

# mynotebook

June 5, 2017

```
In [1]: import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

```
/home/ryan/anaconda3/lib/python3.6/site-packages/matplotlib/font_manager.py:280: Us
'Matplotlib is building the font cache using fc-list. '
```

```
In [3]: ! cat my_random_csv.csv
```

```
brandon|25|1001|6
sabrina|29|1002|4
richard|66|1003|18
lauren|61|1004|14
```

```
In [12]: mydataframe = pd.read_csv('my_random_csv.csv', delimiter='|', names=['Name',
```

```
In [13]: mydataframe.head()
```

```
Out[13]:
```

	Name	Age	ID	Unknown
0	brandon	25	1001	6
1	sabrina	29	1002	4
2	richard	66	1003	18
3	lauren	61	1004	14

```
In [14]: ls
```

```
Data Sci Workshop.ipynb      my_random_csv.csv  Subset_reviews.csv
Introduction to Data Science.ipynb  README.md
```

```
In [24]: mydataframe = pd.read_csv('Subset_reviews.csv')
```

```
In [25]: !head -n 1 Subset_reviews.csv
```

```
Id,ProductId,UserId,ProfileName,HelpfulnessNumerator,HelpfulnessDenominator,Score,T
```

```
In [26]: mydataframe.head(3)
```

```
Out[26]:
```

	Id	ProductId	UserId	ProfileName	\
0	1	B001E4KFG0	A3SGXH7AUHU8GW	delmartian	
1	2	B00813GRG4	A1D87F6ZCVE5NK	dll pa	
2	3	B000LQOCH0	ABXLMWJIXXAIN	Natalia Corres	"Natalia Corres"

	HelpfulnessNumerator	HelpfulnessDenominator	Score	Time	\
0	1	1	5	1303862400	
1	0	0	1	1346976000	
2	1	1	4	1219017600	

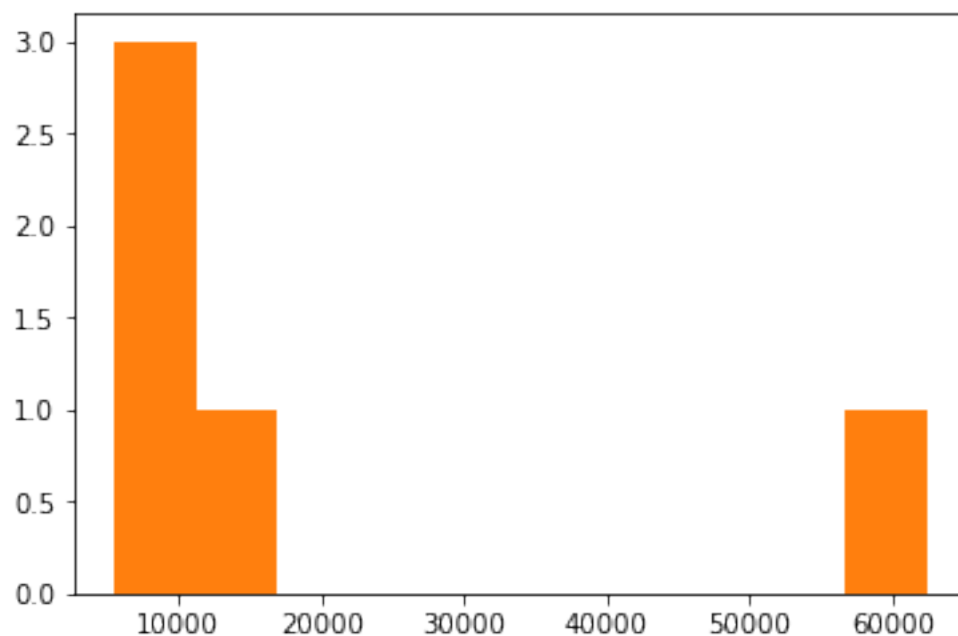
	Summary	Tex
0	Good Quality Dog Food	I have bought several of the Vitality canned d..
1	Not as Advertised	Product arrived labeled as Jumbo Salted Peanut..
2	"Delight" says it all	This is a confection that has been around a fe..

```
In [28]: counts = mydataframe.groupby('Score').count()
```

```
In [29]: counts['Id']
```

```
Out[29]: Score
1      9318
2      5568
3      8059
4     14643
5     62411
Name: Id, dtype: int64
```

```
In [31]: plt.hist(counts['Id'])
plt.show()
```

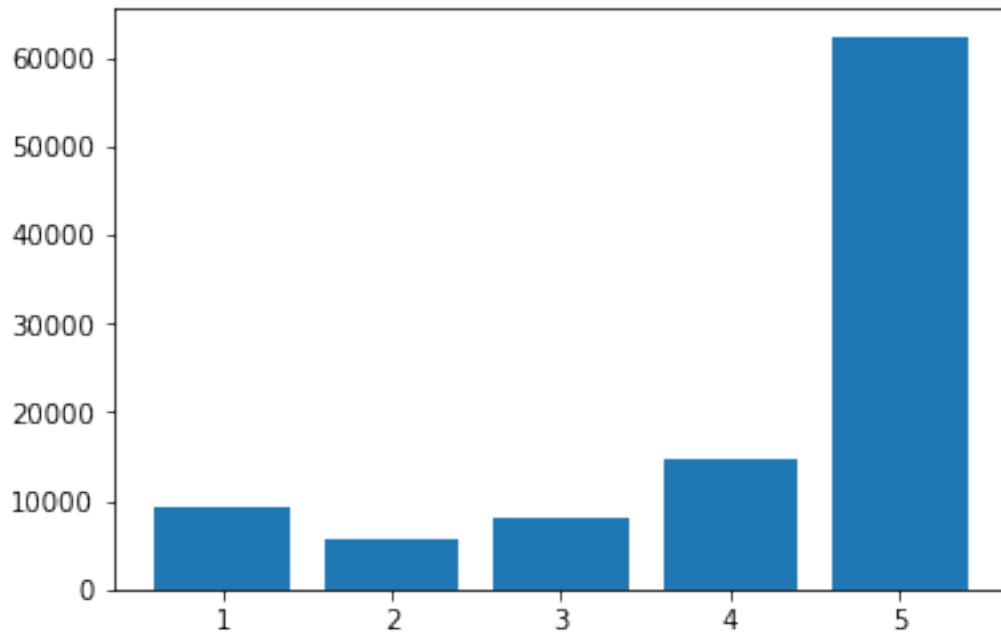


```
In [32]: type(counts['Id'])
```

```
Out[32]: pandas.core.series.Series
```

```
In [37]: labels = [1,2,3,4,5]
```

```
In [38]: plt.bar(labels,counts['Id'])  
plt.show()
```



```
In [ ]:
```

```
In [40]: mydataframe['HelpfulnessRatio'] = mydataframe['HelpfulnessNumerator']/myda
```

```
In [81]: mydataframe
```

```
Out[81]:
```

	Id	ProductId	UserId	ProfileName
0	1	B001E4KFG0	A3SGXH7AUHU8GW	delmartian
1	2	B00813GRG4	A1D87F6ZCVE5NK	dll pa
2	3	B000LQOCH0	ABXLMWJIXXAIN	Natalia Corres "Natalia Corres"
3	4	B000UA0QIQ	A395BORC6FGVXV	Karl
4	5	B006K2ZZ7K	A1UQRSCLF8GW1T	Michael D. Bigham "M. Wassir"
5	6	B006K2ZZ7K	ADT0SRK1MGOEU	Twoapennything
6	7	B006K2ZZ7K	A1SP2KVKFXXRU1	David C. Sullivan
7	8	B006K2ZZ7K	A3JRGQVEQN31IQ	Pamela G. Williams

8	9	B000E7L2R4	A1MZY09TZK0BBI	R. James
9	10	B00171APVA	A21BT40VZCCYT4	Carol A. Reed
10	11	B0001PB9FE	A3HDKO7OW0QNK4	Canadian Far
11	12	B0009XLVG0	A2725IB4YY9JEB	A Poeng "SparkyGoHome"
12	13	B0009XLVG0	A327PCT23YH90	LT
13	14	B001GVISJM	A18ECVX2RJ7HUE	willie "roadie"
14	15	B001GVISJM	A2MUGFV2TDQ47K	Lynrie "Oh HELL no"
15	16	B001GVISJM	A1CZX3CP8IKQIJ	Brian A. Lee
16	17	B001GVISJM	A3KLWF6WQ5BNYO	Erica Neathery
17	18	B001GVISJM	AFKW14U97Z6QO	Becca
18	19	B001GVISJM	A2A9X58G2GTBLP	Wolfee1
19	20	B001GVISJM	A3IV7CL2C13K2U	Greg
20	21	B001GVISJM	A1W00KGLPR5PV6	mom2emma
21	22	B001GVISJM	AZOF9E17RGZH8	Tammy Anderson
22	23	B001GVISJM	ARYVQL4N737A1	Charles Brown
23	24	B001GVISJM	AJ613OLZZUG7V	Mare's
24	25	B001GVISJM	A22P2J09NJ9HKE	S. Cabanaugh "jilly pepper"
25	26	B001GVISJM	A3FONPR03H3PJS	Deborah S. Linzer "Cat Lady"
26	27	B001GVISJM	A3RXAU2N8KV45G	lady21
27	28	B001GVISJM	AAAS38B98HMIK	Heather Dube
28	29	B00144C10S	A2F4LZVGFLD10B	DaisyK
29	30	B0001PB9FY	A3HDKO7OW0QNK4	Canadian Far
...	...	...	...	...
99969	99970	B000LQORDE	A3IVHVRNU3S7K9	D. Xu "dxdude"
99970	99971	B000LQORDE	A1RQB9AVOXN0TF	min
99971	99972	B000LQORDE	A3VLYQ6V775LNA	aaaaa
99972	99973	B000LQORDE	A3K1J1GG2GWNJ1	margot
99973	99974	B000LQORDE	A2YWRWSLEJRM92	Pennsylvania Reader
99974	99975	B000LQORDE	AEPEYS74CE6KI	Daniel Esmond
99975	99976	B000LQORDE	A2OMR2QAF5J26E	EskimoSquirrel
99976	99977	B000LQORDE	A1CVEGNOQ62A25	Edward
99977	99978	B000LQORDE	A2E2IMMWYCHIG6	Tessa Noel
99978	99979	B000LQORDE	AWL9HU41JGO9R	GatorCV
99979	99980	B000LQORDE	A1Y8TNPDBS8UKB	Sean Gerrity
99980	99981	B000LQORDE	A1DDS96083SVEA	R. Flowers
99981	99982	B000LQORDE	A1YH21OL6SC2MY	Jiachun Guo
99982	99983	B000LQORDE	A12VDYKZ6BIQ9L	Daniel Levenson "danfromfla"
99983	99984	B000LQORDE	A2EOLB7LR508ES	Chris, CA
99984	99985	B000LQORDE	A1YVCGV8G16OMM	Nathan
99985	99986	B000LQORDE	A1BN8134NN8IAC	Jorge A. Zuniga "CerealLOVER"
99986	99987	B000LQORDE	A30Z0GG96D11EO	Sofia Hernandez "Shut up B*&#&!"
99987	99988	B000LQORDE	A19SFNK8QI1JZI	Jerri
99988	99989	B000LQORDE	ATPRSDCBH609L	Jiashen You "statistician"
99989	99990	B000LQORDE	A3NIPWPJSFOZZT	Won H. Lee
99990	99991	B000LQORDE	A294C2HWGIVYLS	Der
99991	99992	B000LQORDE	A2JXVMU6OMK6XI	Healthy Jake
99992	99993	B000LQORDE	ANTN4ULDPYM07	AB
99993	99994	B000LQORDE	A2BXV5BQYXU6HP	boolean

99994	99995	B000LQORDE	AL22WN8RBBOW7	LifeInTheCity "trogg"
99995	99996	B000LQORDE	A2P7HIRYYWVOBD	Mason
99996	99997	B000LQORDE	A1K0ZH5MQFBA77	jennilight
99997	99998	B000LQORDE	A29FRN2O7LWINL	T. Tsai
99998	99999	B000LQORDE	A9Q950IPXJR1D	Lynda "casual customer"

	HelpfulnessNumerator	HelpfulnessDenominator	Score	Time	\
0	1	1	5	1303862400	
1	0	0	1	1346976000	
2	1	1	4	1219017600	
3	3	3	2	1307923200	
4	0	0	5	1350777600	
5	0	0	4	1342051200	
6	0	0	5	1340150400	
7	0	0	5	1336003200	
8	1	1	5	1322006400	
9	0	0	5	1351209600	
10	1	1	5	1107820800	
11	4	4	5	1282867200	
12	1	1	1	1339545600	
13	2	2	4	1288915200	
14	4	5	5	1268352000	
15	4	5	5	1262044800	
16	0	0	2	1348099200	
17	0	0	5	1345075200	
18	0	0	5	1324598400	
19	0	0	5	1318032000	
20	0	0	5	1313452800	
21	0	0	5	1308960000	
22	0	0	5	1304899200	
23	0	0	5	1304467200	
24	0	0	5	1295481600	
25	0	0	5	1288310400	
26	0	1	1	1332633600	
27	0	1	4	1331856000	
28	0	0	5	1338854400	
29	1	1	5	1107820800	
...	...	...	...	...	
99969	1	3	5	1311033600	
99970	1	3	5	1308614400	
99971	1	3	5	1298851200	
99972	1	3	5	1298678400	
99973	1	3	5	1295740800	
99974	1	3	5	1293494400	
99975	1	3	5	1292457600	
99976	1	3	5	1288569600	
99977	1	3	4	1283040000	
99978	1	3	4	1283040000	

99979	1	3	5	1275955200
99980	1	3	5	1253577600
99981	1	3	4	1252713600
99982	1	3	5	1244937600
99983	1	3	5	1241395200
99984	1	3	5	1239148800
99985	1	3	5	1239062400
99986	1	3	5	1236124800
99987	4	8	1	1292025600
99988	4	8	5	1254528000
99989	4	8	5	1234483200
99990	7	13	1	1291939200
99991	2	5	2	1315440000
99992	2	5	5	1284768000
99993	2	5	5	1282953600
99994	2	5	5	1256428800
99995	2	5	5	1254096000
99996	2	5	4	1250985600
99997	2	5	5	1237766400
99998	2	5	4	1237161600

	Summary \
0	Good Quality Dog Food
1	Not as Advertised
2	"Delight" says it all
3	Cough Medicine
4	Great taffy
5	Nice Taffy
6	Great! Just as good as the expensive brands!
7	Wonderful, tasty taffy
8	Yay Barley
9	Healthy Dog Food
10	The Best Hot Sauce in the World
11	My cats LOVE this "diet" food better than thei...
12	My Cats Are Not Fans of the New Food
13	fresh and greasy!
14	Strawberry Twizzlers - Yummy
15	Lots of twizzlers, just what you expect.
16	poor taste
17	Love it!
18	GREAT SWEET CANDY!
19	Home delivered twizlers
20	Always fresh
21	TWIZZLERS
22	Delicious product!
23	Twizzlers
24	Please sell these in Mexico!!
25	Twizzlers - Strawberry

26 Nasty No flavor  
 27 Great Bargain for the Price  
 28 YUMMY!  
 29 The Best Hot Sauce in the World  
 ...  
 99969 Tasty!  
 99970 Sooooo Good!  
 99971 Delicious Noodles  
 99972 Great noodle texture, spicy flavor  
 99973 Supernoodles  
 99974 It hurts so good!  
 99975 The best noodle I've ever had  
 99976 Spicy  
 99977 Yum Yum  
 99978 Pretty good  
 99979 for adults only  
 99980 Nong Shim Shin noodles spicy  
 99981 A delicious noodle with good price  
 99982 Very Tasty Noodles  
 99983 Good deal at Amazon!  
 99984 To steal a tagline...mmm, mmm good!  
 99985 nong shim  
 99986 Yummy al dente noodles in my bowl!  
 99987 Tastes very very awful  
 99988 What else can you ask for at a discounted price?  
 99989 This is THE ramen  
 99990 over price  
 99991 wow... just plain nasty  
 99992 My new favorite ramen, thanks to amazon  
 99993 great stuff  
 99994 Good Stuff  
 99995 yummy!  
 99996 Tastes like More!  
 99997 Great ramen  
 99998 Spicy!!

	Text	HelpfulnessRatio
0	I have bought several of the Vitality canned d...	1.000000
1	Product arrived labeled as Jumbo Salted Peanut...	NaN
2	This is a confection that has been around a fe...	1.000000
3	If you are looking for the secret ingredient i...	1.000000
4	Great taffy at a great price. There was a wid...	NaN
5	I got a wild hair for taffy and ordered this f...	NaN
6	This saltwater taffy had great flavors and was...	NaN
7	This taffy is so good. It is very soft and ch...	NaN
8	Right now I'm mostly just sprouting this so my...	1.000000
9	This is a very healthy dog food. Good for thei...	NaN
10	I don't know if it's the cactus or the tequila...	1.000000

11	One of my boys needed to lose some weight and ...	1.000000
12	My cats have been happily eating Felidae Plati...	1.000000
13	good flavor! these came securely packed... the...	1.000000
14	The Strawberry Twizzlers are my guilty pleasur...	0.800000
15	My daughter loves twizzlers and this shipment ...	0.800000
16	I love eating them and they are good for watch...	NaN
17	I am very satisfied with my Twizzler purchase...	NaN
18	Twizzlers, Strawberry my childhood favorite ca...	NaN
19	Candy was delivered very fast and was purchase...	NaN
20	My husband is a Twizzlers addict. We've bough...	NaN
21	I bought these for my husband who is currently...	NaN
22	I can remember buying this candy as a kid and ...	NaN
23	I love this candy. After weight watchers I ha...	NaN
24	I have lived out of the US for over 7 yrs now,...	NaN
25	Product received is as advertised.  ...	NaN
26	The candy is just red , No flavor . Just plan...	0.000000
27	I was so glad Amazon carried these batteries. ...	0.000000
28	I got this for my Mum who is not diabetic but ...	NaN
29	I don't know if it's the cactus or the tequila...	1.000000
...	...	...
99969	If you like spicy noodles and don't really fee...	0.333333
99970	If you like spicy Ramen noodles, these are the...	0.333333
99971	It's the same taste as the one I bought in Asi...	0.333333
99972	First of all, kudos to the Super Saver shippin...	0.333333
99973	I love these. It's hard to think of anything ...	0.333333
99974	I will preface this to say that I like spicy t...	0.333333
99975	this is the best noodle I've ever had. Every t...	0.333333
99976	I was browsing amazon when I came across these...	0.333333
99977	This is the best tasting, artery clogging, hig...	0.333333
99978	Noodles are fine and filling. They make a simp...	0.333333
99979	my first exposure to shin ramyun was about 10 ...	0.333333
99980	I bought this product strictly on the review o...	0.333333
99981	It is hot and delicious. the noodle is very go...	0.333333
99982	What can I say? They are very spicy, tasty no...	0.333333
99983	I have purchased this noodle from local superm...	0.333333
99984	This stuff is awesome! It has the right amount...	0.333333
99985	Just about any nong shim soup is good. Most of...	0.333333
99986	I bought these on a whim because they were a d...	0.333333
99987	Apparently they used too much synthetic flavor...	0.500000
99988	Stacks of these shin ramyun are stored and sol...	0.500000
99989	I been to several places around the world, inc...	0.500000
99990	This item is really over price, i can buy the ...	0.538462
99991	I would have to say the noodles packaged with ...	0.400000
99992	I originally decided to purchase this particul...	0.400000
99993	this stuff is awesome. for best flavor boil i...	0.400000
99994	I love these noodle. A little to spicy for th...	0.400000
99995	I just love it and will buy another box when I...	0.400000
99996	My late father in law used to have a rating sy...	0.400000



```

99997 This is my favorite brand of Korean ramen. It ... 0.400000
99998 I do like these noodles although, to say they ... 0.400000

```

```
[99999 rows x 11 columns]
```

```

In [88]: helpfulnessgraph = mydataframe.fillna(-1)
         helpfulnessgraph = helpfulnessgraph[helpfulnessgraph['HelpfulnessRatio'] != -1]
         helpfulnessgraph = helpfulnessgraph[helpfulnessgraph['HelpfulnessDenominator'] != -1]

```

```
In [87]: 'helpfulnessgraph'
```

```

Out[87]:
      Id  ProductId  UserId \
32    33  B001EO5QW8  AOVROBZ8BNTP7
33    34  B001EO5QW8  A3PMM0NFVEJGK9
34    35  B001EO5QW8  A2EB6OGOWCRU5H
50    51  B001EO5QW8  A108P30XVUFKXY
82    83  B003ZFRKGO  A2VOZX7YBT0D6D
106   107  B004K2IHUO  A1ZKFQLHFZAEH9
158   159  B000ITVLE2  A3NID9D9WMIV01
174   175  B0025VRCJY  A3PPOTV6659ATF
179   180  B005CJVVJ8  A3O8ZE8BHREE0W
180   181  B005CJVVJ8  A3BSTFFIKK5YTW
213   214  B0009XLVGA  A1NHQNQ3TVXTZF
245   246  B001EO5ZMY  A3E81HFGNME65J
255   256  B0048IC328  A375ZA7IJH2ZGQ
264   265  B000LKZK7C  A1T14KXM4GH14A
287   288  B001UJEN6C  A1XM65S80UQ2MD
288   289  B001UJEN6C  AFUMZHRZJG0H0
289   290  B001UJEN6C  AIW47KAXVTR0X
290   291  B001UJEN6C  A1R2P21ZYNJCFJ
294   295  B001UJEN6C  AREOHWLWVX0A8
324   325  B000JEHAHS  A2CU16YU1KEOUY
356   357  B000U9V5AU  A2VOVLKP603R1T
376   377  B003YXWAF8  A212PEJ8E3TS3V
381   382  B003YXWAF8  A1KQXO716WOOD6
402   403  B001ELL6O8  A2APBHKZCMD6DO
405   406  B000C21OOM  A1T61QP7QHYBRQ
509   510  B000G6RYNE  A22LENLDTGQIU7
522   523  B000G6RYNE  A3MFU0GVZUVH3K
523   524  B000G6RYNE  A27C44BIRQH3QW
524   525  B000G6RYNE  ACYR6O588USK
527   528  B000G6RYNE  A2L9028WTVFL1I
...    ...    ...    ...
99791  99792  B002GWHDC  A32WLHO7T9SY51
99792  99793  B002GWHDC  A36WIA0CCK24K2
99793  99794  B002GWHDC  A3W43ZV9NIVHCE
99803  99804  B002GWHDC  AA9NCH8XTCQTS
99804  99805  B001EO5RG8  A3OVGORKGD7BQ6

```

99815	99816	B001IZK7P4	A3TS4J1FO9EGSH
99846	99847	B003Y19D82	AATQJWMI88ZP6
99847	99848	B003Y19D82	A11YZSEN83VHQ3
99848	99849	B003Y19D82	AYAGACDBOXIYX
99869	99870	B000LRKLUQ	A3NV0AO0DGBYEW
99870	99871	B000H1CO74	A1TGMNOSAPZN4X
99871	99872	B000H1CO74	A11T3ZIIIGI9Y90
99900	99901	B000FK7PP8	A37D7W6QORY90Z
99918	99919	B0024NOZAC	A2L10UJDX706Z5
99919	99920	B0024NOZAC	AP95D6Z6KRX67
99920	99921	B0024NOZAC	A260EAA4BNFHI6
99921	99922	B0024NOZAC	AAUP22KCHY7MY
99931	99932	B000LQORDE	A244C96I6YCSHX
99932	99933	B000LQORDE	A2ONVGOP073I8M
99933	99934	B000LQORDE	A3CVRYUSE9GNT2
99954	99955	B000LQORDE	A1DS9GJUDTSKD2
99955	99956	B000LQORDE	A3FJ4OB5UC1UFU
99956	99957	B000LQORDE	A3DKY21BKQSWX2
99957	99958	B000LQORDE	A2Q22LLWEKJSAN
99958	99959	B000LQORDE	A353U0L2HAMSHV
99959	99960	B000LQORDE	A1T9VGZEILY12S
99987	99988	B000LQORDE	A19SFNK8QI1JZI
99988	99989	B000LQORDE	ATPRSDCBH6O9L
99989	99990	B000LQORDE	A3NIPWPJSFOZZT
99990	99991	B000LQORDE	A294C2HWGIVYLS

	ProfileName	HelpfulnessNumerator
32	S. Potter	
33	Megan "Bad at Nicknames"	
34	CorbyJames	
50	Roberto A	
82	Johnnycakes "Johnnycakes"	
106	S. J. Monson "world citizen"	
158	Louie Arrighi "Lou da Joo"	
174	Jerald	
179	Tom Falcon	
180	BOATS99 "BOATS99"	
213	Desert Girl "chrissylovesherhusband"	
245	suave	
255	Jihan S.	
264	Karen Keauhou Chun	
287	Joseph Kagan	
288	Wonder Woman 89	
289	C. Williams "will5927"	
290	Mare Laden "Mare"	
294	John Erikson	
324	Hurricane Ridge "Chris"	
356	D. J. Brown	

376		MsMargo
381		Allison Beegle
402		X
405		an honest reviewer
509		R. Yamaoka
522	Betty L. Dravis	"BETTY DRAVIS, author/reviewer"
523		Stan Miastkowski
524	'	Groovin' guy "music historian"
527		James J. Bell
...		...
99791		John Martinek
99792		Harry Allen Tillman, Jr.
99793		Orgainc mama-san
99803		SPB
99804		WolfMama "Liz"
99815		Deb M "Deb M"
99846		Butch "pops"
99847		Candece Hanahan
99848		Dale F. Morgan "Matisse"
99869		A. Neogy
99870	Thomas Francis Neal III	"tfn3"
99871		Songbird
99900		Julie Cicero
99918		Courtney Bauer
99919		Lady B
99920		Charles W. Interrante
99921		shopper "shopper"
99931		firechill
99932		Sulkyung "Song"
99933	Mommy of Two	"Mommy to a Princess & a Baby"
99954		LaraC
99955		streamlinesurfer
99956		Paul B. "Namnori"
99957	Daniel B. Hewitt	"dbhewitt63"
99958	Cricket	"Living life and loving it!"
99959		Simulaman "Sim"
99987		Jerri
99988	Jiashen You	"statistician"
99989		Won H. Lee
99990		Den

	Helpfulness	Denominator	Score	Time \
32		19	4	1163376000
33		13	4	1166313600
34		9	5	1175212800
50		7	1	1203379200
82		15	5	1325635200
106		8	3	1236384000

158	19	5	1260057600
174	6	4	1280793600
179	8	4	1314316800
180	6	4	1327968000
213	10	1	1220227200
245	9	2	1245456000
255	7	2	1317772800
264	8	5	1339804800
287	13	5	1276214400
288	6	5	1280188800
289	8	5	1268092800
290	7	3	1258675200
294	6	3	1259971200
324	19	1	1168300800
356	7	5	1297468800
376	7	5	1312588800
381	13	1	1309305600
402	6	1	1207353600
405	7	5	1199059200
509	7	1	1252713600
522	47	5	1207094400
523	15	5	1185580800
524	17	5	1200614400
527	14	5	1174694400
...	...	...	...
99791	9	5	1265155200
99792	8	5	1286755200
99793	7	5	1275264000
99803	11	1	1273104000
99804	17	5	1192060800
99815	7	5	1294963200
99846	14	4	1309392000
99847	7	5	1313971200
99848	7	5	1306800000
99869	8	2	1264809600
99870	8	5	1259625600
99871	8	5	1225843200
99900	10	5	1185840000
99918	9	5	1240531200
99919	7	5	1267056000
99920	10	5	1248825600
99921	16	1	1283731200
99931	10	5	1265587200
99932	7	5	1250640000
99933	15	5	1234483200
99954	6	1	1321228800
99955	6	5	1304121600
99956	6	5	1286841600

99957	6	5	1265673600
99958	6	5	1251936000
99959	11	5	1269734400
99987	8	1	1292025600
99988	8	5	1254528000
99989	8	5	1234483200
99990	13	1	1291939200

			Summary \
32			Best of the Instant Oatmeals
33			Good Instant
34			Great Irish oatmeal for those in a hurry!
50			Don't like it
82			Forget Molecular Gastronomy - this stuff rocke...
106			disappointing
158			tastes very fresh
174			Great but not as good as it was back in the da...
179			relaxing, almost like something you smoke
180			Never paid that much !
213			CHANGED FORMULA MAKES CATS SICK!!!!
245			Disappointed
255			If you can't handle caffeine, this is not for ...
264			Good product but terrible agricultural practices
287			Great Natural Energy
288			I like this stuff
289			Great Energy
290			Not sure
294			Doesn't taste that good but provides you the e...
324			Never Arrived
356			Taste-tested by a wine maker
376			Best Ever!
381			Waste of money
402			Awful
405			Sweet and Soothing
509			Surprise 1 It's different...
522			Love at first bite! Tongue-puckering tang and...
523			The Best Chips...PERIOD!
524			Delicious Extra Crunchy
527			Gourmet powerful Salt & Vinegar chips!
...			...
99791			Nicaraguan coffee
99792			The Best Coffee For Your Buck
99793			Great!
99803			Ghastly
99804			This is really meant for topical use more than...
99815			Tastes so good
99846			On sale
99847			UNBELIEVEABLE PRICE!!!

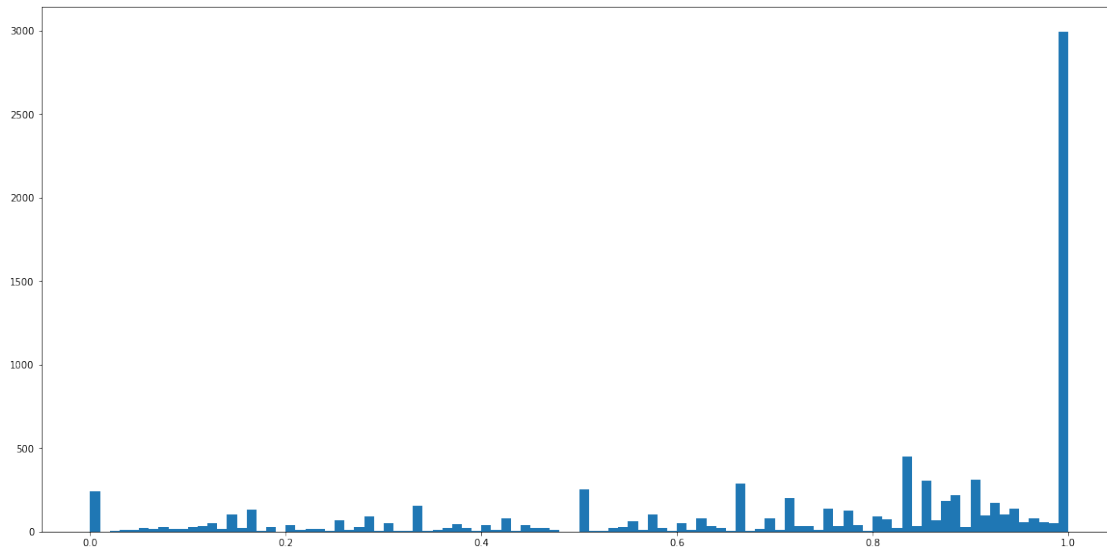
99848 Brew to Taste  
 99869 Don't but this kind.  
 99870 This is essentially the Heinz Ketchup You Grew...  
 99871 Great taste!  
 99900 I can finally make stuffed shells...  
 99918 great taste for a diet drink  
 99919 Might Suppress Your Appetite  
 99920 shipping  
 99921 a terrible price on these!  
 99931 I love this stuff  
 99932 number one ramen (ramyun)  
 99933 Great & yummy noodles, you can't go wrong  
 99954 Not authentic spiciness  
 99955 SOOO GOOD  
 99956 The best ramen EVER !!  
 99957 The best and authentic  
 99958 Not your everyday ramen (but it should be!)  
 99959 Spicy!  
 99987 Tastes very very awful  
 99988 What else can you ask for at a discounted price?  
 99989 This is THE ramen  
 99990 over price

	Text	HelpfulnessRatio
32	McCann's Instant Oatmeal is great if you must ...	1.000000
33	This is a good instant oatmeal from the best o...	1.000000
34	Instant oatmeal can become soggy the minute th...	1.000000
50	This oatmeal is not good. Its mushy, soft, I d...	0.000000
82	I know the product title says Molecular Gastro...	1.000000
106	not what I was expecting in terms of the compa...	0.250000
158	<span class="tiny"> Length:: 0:26 Mins <b...	0.894737
174	I used to love these growing up and stopped dr...	0.833333
179	Couldn't believe it when told how relaxing thi...	1.000000
180	I bought these at Grocery Outlet here in the S...	1.000000
213	As with canidae, Felidae has also changed thei...	0.300000
245	I've been drinking this tea for the past 8 or ...	0.111111
255	Yes, it's probably healthier than 5-Hour Energ...	0.428571
264	"Sugar in the Raw"(tm) Please Harvest Cane w/o...	0.750000
287	This is a fantastic product, and I wish it was...	1.000000
288	I have to get up really early to work out befo...	1.000000
289	I bought these for my husband and he said they...	0.875000
290	I am a energy junkie and I'm not sure if this ...	0.857143
294	I purchased it because it was on sale. In term...	0.833333
324	So we cancelled the order. It was cancelled w...	0.263158
356	I bought this strawberry extract hoping to spr...	1.000000
376	Oh my gosh, is this good! Like most people, I...	0.714286
381	These condiments are overpriced and terrible. ...	0.538462
402	Just awful! I thought food was supposed to ta...	0.000000

405	This is a wonderful warm flavored tea, especia...	0.857143
509	Kettle chips now look, feel and taste like Lay...	0.571429
522	I first discovered Kettle Chips with sea salt ...	0.914894
523	You don't need salt to hide the taste of potat...	0.866667
524	These potato chips are excellent. There are no ...	0.823529
527	Kettle brand chips are very crunchy. I would ...	0.785714
...	...	...
99791	Simply outstanding! I prefer low acid coffees...	1.000000
99792	I've been a chef now for over 18 years and was...	1.000000
99793	This coffee is very good. I read the reviews o...	1.000000
99803	I have been to Nicaragua, and I have had real,...	0.545455
99804	Errrr, I hate to tell you folks this, but this...	0.941176
99815	I love this berry mix. Everything in the mix ...	1.000000
99846	When coffee prices were going up and down (eve...	0.928571
99847	I am a daily drinker of coffee, I put 3-4 scoo...	1.000000
99848	What can I say? No more lugging coffee from th...	1.000000
99869	Get the Trader Joes make instead. This one is ...	0.250000
99870	Without getting into a discussion of how "orga...	1.000000
99871	My husband and I love this ketchup! To me, the...	1.000000
99900	I am a fan of Tinkyada products, and was happy...	1.000000
99918	Wow, I have been looking for a diet drink that...	0.888889
99919	A great tasting drink, and full of things that...	0.857143
99920	Yes the drink is good but 20.00 dollars to shi...	0.800000
99921	Fuze is a great product. I can get it in my gr...	0.750000
99931	I'll start off by saying that Nong shim's prod...	0.600000
99932	i'm korean, so my family always has a box of s...	0.571429
99933	My husband and I have eating these since colle...	0.600000
99954	The spice packets that come with the noodles a...	0.500000
99955	My roommate in college used to buy the Nong Sh...	0.500000
99956	Mashithhaa !! Tried this when stationed i...	0.500000
99957	Nong Shim and this flavor especially (love the...	0.500000
99958	I first picked up <a href="http://www.amazon.c...	0.500000
99959	I love these noodles. The quality is a cut ab...	0.545455
99987	Apparently they used too much synthetic flavor...	0.500000
99988	Stacks of these shin ramyun are stored and sol...	0.500000
99989	I been to several places around the world, inc...	0.500000
99990	This item is really over price, i can buy the ...	0.538462

[8883 rows x 11 columns]

```
In [91]: fig, ax = plt.subplots(figsize = (20, 10))
plt.hist(helpfulnessgraph, bins = 100)
plt.show()
```



```
In [92]: len(helpfulnessgraph)
```

```
Out[92]: 8883
```

```
In [95]: def datachange(row):
          ans = ('terrible' in row['Text'].lower())
          return ans
```

```
In [102]: mydataframe['bad review'] = mydataframe.apply(datachange, axis = 1)
          mydataframe
```

```
Out[102]:
```

	Id	ProductId	UserId	ProfileName
0	1	B001E4KFG0	A3SGXH7AUHU8GW	delmartia
1	2	B00813GRG4	A1D87F6ZCVE5NK	dll p
2	3	B000LQOCH0	ABXLMWJIXXAIN	Natalia Corres "Natalia Corres
3	4	B000UA0QIQ	A395BORC6FGVXV	Kar
4	5	B006K2ZZ7K	A1UQRSCLF8GW1T	Michael D. Bigham "M. Wassi
5	6	B006K2ZZ7K	ADT0SRK1MGOEU	Twoapennythin
6	7	B006K2ZZ7K	A1SP2KVKFXXRU1	David C. Sullivan
7	8	B006K2ZZ7K	A3JRGQVEQN31IQ	Pamela G. William
8	9	B000E7L2R4	A1MZY09TZK0BBI	R. Jame
9	10	B00171APVA	A21BT40VZCCYT4	Carol A. Ree
10	11	B0001PB9FE	A3HDKO7OW0QNK4	Canadian Fa
11	12	B0009XLVG0	A2725IB4YY9JEB	A Poeng "SparkyGoHome
12	13	B0009XLVG0	A327PCT23YH90	I
13	14	B001GVISJM	A18ECVX2RJ7HUE	willie "roadie
14	15	B001GVISJM	A2MUGFV2TDQ47K	Lynrie "Oh HELL no
15	16	B001GVISJM	A1CZX3CP8IKQIJ	Brian A. Le
16	17	B001GVISJM	A3KLWF6WQ5BNYO	Erica Neather



17	18	B001GVISJM	AFKW14U97Z6QO	Beco
18	19	B001GVISJM	A2A9X58G2GTBLP	Wolfee
19	20	B001GVISJM	A3IV7CL2C13K2U	Gre
20	21	B001GVISJM	A1W00KGLPR5PV6	mom2em
21	22	B001GVISJM	AZOF9E17RGZH8	Tammy Anderso
22	23	B001GVISJM	ARYVQL4N737A1	Charles Brow
23	24	B001GVISJM	AJ613OLZZUG7V	Mare
24	25	B001GVISJM	A22P2J09NJ9HKE	S. Cabanaugh "jilly pepper
25	26	B001GVISJM	A3FONPR03H3PJS	Deborah S. Linzer "Cat Lady
26	27	B001GVISJM	A3RXAU2N8KV45G	lady2
27	28	B001GVISJM	AAAS38B98HMIK	Heather Duk
28	29	B00144C10S	A2F4LZVGFLD1OB	Daisy
29	30	B0001PB9FY	A3HDKO7OW0QNK4	Canadian Fa
...	...	...	...	...
99969	99970	B000LQORDE	A3IVHVRNU3S7K9	D. Xu "dxdude
99970	99971	B000LQORDE	A1RQB9AVOXN0TF	mi
99971	99972	B000LQORDE	A3VLYQ6V775LNA	aaaa
99972	99973	B000LQORDE	A3K1J1GG2GWNJ1	margo
99973	99974	B000LQORDE	A2YWRWSLEJRM92	Pennsylvania Reade
99974	99975	B000LQORDE	AEPEYS74CE6KI	Daniel Esmor
99975	99976	B000LQORDE	A2OMR2QAF5J26E	EskimoSquirre
99976	99977	B000LQORDE	A1CVEGNOQ62A25	Edwar
99977	99978	B000LQORDE	A2E2IMMWYCHIG6	Tessa Noe
99978	99979	B000LQORDE	AWL9HU41JGO9R	GatorC
99979	99980	B000LQORDE	A1Y8TNPDBS8UKB	Sean Gerrit
99980	99981	B000LQORDE	A1DDS96O83SVEA	R. Flower
99981	99982	B000LQORDE	A1YH21OL6SC2MY	Jiachun Gu
99982	99983	B000LQORDE	A12VDYKZ6BIQ9L	Daniel Levenson "danfromfla
99983	99984	B000LQORDE	A2EOLB7LR508ES	Chris, C
99984	99985	B000LQORDE	A1YVCGV8G16OMM	Natha
99985	99986	B000LQORDE	A1BN8134NN8IAC	Jorge A. Zuniga "CerealLOVE
99986	99987	B000LQORDE	A30Z0GG96D11EO	Sofia Hernandez "Shut up B*&#\$
99987	99988	B000LQORDE	A19SFNK8QI1JZI	Jerr
99988	99989	B000LQORDE	ATPRSDCBH609L	Jiashen You "statistician
99989	99990	B000LQORDE	A3NIPWPJSFOZZT	Won H. Le
99990	99991	B000LQORDE	A294C2HWGIVYLS	De
99991	99992	B000LQORDE	A2JXVMU6OMK6XI	Healthy Jak
99992	99993	B000LQORDE	ANTN4ULDPYM07	A
99993	99994	B000LQORDE	A2BXV5BQYXU6HP	boolea
99994	99995	B000LQORDE	AL22WN8RBBOW7	LifeInTheCity "trogg
99995	99996	B000LQORDE	A2P7HIRYWVOBD	Masc
99996	99997	B000LQORDE	A1K0ZH5MQFBA77	jenniligh
99997	99998	B000LQORDE	A29FRN2O7LWINL	T. Tsa
99998	99999	B000LQORDE	A9Q950IPXJR1D	Lynda "casual customer

	HelpfulnessNumerator	HelpfulnessDenominator	Score	Time
0	1	1	5	1303862400
1	0	0	1	1346976000

2	1	1	4	1219017600
3	3	3	2	1307923200
4	0	0	5	1350777600
5	0	0	4	1342051200
6	0	0	5	1340150400
7	0	0	5	1336003200
8	1	1	5	1322006400
9	0	0	5	1351209600
10	1	1	5	1107820800
11	4	4	5	1282867200
12	1	1	1	1339545600
13	2	2	4	1288915200
14	4	5	5	1268352000
15	4	5	5	1262044800
16	0	0	2	1348099200
17	0	0	5	1345075200
18	0	0	5	1324598400
19	0	0	5	1318032000
20	0	0	5	1313452800
21	0	0	5	1308960000
22	0	0	5	1304899200
23	0	0	5	1304467200
24	0	0	5	1295481600
25	0	0	5	1288310400
26	0	1	1	1332633600
27	0	1	4	1331856000
28	0	0	5	1338854400
29	1	1	5	1107820800
...	...	...	...	...
99969	1	3	5	1311033600
99970	1	3	5	1308614400
99971	1	3	5	1298851200
99972	1	3	5	1298678400
99973	1	3	5	1295740800
99974	1	3	5	1293494400
99975	1	3	5	1292457600
99976	1	3	5	1288569600
99977	1	3	4	1283040000
99978	1	3	4	1283040000
99979	1	3	5	1275955200
99980	1	3	5	1253577600
99981	1	3	4	1252713600
99982	1	3	5	1244937600
99983	1	3	5	1241395200
99984	1	3	5	1239148800
99985	1	3	5	1239062400
99986	1	3	5	1236124800
99987	4	8	1	1292025600

99988	4	8	5	1254528000
99989	4	8	5	1234483200
99990	7	13	1	1291939200
99991	2	5	2	1315440000
99992	2	5	5	1284768000
99993	2	5	5	1282953600
99994	2	5	5	1256428800
99995	2	5	5	1254096000
99996	2	5	4	1250985600
99997	2	5	5	1237766400
99998	2	5	4	1237161600

	Summary \
0	Good Quality Dog Food
1	Not as Advertised
2	"Delight" says it all
3	Cough Medicine
4	Great taffy
5	Nice Taffy
6	Great! Just as good as the expensive brands!
7	Wonderful, tasty taffy
8	Yay Barley
9	Healthy Dog Food
10	The Best Hot Sauce in the World
11	My cats LOVE this "diet" food better than thei...
12	My Cats Are Not Fans of the New Food
13	fresh and greasy!
14	Strawberry Twizzlers - Yummy
15	Lots of twizzlers, just what you expect.
16	poor taste
17	Love it!
18	GREAT SWEET CANDY!
19	Home delivered twizlers
20	Always fresh
21	TWIZZLERS
22	Delicious product!
23	Twizzlers
24	Please sell these in Mexico!!
25	Twizzlers - Strawberry
26	Nasty No flavor
27	Great Bargain for the Price
28	YUMMY!
29	The Best Hot Sauce in the World
...	...
99969	Tasty!
99970	Sooooo Good!
99971	Delicious Noodles
99972	Great noodle texture, spicy flavor

99973 Supernoodles  
 99974 It hurts so good!  
 99975 The best noodle I've ever had  
 99976 Spicy  
 99977 Yum Yum  
 99978 Pretty good  
 99979 for adults only  
 99980 Nong Shim Shin noodles spicy  
 99981 A delicious noodle with good price  
 99982 Very Tasty Noodles  
 99983 Good deal at Amazon!  
 99984 To steal a tagline...mmm, mmm good!  
 99985 nong shim  
 99986 Yummy al dente noodles in my bowl!  
 99987 Tastes very very awful  
 99988 What else can you ask for at a discounted price?  
 99989 This is THE ramen  
 99990 over price  
 99991 wow... just plain nasty  
 99992 My new favorite ramen, thanks to amazon  
 99993 great stuff  
 99994 Good Stuff  
 99995 yummy!  
 99996 Tastes like More!  
 99997 Great ramen  
 99998 Spicy!!

	Text	HelpfulnessRatio
0	I have bought several of the Vitality canned d...	1.00000
1	Product arrived labeled as Jumbo Salted Peanut...	Na
2	This is a confection that has been around a fe...	1.00000
3	If you are looking for the secret ingredient i...	1.00000
4	Great taffy at a great price. There was a wid...	Na
5	I got a wild hair for taffy and ordered this f...	Na
6	This saltwater taffy had great flavors and was...	Na
7	This taffy is so good. It is very soft and ch...	Na
8	Right now I'm mostly just sprouting this so my...	1.00000
9	This is a very healthy dog food. Good for thei...	Na
10	I don't know if it's the cactus or the tequila...	1.00000
11	One of my boys needed to lose some weight and ...	1.00000
12	My cats have been happily eating Felidae Plati...	1.00000
13	good flavor! these came securely packed... the...	1.00000
14	The Strawberry Twizzlers are my guilty pleasur...	0.80000
15	My daughter loves twizzlers and this shipment ...	0.80000
16	I love eating them and they are good for watch...	Na
17	I am very satisfied with my Twizzler purchase...	NaN
18	Twizzlers, Strawberry my childhood favorite ca...	Na
19	Candy was delivered very fast and was purchase...	Na

20	My husband is a Twizzlers addict. We've bough...	Na
21	I bought these for my husband who is currently...	Na
22	I can remember buying this candy as a kid and ...	Na
23	I love this candy. After weight watchers I ha...	Na
24	I have lived out of the US for over 7 yrs now,...	Na
25	Product received is as advertised.  ...	Na
26	The candy is just red , No flavor . Just plan...	0.00000
27	I was so glad Amazon carried these batteries. ...	0.00000
28	I got this for my Mum who is not diabetic but ...	Na
29	I don't know if it's the cactus or the tequila...	1.00000
...	...	...
99969	If you like spicy noodles and don't really fee...	0.33333
99970	If you like spicy Ramen noodles, these are the...	0.33333
99971	It's the same taste as the one I bought in Asi...	0.33333
99972	First of all, kudos to the Super Saver shippin...	0.33333
99973	I love these. It's hard to think of anything ...	0.33333
99974	I will preface this to say that I like spicy t...	0.33333
99975	this is the best noodle I've ever had. Every t...	0.33333
99976	I was browsing amazon when I came across these...	0.33333
99977	This is the best tasting, artery clogging, hig...	0.33333
99978	Noodles are fine and filling. They make a simp...	0.33333
99979	my first exposure to shin ramyun was about 10 ...	0.33333
99980	I bought this product strictly on the review o...	0.33333
99981	It is hot and delicious. the noodle is very go...	0.33333
99982	What can I say? They are very spicy, tasty no...	0.33333
99983	I have purchased this noodle from local superm...	0.33333
99984	This stuff is awesome! It has the right amount...	0.33333
99985	Just about any nong shim soup is good. Most of...	0.33333
99986	I bought these on a whim because they were a d...	0.33333
99987	Apparently they used too much synthetic flavor...	0.50000
99988	Stacks of these shin ramyun are stored and sol...	0.50000
99989	I been to several places around the world, inc...	0.50000
99990	This item is really over price, i can buy the ...	0.53846
99991	I would have to say the noodles packaged with ...	0.40000
99992	I originally decided to purchase this particul...	0.40000
99993	this stuff is awesome. for best flavor boil i...	0.40000
99994	I love these noodle. A little to spicy for th...	0.40000
99995	I just love it and will buy another box when I...	0.40000
99996	My late father in law used to have a rating sy...	0.40000
99997	This is my favorite brand of Korean ramen. It ...	0.40000
99998	I do like these noodles although, to say they ...	0.40000
	bad review	
0	False	
1	False	
2	False	
3	False	
4	False	

5	False
6	False
7	False
8	False
9	False
10	False
11	False
12	False
13	False
14	False
15	False
16	False
17	False
18	False
19	False
20	False
21	False
22	False
23	False
24	False
25	False
26	False
27	False
28	False
29	False
...	...
99969	False
99970	False
99971	False
99972	False
99973	False
99974	False
99975	False
99976	False
99977	False
99978	False
99979	False
99980	False
99981	False
99982	False
99983	False
99984	False
99985	False
99986	False
99987	False
99988	False
99989	False
99990	False

```

99991      False
99992      False
99993      False
99994      False
99995      False
99996      False
99997      False
99998      False

```

```
[99999 rows x 12 columns]
```

```
In [104]: mydataframe['bad review'].value_counts()
```

```

Out[104]: False      99162
          True        837
          Name: bad review, dtype: int64

```

```
In [113]: bad_review_subset = mydataframe[mydataframe['bad review'] == True]
```

```
In [114]: bad_review_subset = bad_review_subset.groupby('Score' , as_index=False).count()
```

```
In [115]: bad_review_subset.head()
```

```

Out[115]:
   Score  Id  ProductId  UserId  ProfileName  HelpfulnessNumerator  \
0      1  401         401      401         401                401
1      2  101         101      101         101                101
2      3   81          81       81          81                 81
3      4   52          52       52          52                 52
4      5  202         202      202         202                202

   HelpfulnessDenominator  Time  Summary  Text  HelpfulnessRatio  bad rev
0                    401    401      401   401                320
1                    101    101      101   101                 67
2                     81     81       81    81                 49
3                     52     52       52    52                 28
4                    202    202      202   202                106

```

```

In [117]: fig, ax = plt.subplots(figsize = (20, 10))
          plt.bar(labels,bad_review_subset['Id'])
          plt.show()

```

