## 1895	Charles Strickland,Charles Strickland
## 1906	Charles Strickland,Charles Strickland
## 2064	Charles Strickland,Charles Strickland
## 2074	Charles Strickland,Charles Strickland
## 2080	Charles Strickland,Charles Strickland
## 2102	Charles Strickland,Charles Strickland
## 2145	Charles Strickland,Charles Strickland
## 2160	Charles Strickland,Charles Strickland
## 2165	Charles Strickland,Charles Strickland
## 2181	Charles Strickland,Charles Strickland
## 2223	Charles Strickland,Charles Strickland
## 2226	Stroeve,Dirk Stroeve
## 2227	Stroeve,Dirk Stroeve
## 2246	Stroeve,Dirk Stroeve
## 2270	Stroeve,Dirk Stroeve
## 2304	Stroeve,Dirk Stroeve,Charles Strickland,Dirk Stroeve,Charles Strickland,Dirk Stroeve,Charles Strickland
## 2307	Charles Strickland,Charles Strickland
## 2317	Stroeve,Dirk Stroeve
## 2351	Stroeve,Dirk Stroeve
## 2364	Stroeve,Dirk Stroeve
## 2373	Stroeve,Dirk Stroeve
## 2380	Stroeve,Dirk Stroeve
## 2421	Charles Strickland,Charles Strickland
## 2426	Charles Strickland,Charles Strickland
## 2436	Stroeve,Dirk Stroeve
## 2456	Stroeve,Dirk Stroeve
## 2462	Stroeve,Dirk Stroeve
## 2479	Stroeve,Dirk Stroeve
## 2508	Stroeve,Dirk Stroeve
## 2538	Stroeve,Dirk Stroeve
## 2540	Stroeve,Dirk Stroeve
## 2562	Charles Strickland,Charles Strickland
## 2570	Charles Strickland,Charles Strickland
## 2573	Charles Strickland,Charles Strickland
## 2581	Charles Strickland,Charles Strickland
## 2586	Charles Strickland,Charles Strickland
## 2609	Charles Strickland,Charles Strickland
## 2617	Charles Strickland,Charles Strickland
## 2621	Charles Strickland,Charles Strickland
## 2622	Charles Strickland,Charles Strickland
## 2676	Charles Strickland,Charles Strickland
## 2680	Charles Strickland,Charles Strickland

## 2693	Charles Strickland,Charles Strickland
## 2704	Charles Strickland,Charles Strickland
## 2714	Charles Strickland,Charles Strickland
## 2719	Charles Strickland,Charles Strickland
## 2723	Charles Strickland,Charles Strickland
## 2725	Charles Strickland,Charles Strickland
## 2746	Charles Strickland,Charles Strickland
## 2760	Charles Strickland,Charles Strickland
## 2968	Charles Strickland,Charles Strickland
## 3001	Charles Strickland,Charles Strickland
## 3005	Charles Strickland,Charles Strickland
## 3031	Charles Strickland,Charles Strickland
## 3053	Charles Strickland,Charles Strickland
## 3147	Charles Strickland,Charles Strickland
## 3201	Charles Strickland,Charles Strickland
## 3232	Charles Strickland,Charles Strickland
## 3296	Charles Strickland,Charles Strickland
## 3333	Charles Strickland,Charles Strickland
## 3336	Charles Strickland,Charles Strickland
## 3347	Charles Strickland,Charles Strickland
## 3356	Charles Strickland,Charles Strickland
## 3366	Charles Strickland,Charles Strickland
## 3377	Charles Strickland,Charles Strickland
## 3535	Charles Strickland,Charles Strickland
## 3545	Charles Strickland,Charles Strickland
## 3551	Charles Strickland,Charles Strickland
## 3573	Charles Strickland,Charles Strickland
## 3616	Charles Strickland,Charles Strickland
## 3631	Charles Strickland,Charles Strickland
## 3636	Charles Strickland,Charles Strickland
## 3652	Charles Strickland,Charles Strickland
## 3694	Charles Strickland,Charles Strickland
## 3697	Stroeve,Dirk Stroeve
## 3698	Stroeve,Dirk Stroeve
## 3717	Stroeve,Dirk Stroeve
## 3741	Stroeve,Dirk Stroeve
## 3775	Stroeve,Dirk Stroeve,Charles Strickland,Dirk Stroeve,Charles Strickland,Dirk Stroeve,Charles Strickland
## 3778	Charles Strickland,Charles Strickland
## 3788	Stroeve,Dirk Stroeve
## 3822	Stroeve,Dirk Stroeve
## 3835	Stroeve,Dirk Stroeve
## 3844	Stroeve,Dirk Stroeve
## 3851	Stroeve,Dirk Stroeve
## 3892	Charles Strickland,Charles Strickland
## 3897	Charles Strickland,Charles Strickland
## 3907	Stroeve,Dirk Stroeve
## 3927	Stroeve,Dirk Stroeve
## 3933	Stroeve,Dirk Stroeve
## 3950	Stroeve,Dirk Stroeve
## 3979	Stroeve,Dirk Stroeve
## 4009	Stroeve,Dirk Stroeve
## 4011	Stroeve,Dirk Stroeve
## 4033	Charles Strickland,Charles Strickland
## 4041	Charles Strickland,Charles Strickland

## 4044  
## 4052  
## 4057  
## 4080  
## 4088  
## 4092  
## 4093  
## 4147  
## 4151  
## 4164  
## 4175  
## 4185  
## 4190  
## 4194  
## 4196  
## 4217  
## 4231  
## 4439  
## 4472  
## 4476  
## 4502  
## 4524  
## 4618  
## 4672  
## 4678  
## 4682  
## 4695  
## 4706  
## 4716  
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## 4725  
## 4727  
## 4741  
## 4745  
## 4758  
## 4769  
## 4779  
## 4784  
## 4788  
## 4790  
## 4811  
## 4825  
## 5033  
## 5066  
## 5070  
## 5092  
## 5096  
## 5109  
## 5120  
## 5130  
## 5135  
## 5139  
## 5141  
## 5162



## 5176	Charles Strickland,Charles Strickland
## 5384	Charles Strickland,Charles Strickland
## 5417	Charles Strickland,Charles Strickland
## 5421	Charles Strickland,Charles Strickland
## 5447	Charles Strickland,Charles Strickland
## 5469	Charles Strickland,Charles Strickland
## 5563	Charles Strickland,Charles Strickland
## 5617	Charles Strickland,Charles Strickland
## 5648	Charles Strickland,Charles Strickland
## 5712	Charles Strickland,Charles Strickland
## 5749	Charles Strickland,Charles Strickland
## 5752	Charles Strickland,Charles Strickland
## 5763	Charles Strickland,Charles Strickland
## 5772	Charles Strickland,Charles Strickland
## 5782	Charles Strickland,Charles Strickland
## 5793	Charles Strickland,Charles Strickland
## 5951	Charles Strickland,Charles Strickland
## 5961	Charles Strickland,Charles Strickland
## 5967	Charles Strickland,Charles Strickland
## 5989	Charles Strickland,Charles Strickland
## 6032	Charles Strickland,Charles Strickland
## 6047	Charles Strickland,Charles Strickland
## 6052	Charles Strickland,Charles Strickland
## 6068	Charles Strickland,Charles Strickland
## 6110	Charles Strickland,Charles Strickland
## 6113	Stroeve,Dirk Stroeve
## 6114	Stroeve,Dirk Stroeve
## 6133	Stroeve,Dirk Stroeve
## 6157	Stroeve,Dirk Stroeve
## 6191	Stroeve,Dirk Stroeve,Charles Strickland,Dirk Stroeve,Charles Strickland,Dirk Stroeve,Charles Strickland
## 6194	Charles Strickland,Charles Strickland
## 6204	Stroeve,Dirk Stroeve
## 6238	Stroeve,Dirk Stroeve
## 6251	Stroeve,Dirk Stroeve
## 6260	Stroeve,Dirk Stroeve
## 6267	Stroeve,Dirk Stroeve
## 6308	Charles Strickland,Charles Strickland
## 6313	Charles Strickland,Charles Strickland
## 6323	Stroeve,Dirk Stroeve
## 6343	Stroeve,Dirk Stroeve
## 6349	Stroeve,Dirk Stroeve
## 6366	Stroeve,Dirk Stroeve
## 6395	Stroeve,Dirk Stroeve
## 6425	Stroeve,Dirk Stroeve
## 6427	Stroeve,Dirk Stroeve
## 6449	Charles Strickland,Charles Strickland
## 6457	Charles Strickland,Charles Strickland
## 6460	Charles Strickland,Charles Strickland
## 6468	Charles Strickland,Charles Strickland
## 6473	Charles Strickland,Charles Strickland
## 6496	Charles Strickland,Charles Strickland
## 6504	Charles Strickland,Charles Strickland
## 6508	Charles Strickland,Charles Strickland
## 6509	Charles Strickland,Charles Strickland

```
## 6563
## 6567
## 6580
## 6591
## 6601
## 6606
## 6610
## 6612
## 6633
## 6647
## 6855
## 6888
## 6892
## 6918
## 6940
```

```
bk_di<- filter(bk_df_3, tags == "Stroeve,Dirk Stroeve")
bk_ch<- filter(bk_df_3, tags == "Charles Strickland")
bk_chdi<- filter(bk_df_3, tags == "Stroeve,Dirk Stroeve,Charles Strickland")
chara_1<- rbind(bk_di,bk_ch,bk_chdi)
chara_1$no<- order(chara_1[,4])
ggplot(chara_1,aes(x=ordinal,y=no,color=tags))+
  geom_point()+
  xlab("Story Line")+ylab("index")
```

index

Story Line

## Analysis I choose the main charator Charles Strikland and the husband of his second lover Dirk Stroeve and track their story lines. Charles appears all through the begining to end of this book. Dirk appears only in the second half part of book. They had intersection because Dirk's wife cheated on Charles,and he was so

kind to help Charles after all this.