

資工碩一 113598007 楊明哲

環境設置

1. Windows

- 環境版本
 - Java : 17.0.12
 - Python : 3.10.10
 - PySpark : 3.5.3
 - Pandas : 2.2.3
- 執行指令 `spark-class org.apache.spark.deploy.master.Master`，並打開 URL
 - 指令結果

```
PS D:\Code\Big_Data_Mining> spark-class org.apache.spark.deploy.master.Master
Using Spark's default log4j profile: org/apache/spark/log4j2-defaults.properties
24/10/16 23:33:15 INFO Master: Started daemon with process name: 12148@DESKTOP-F8USCHM
24/10/16 23:33:15 WARN NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
24/10/16 23:33:16 INFO SecurityManager: Changing view acls to: Zhe
24/10/16 23:33:16 INFO SecurityManager: Changing modify acls to: Zhe
24/10/16 23:33:16 INFO SecurityManager: Changing view acls groups to:
24/10/16 23:33:16 INFO SecurityManager: Changing modify acls groups to:
24/10/16 23:33:16 INFO SecurityManager: SecurityManager: authentication disabled; ui acls disabled; users with view permissions: Zhe; groups with view permissions: EMPTY; users with m
odify permissions: Zhe; groups with modify permissions: EMPTY
24/10/16 23:33:16 INFO Utils: Successfully started service 'sparkMaster' on port 7077.
24/10/16 23:33:16 INFO Master: Starting Spark master at spark://192.168.18.5:7077
24/10/16 23:33:16 INFO Master: Running Spark version 3.5.3
24/10/16 23:33:16 INFO JettyUtils: Start Jetty 0.0.0.0:8080 for MasterUI
24/10/16 23:33:16 INFO Utils: Successfully started service 'MasterUI' on port 8080.
24/10/16 23:33:16 INFO MasterWebUI: Bound MasterWebUI to 0.0.0.0, and started at http://DESKTOP-F8USCHM:8080
24/10/16 23:33:16 INFO Master: I have been elected leader! New state: ALIVE
24/10/16 23:33:18 INFO Master: Registering worker 192.168.46.128:44857 with 16 cores, 6.7 GiB RAM
```

2. Ubuntu

- 環境版本
 - Memory : 8GB
 - Processors : 16
 - Java : 17.0.12
 - Python : 3.10.12
 - Spark : 3.5.3
- 執行 `spark-class org.apache.spark.deply.worker.Worker spark://192.168.18.5:7077`

資料夾結構

- homework2.py
- Data
 - all of datasets
- Output
 - all of output csv

源代碼

```

1 import pandas as pd
2 import numpy as np
3 from pyspark.sql import SparkSession
4 from pyspark.sql.functions import explode, split, lower, regexp_replace, to_date, avg, col, expr, sum, regexp_replace, udf
5 from itertools import combinations
6
7 # Create SparkSession
8 spark = SparkSession.builder.appName("News Word Frequency Analysis").getOrCreate()
9
10 # Read Data
11 file_path = './Data/News_Final.csv'
12 df = pd.read_csv(file_path)
13 df.dropna(inplace=True)
14
15 # Convert Pandas DataFrame to Spark DataFrame
16 spark_df_origin = spark.createDataFrame(df)
17 spark_df_origin = spark_df_origin.withColumn('PublishDate', to_date(col('PublishDate'), 'yyyy-MM-dd HH:mm:ss'))
18
19 # Q1 : Title word frequency
20 spark_df = spark_df_origin
21 spark_df = spark_df.withColumn('Title', lower(col('Title')))
22 spark_df = spark_df.withColumn('Title', regexp_replace(col('Title'), '[^\w\s]', ''))
23 spark_df = spark_df.withColumn('word', explode(split(col('Title'), '\s+')))
24
25 # Total word frequency
26 total_word_freq = spark_df.groupBy('word').count().orderBy(col('count').desc())
27
28 # Daily word frequency
29 daily_word_freq = spark_df.groupBy('PublishDate', 'word').count().orderBy(col('PublishDate'), col('count').desc())
30
31 # Topic word frequency
32 topic_word_freq = spark_df.groupBy('Topic', 'word').count().orderBy(col('Topic'), col('count').desc())
33
34 total_word_freq.show()
35 daily_word_freq.show()
36 topic_word_freq.show()
37
38 # Save results as CSV
39 total_word_freq_path = "./output/total_word_frequency.csv"
40 daily_word_freq_path = "./output/daily_word_frequency.csv"
41 topic_word_freq_path = "./output/topic_word_frequency.csv"
42
43 # Convert to Pandas and save
44 total_word_freq.toPandas().to_csv(total_word_freq_path, index=False)
45
46 daily_word_freq.toPandas().to_csv(daily_word_freq_path, index=False)
47 topic_word_freq.toPandas().to_csv(topic_word_freq_path, index=False)
48
49 print(f"Total word frequency saved to: {total_word_freq_path}")
50 print(f"Daily word frequency saved to: {daily_word_freq_path}")
51 print(f"Topic word frequency saved to: {topic_word_freq_path}")
52
53 # Q2 : Social Media word frequency
54 platforms = ['Facebook', 'GooglePlus', 'LinkedIn']
55 topics = ['Economy', 'microsoft', 'obama', 'palestine']
56
57 hourly_avg_combined = {topic: [] for topic in topics} # 初始字典
58 daily_avg_combined = {topic: [] for topic in topics} # 初始字典
59
60 for topic in topics:
61     hourly_results = []
62     daily_results = []
63
64     for platform in platforms:
65         # Read Media Data
66         file_path = f'./Data/{platform}/{topic}.csv'
67         df_platform = pd.read_csv(file_path)
68         df_platform.dropna(inplace=True)
69
70         # Convert Pandas DataFrame to Spark DataFrame
71         spark_df = spark.createDataFrame(df_platform)
72
73         # Hour
74         hourly_avg_df = spark_df.select(
75             [avg(col(f'TS{i}')).alias(f'Hour_{i}') for i in range(1, 145)]
76         )
77         hourly_results.append(hourly_avg_df.toPandas())
78
79         # Daily
80         daily_avg_df = spark_df.withColumn(
81             "Daily_Avg", expr(" + ".join([f"TS{i}" for i in range(1, 145)]) + " / 144")
82         ).select(avg(col("Daily_Avg")).alias("Daily_Avg_Popularity"))
83         daily_results.append(daily_avg_df.toPandas())
84
85     # Combine results
86     hourly_combined = pd.concat(hourly_results, axis=1)
87     daily_combined = pd.concat(daily_results, axis=1)
88

```

```

89     # Save results
90     hourly_avg_combined[topic] = hourly_combined
91     daily_avg_combined[topic] = daily_combined
92
93     hourly_output_path = f"./output/{topic}_hourly_avg.csv"
94     daily_output_path = f"./output/{topic}_daily_avg.csv"
95
96     hourly_combined.to_csv(hourly_output_path, index=False)
97     daily_combined.to_csv(daily_output_path, index=False)
98
99     print(f"Hourly average for topic '{topic}' saved to: {hourly_output_path}")
100    print(f"Daily average for topic '{topic}' saved to: {daily_output_path}")
101
102    for topic in topics:
103        print(f"\nHourly average for topic '{topic}':")
104        print(hourly_avg_combined[topic])
105
106        print(f"\nDaily average for topic '{topic}':")
107        print(daily_avg_combined[topic])
108
109    # Q3 : Sum and average sentiment score of each topic
110
111    spark_df = spark_df_origin
112
113    # Calculate the sum and average
114    sentiment_results = spark_df.groupBy("Topic").agg(
115        sum(col("SentimentTitle")).alias("Sum_SentimentTitle"),
116        avg(col("SentimentTitle")).alias("Avg_SentimentTitle"),
117        sum(col("SentimentHeadline")).alias("Sum_SentimentHeadline"),
118        avg(col("SentimentHeadline")).alias("Avg_SentimentHeadline")
119    )
120
121    print("Sentiment analysis results:")
122    sentiment_results.show(truncate=False)
123
124    sentiment_results_pd = sentiment_results.toPandas()
125    output_path = "./output/sentiment_analysis_results.csv"
126    sentiment_results_pd.to_csv(output_path, index=False)
127    print(f"Sentiment analysis results saved to: {output_path}")
128
129    # Q4 : Top 100 words in title and content
130
131    # Clean text data
132    def preprocess_text(df, column_name):
133
134        df = df.withColumn(column_name, lower(col(column_name)))
135        df = df.withColumn(column_name, regexp_replace(col(column_name), r"^[^w\s]", ""))
136        return df
137
138
139    # Calculate top 100 words
140    def get_top_words(df, column_name, topic):
141        # Filter by topic
142        df = df.filter(col("Topic") == topic)
143
144        # Split words and explode
145        word_freq = df.withColumn("word", explode(split(col(column_name), r"\s+"))) \
146            .groupBy("word").count().orderBy(col("count").desc())
147
148        # Extract top 100 words
149        top_words = word_freq.limit(100).select("word").rdd.flatMap(lambda x: x).collect()
150        return top_words
151
152    # Calculate top 100 words for each topic
153    def compute_cooccurrence_matrix(df, column_name, topic, top_words):
154        # Filter by topic
155        df = df.filter(col("Topic") == topic)
156
157        # Split words
158        df = df.withColumn("words", split(col(column_name), r"\s+"))
159
160        # Filter top 100 words
161        @udf("array<string>")
162        def filter_top_words(words):
163            return [word for word in words if word in top_words]
164
165        df = df.withColumn("filtered_words", filter_top_words(col("words")))
166
167        # Create word pairs
168        @udf("array<string>")
169        def generate_word_pairs(words):
170            return ["|".join(sorted(pair)) for pair in combinations(words, 2)]
171
172        df = df.withColumn("word_pairs", generate_word_pairs(col("filtered_words")))
173        exploded_df = df.select(explode(col("word_pairs")).alias("word_pair"))
174        cooccurrence_count = exploded_df.groupBy("word_pair").count()
175

```

```

176 # Convert to co-occurrence matrix
177 word_index = {word: idx for idx, word in enumerate(top_words)}
178 matrix_size = len(top_words)
179 cooccurrence_matrix = np.zeros((matrix_size, matrix_size), dtype=int)
180
181 for row in cooccurrence_count.collect():
182     word1, word2 = row["word_pair"].split("|")
183     count = row["count"]
184     if word1 in word_index and word2 in word_index:
185         idx1, idx2 = word_index[word1], word_index[word2]
186         cooccurrence_matrix[idx1, idx2] += count
187         cooccurrence_matrix[idx2, idx1] += count
188
189 # Save co-occurrence matrix
190 output_path = f"./output/{topic}_{column_name}_top100_cooccurrence_matrix.csv"
191 pd.DataFrame(cooccurrence_matrix, index=top_words, columns=top_words).to_csv(output_path, index=True)
192 print(f"Co-occurrence matrix for topic '{topic}' ({column_name}) saved to {output_path}")
193
194 # Process each topic
195 topics = ["economy", "microsoft", "obama", "palestine"]
196 for topic in topics:
197     spark_df = spark_df_origin
198     spark_df = preprocess_text(spark_df, "Title")
199     spark_df = preprocess_text(spark_df, "Headline")
200     print(f"Processing topic: {topic}")
201
202     # Calculate Title's Top 100 words
203     top_words_title = get_top_words(spark_df, "Title", topic)
204     compute_cooccurrence_matrix(spark_df, "Title", topic, top_words_title)
205
206     # Calculate Headline's Top 100 words
207     top_words_headline = get_top_words(spark_df, "Headline", topic)
208     compute_cooccurrence_matrix(spark_df, "Headline", topic, top_words_headline)

```

輸出結果

- 執行 `spark-submit --master spark://192.168.18.5:7077 --conf spark.driver.host=192.168.18.5 homework1.py`

第一題

- Words frequency

Total word frequency

	A	B
1	word	count
2	to	27406
3	economy	26197
4		22647
5	obama	22572
6	the	17732
7	microsoft	17584
8	in	15782
9	for	12469
10	of	11407
11	on	10594
12	and	7772
13	a	7555
14	is	6653
15	with	5421
16	obamas	5203
17	us	4708
18	as	4199
19	palestine	3831
20	new	3739
21	says	3514
22	at	3479
23	president	3040
24	will	2971
25	economic	2950
26	microsofts	2944
27	windows	2739
28	2016	2238
29	from	2216
30	it	2204

Daily word frequency

1	PublishDate	word	count
2	2002/4/2	national	1
3	2002/4/2	cemetery	1
4	2002/4/2	obama	1
5	2002/4/2	at	1
6	2002/4/2	lays	1
7	2002/4/2	wreath	1
8	2002/4/2	arlington	1
9	2008/9/20	the	2
10	2008/9/20	look	1
11	2008/9/20	of	1
12	2008/9/20	a	1
13	2008/9/20	at	1
14	2008/9/20	chinese	1
15	2008/9/20	economy	1
16	2008/9/20	health	1
17	2012/1/28	2008	1
18	2012/1/28	not	1
19	2012/1/28	to	1
20	2012/1/28	roubini	1
21	2012/1/28	global	1
22	2012/1/28	back	1
23	2012/1/28	nouriel	1
24	2012/1/28	economy	1
25	2015/3/1	microsoft	65
26	2015/3/1	to	46
27	2015/3/1	hololens	42
28	2015/3/1	for	32
29	2015/3/1	the	27

Topic word frequency

1	Topic	word	count
2	economy	economy	26078
3	economy	the	8973
4	economy	to	8813
5	economy	in	6852
6	economy		6731
7	economy	of	4055
8	economy	for	3978
9	economy	on	3601
10	economy	us	2876
11	economy	economic	2790
12	economy	a	2707
13	economy	is	2521
14	economy	as	2329
15	economy	and	2204
16	economy	global	1945
17	economy	growth	1810
18	economy	says	1727
19	economy	china	1237
20	economy	will	1231
21	economy	2016	1155
22	economy	chinas	1131
23	economy	new	1075
24	economy	at	1066
25	economy	brexit	984
26	economy	about	945
27	economy	by	940
28	economy	with	924
29	economy	how	899
30	economy	what	888

第二題

- Social Media word frequency

economy

- Hours

Hour_1	Hour_2	Hour_3	Hour_4	Hour_5	Hour_6	Hour_7	Hour_8	Hour_9	Hour_10	Hour_11	Hour_12	Hour_13	Hour_14	Hour_15	Hour_16
-0.42071	0.0198142	2.0610799	2.5862403	2.994988	3.2852513	3.8130847	4.3452954	4.7017509	5.2442195	5.7185245	6.1137396	6.644313	7.1203555	7.4252874	7.9111111

- Daily

- Facebook 、GooglePlus 、LinkedIn

Daily_Avg	Daily_Avg	Daily_Avg_Popularity
4085.3437	157.59615	1460.5405

microsoft

- Hours

Hour_1	Hour_2	Hour_3	Hour_4	Hour_5	Hour_6	Hour_7	Hour_8	Hour_9	Hour_10	Hour_11	Hour_12	Hour_13	Hour_14	Hour_15	Hour_16	Hour_17	Hour_18	Hour_19
-0.404349	0.0508877	0.4828665	1.0308132	1.3760725	1.6718472	2.1459716	2.4443905	2.673574	3.1357725	3.464357	3.7843613	4.1010199	4.4868599	4.7153958	5.1086827	5.3317684	5.6526361	5.9111111

- Daily

- Facebook 、GooglePlus 、LinkedIn

Daily_Avg	Daily_Avg	Daily_Avg_Popularity
3369.3239	463.57691	3250.1672

obama

- Hours

Hour_1	Hour_2	Hour_3	Hour_4	Hour_5	Hour_6	Hour_7	Hour_8	Hour_9	Hour_10	Hour_11	Hour_12	Hour_13	Hour_14	Hour_15	Hour_16	Hour_17
2.773903	4.434833	6.643272	11.19937	13.37342	15.51816	19.44686	22.26045	24.85726	29.55606	32.44038	35.29998	39.93781	43.19693	46.7598	51.67792	54.720

- Daily

- Facebook 、GooglePlus 、LinkedIn

Daily_Avg	Daily_Avg	Daily_Avg_Popularity
27092.455	681.34804	754.51823

palestine

- Hours

Hour_1	Hour_2	Hour_3	Hour_4	Hour_5	Hour_6	Hour_7	Hour_8	Hour_9	Hour_10	Hour_11	Hour_12	Hour_13	Hour_14	Hour_15	Hour_16	Hour_17
-0.177442	0.148432	0.516977	2.323663	2.673735	3.123715	3.651359	4.105373	4.566671	5.092754	5.616495	6.192923	6.694159	7.158319	7.53558	8.051385	8.4480

- Daily

- Facebook 、GooglePlus 、LinkedIn

Daily_Avg	Daily_Avg	Daily_Avg_Popularity
4696.3331	183.54797	73.945923

第三題

- Social Media word frequency

Topic	Sum_Sentir	Avg_Sentir	Sum_Sentir	Avg_Sentiment	Headline
microsoft	51.850245	0.0023729	-322.1031	-0.014741	
economy	-350.9222	-0.010355	-1340.504	-0.039556	
obama	-28.52565	-0.000997	-507.265	-0.017738	
palestine	-167.4022	-0.01945	-385.2141	-0.044756	

Topic	Sum_SentimentTitle	Avg_SentimentTitle	Sum_SentimentHeadline	Avg_SentimentHeadline
microsoft	51.850245380787435	0.002372900342354466	-322.103089521427	-0.014740885521094094
economy	-350.9221887940765	-0.010355047029834946	-1340.5043008124867	-0.03955573492320478
obama	-28.525649749692626	-9.974700940517738E-4	-507.26499424680156	-0.017737778664480088
palestine	-167.40219191302486	-0.01944954013163993	-385.2141135012906	-0.044755909550515935

第四題

- Top 100 words in title and content

enconomy

• Title

	the	the	to	in	of	for	on	2011	us	economic	a	is	us	and	global	growth	says	china	will		2016	china	new	at	best	about	by	with	how	uk	be	could	611	boost	more	not
the	128	7340	6762	5448	3987	204	3002	2831	2247	161	2125	2053	182	1626	1566	823	1429	371	996	894	875	793	802	754	764	781	688	702	692	631	611	622	624			
economy	128	7340	6762	5448	3987	204	3002	2831	2247	161	2125	2053	182	1626	1566	823	1429	371	996	894	875	793	802	754	764	781	688	702	692	631	611	622	624			
the	7340	3372	3636	1438	2211	1853	1241	912	981	452	973	1636	252	1174	666	125	201	144	444	283	177	340	173	283	528	145	184	640	220	279	262	85	132	26		
of	6762	3636	1262	1517	2061	723	531	722	533	618	601	421	448	374	430	575	416	423	175	420	232	321	217	249	158	245	231	250	237	345	119	565	229	16		
in	5448	1438	1517	466	1314	684	504	369	773	459	330	305	357	310	327	538	299	232	205	718	220	207	329	70	69	266	159	113	204	136	114	38	180	16		
3987	2211	2061	1314	0	0	1135	872	199	475	687	597	1881	812	410	266	887	207	360	202	211	269	221	369	207	234	283	215	153	258	223	146	204	2			
of	2941	1853	723	684	1126	268	300	403	352	386	408	306	188	294	236	171	160	109	97	114	145	119	159	146	52	90	80	76	125	95	51	40	79	6		
3002	1241	531	504	872	304	872	304	118	199	340	269	545	358	238	229	277	254	146	141	91	184	120	175	64	189	33	28	52	36	162	105	101	70	89	6	
on	2831	2247	161	722	369	796	403	199	110	323	234	194	187	167	250	232	147	136	165	64	72	101	100	68	187	36	35	116	62	89	54	35	43	73	2	
us	2249	981	533	773	419	332	340	323	48	197	246	279	200	159	145	213	113	68	82	73	24	35	173	66	114	48	82	68	6	55	63	19	91	6		
economic	161	452	618	459	675	386	269	234	197	8	173	164	190	162	183	497	108	142	75	121	151	94	79	70	43	42	62	76	69	23	46	19	46	6		
is	2125	2053	182	1626	1566	823	1429	371	996	894	875	793	802	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	
a	2053	182	1626	1566	823	1429	371	996	894	875	793	802	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624		
is	1809	252	448	357	581	188	238	167	200	100	129	100	156	59	133	159	64	164	16	41	117	73	57	58	36	36	34	12	83	31	12	37	61	6		
and	1626	1566	823	1429	371	996	894	875	793	802	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611		
global	1566	823	1429	371	996	894	875	793	802	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622		
growth	823	1429	371	996	894	875	793	802	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624		
says	1429	371	996	894	875	793	802	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631		
china	371	996	894	875	793	802	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611		
will	996	894	875	793	802	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622		
2016	894	875	793	802	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624		
china	875	793	802	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631		
new	793	802	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611		
at	802	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611			
best	754	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622			
about	764	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624			
by	781	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631			
with	688	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611			
how	702	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622			
uk	692	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624			
be	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631			
could	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611	622	624	631	611			
boost	726	85	665	88	146	40	70	43	19	43	49	12	33	37	55	8	9	32	4	3	4	46	21	8	30	5	8	29	9	24	3	0	17	6		
more	624	132	229	180	204	79	89	73	91	46	41	44	61	25	36	54	25	32	29	17	25	15	11	7	48	19	12	5	24	29	23	17	6	10		
not	623	297	157	102	214	97	83	68	81	66	86	146	68	47	47	23	68	39	62	11	25	6	18	22	29	22	15	8	11	43	5	6	16	12		
and	615	187	149	143	232	109	141	165	68	142	75	164	64	90	40	35	89	27	55	22	16	17	35	11	18	7	33	23	25	24	9	16	12	14		
us	554	139	316	164	128	56	71	60	70	70	41	40	91	40	35	89	27	55	22	16	17	35	11	18	7	33	23	25	24	9	16	12	14	10		
world	588	286	179	176	136	132	145	105	63	35	58	59	62	49	44	65	69	60	37	26	39	19	13	20	48	24	11	25	27	13	18	27	5	2		
china	614	30	230	620	212	145	120	201	234	151	204	128	117	173	149	78	97	5	46	47	4	44	29	3	46	33	30	39	0	19	21	72	25	8		
oil	531	150	189	93	146	71	106	105	62	41	41	67	91	83	62	23	40	35	36	12	5	12	19	4	13	13	16	25	9	14	22	15	8	1		
oil	580	312	239	64	160	69	85	78	47	46	80	94	47	60	25	10	29	46	23	18	37	15	16	15	38	8	13	50	7	12	9	9	6	1		
are	445	379	113	97	218	74	86	55	58	60	78	37	31	101	43	14	30	9	11	10	34	20	10	6	65	18	13	48	9	12	2	3	31	1		
than	438	158	168	105	32	130	42	33	38	16	29	15	8	16	29	15	8	16	29	15	8	16	29	15	8	16	29	15	8	16	29	15	8	16	29	
from	478	209	225	64	198	50	20	58	48	75	61	32	16	38	30	20	28	26	32	15	15	22	13	32	9	4	10	32	20	17	17	18	19	1		
bank	436	56	250	96	139	237	59	89	24	64	21	26	39	15	52	64	91	22	36	36	10															

• Title

	microsoft	fox	the	microsoft	in	and	with	a	on	of	to	in	the	new	surface	thor	m	cloud	one	office	app	will	google	apple	2016	from	m	pro	you	luna	up				
microsoft	1290	5277	4848	3096	2565	115	2354	2269	2088	1897	1715	1737	1593	1447	1152	1011	893	1009	800	961	645	539	556	490	583	540	502	509	508	521	365	903	42		
is	5277	1110	4843	625	818	658	790	735	857	666	580	493	546	595	511	341	220	313	381	332	184	167	148	148	131	219	149	146	196	96	88	261	100	21	
the	4848	1843	0	1030	1032	829	1200	733	879	789	607	615	748	618	534	527	409	459	268	157	308	165	185	227	231	253	243	161	196	235	236	174	201	11	
fox	2096	425	1030	160	688	382	442	359	512	259	405	216	225	276	233	294	175	221	209	155	127	226	182	67	65	80	67	127	18	64	80	75	62	62	
in	2565	818	1032	608	544	481	494	593	299	274	342	352	785	200	539	189	260	220	190	214	150	83	97	129	141	96	133	91	114	91	115	199	139	8	
microsofts	15	658	829	382	481	0	290	308	350	201	330	284	373	243	397	313	218	192	104	138	134	62	171	117	148	44	48	85	80	68	72	125	68	8	
and	2354	790	1200	442	494	290	226	299	280	258	302	243	230	218	189	190	106	155	122	114	70	95	74	277	207	95	62	62	62	85	73	103	14	8	
is	2269	735	733	359	593	308	320	108	255	161	247	155	222	178	180	190	140	97	137	219	76	99	44	56	119	109	135	104	50	49	53	42	114	1	8
in	2080	857	879	512	299	350	295	132	248	225	322	225	1998	259	258	41	60	141	11	56	47	141	52	121	12	14	53	93	73	36	103	73	6	8	
with	1897	666	789	259	274	201	280	161	248	30	268	182	147	190	123	245	93	109	137	93	70	115	94	42	37	72	63	55	31	23	41	50	41	8	
a	1715	580	667	405	342	330	258	247	225	268	190	203	152	415	254	155	117	132	85	85	63	122	115	88	50	61	35	73	43	61	123	67	6	8	
on	1737	493	615	216	352	284	302	155	322	182	203	58	137	221	229	129	117	161	118	104	87	57	65	41	79	74	70	42	26	52	44	43	64	11	8
of	1593	426	718	225	785	373	243	222	225	147	292	137	124	150	190	147	78	131	150	47	139	52	41	64	64	52	34	74	40	81	23	50	32	8	
is	1497	595	618	376	200	243	220	178	1898	190	152	221	150	44	178	180	30	46	93	11	29	39	37	86	11	12	21	71	50	31	88	54	34	8	
the	1404	511	534	323	539	397	210	180	259	123	415	229	190	178	82	152	121	109	199	97	10	87	50	71	46	65	69	66	35	39	47	63	25	7	
new	1152	341	527	294	189	313	218	190	258	245	254	129	147	180	132	34	86	153	69	62	111	88	116	46	52	32	24	45	41	36	34	47	27	2	
surface	1011	223	409	173	260	218	169	140	41	93	155	117	80	30	121	86	198	21	60	6	30	5	3	43	51	2	48	33	15	31	647	30	15	8	
thor	893	313	459	221	220	192	170	97	60	109	117	161	131	46	109	153	21	144	38	4	658	5	20	72	64	0	11	52	32	34	8	31	3	3	
m	1009	381	268	206	290	104	106	137	141	137	112	118	150	93	199	69	60	38	54	83	39	18	49	24	29	16	26	14	39	26	19	15	18	8	
cloud	800	332	157	155	214	138	155	219	11	93	58	104	47	11	57	62	6	4	83	14	9	20	9	12	29	55	4	13	27	35	1	5	2	2	
one	561	181	308	127	150	134	122	76	66	70	85	97	139	47	111	30	636	19	9	24	6	5	25	30	9	8	34	18	16	31	12	19	8	8	
office	642	204	165	226	83	62	114	99	47	115	63	57	52	29	50	88	5	5	18	20	6	32	23	7	9	27	7	56	15	15	12	19	8	8	
app	519	167	185	182	97	171	70	44	141	94	122	65	41	93	71	116	3	20	49	9	5	23	8	12	27	15	11	2	31	15	6	48	2	2	
will	556	148	227	67	129	117	95	56	52	42	115	41	64	57	46	46	43	72	24	12	25	7	12	10	29	18	18	42	12	11	21	16	57	7	
google	490	131	231	65	141	148	74	119	121	37	84	79	64	86	16	52	51	64	29	29	30	9	27	29	10	17	17	30	24	13	18	77	20	1	
apple	583	219	255	80	98	44	277	109	12	72	50	74	52	11	69	32	2	0	16	55	9	27	15	18	17	20	138	7	18	24	4	3	4	3	
2016	540	149	243	67	133	48	207	135	14	63	65	70	54	12	66	24	48	11	26	4	8	7	11	18	17	138	8	9	21	31	76	7	5	5	
from	502	146	161	127	91	91	95	104	53	35	35	42	74	21	35	45	33	52	14	13	34	56	2	42	30	9	9	4	32	19	7	14	7	7	
as	509	196	196	49	114	80	62	50	93	31	73	26	40	71	39	41	15	32	39	27	18	15	31	12	24	18	21	32	2	10	10	31	6	6	
pro	508	96	235	64	91	68	62	49	73	23	83	52	81	50	47	36	31	34	26	35	16	15	15	11	13	24	31	19	10	58	16	2	10	10	
luna	521	88	236	80	115	72	85	80	41	61	44	23	31	63	34	647	8	19	1	18	12	6	21	18	4	76	7	10	16	150	17	0	1		
up	783	261	174	75	99	99	125	73	42	103	50	123	43	80	88	45	28	12	43	20	11	14	20	12	45	14	3	7	16	31	7	17	17	17	
new	503	100	201	82	139	68	103	114	73	41	67	64	32	54	35	27	15	3	18	2	12	8	2	57	20	4	5	7	6	10	6	17	94	0	
surface	483	272	134	97	66	64	95	73	63	85	40	100	31	37	47	46	57	21	54	35	17	19	11	11	10	18	16	11	18	28	12	16	8	8	
thor	421	275	145	35	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	
m	1009	381	268	206	290	104	106	137	141	137	112	118	150	93	199	69	60	38	54	83	39	18	49	24	29	16	26	14	39	26	19	15	18	8	
cloud	800	332	157	155	214	138	155	219	11	93	58	104	47	11	57	62	6	4	83	14	9	20	9	12	29	55	4	13	27	35	1	5	2	2	
one	561	181	308	127	150	134	122	76	66	70	85	97	139	47	111	30	636	19	9	24	6	5	25	30	9	8	34	18	16	31	12	19	8	8	
office	642	204	165	226	83	62	114	99	47	115	63	57	52	29	50	88	5	5	18	20	6	32	23	7	9	27	7	56	15	15	12	19	8	8	
app	519	167	185	182	97	171	70	44	141	94	122	65	41	93	71	116	3	20	49	9	5	23	8	12	27	15	11	2	31	15	6	48	2	2	
will	556	148	227	67	129	117	95	56	52	42	115	41	64	57	46	46	43	72	24	12	25	7	12	10	29	18	18	42	12	11	21	16	57	7	
google	490	131	231	65	141	148	74	119	121	37	84	79	64	86	16	52	51	64	29	29	30	9	27	29	10	17	17	30	24	13	18	77	20	1	
apple	583	219	255	80	98	44	277	109	12	72	50	74	52	11	69	32	2	0	16	55	9	27	15	18	17	20	138	7	18	24	4	3	4	3	
2016	540	149	243	67	133	48	207	135	14	63	65	70	54	12	66	24	48	11	26	4	8	7	11	18	17	138	8	9	21	31	76	7	5	5	
from	502	146	161	127	91	91	95	104	53	35	35	42	74	21	35	45	33	52	14	13	34	56	2	42	30	9	9	4	32	19	7	14	7	7	
as	509	196	196	49	114	80	62	50	93	31	73	26	40	71	39	41	15	32	39	27	18	15	31	12	24	18	21	32	2	10	10	31	6	6	
pro	508	96	235	64	91	68	62	49	73	23	83	52	81	50	47	36	31	34	26	35	16	15	15	11	13	24	31	19	10	58	16				

• Title

	chama	he	in	on	fox	of	president	a	and	is	with	us	it	trump	says	1203	bauck	a	916	stitt	court	will	clinton	house	white	his	gun	new	administration	supreme	after	over		
to	8700	2428	2793	1287	1068	1322	1209	995	879	813	535	480	442	508	695	379	271	329	321	275	766	457	193	282	410	339	286	261	255	330	277	360	185	2
chama	5520	2793	0	1650	1606	1057	1120	1057	1230	1181	794	871	660	561	322	355	401	311	599	379	139	185	297	270	262	286	283	204	233	300	238	208	277	1
to	24	1287	1068	88	450	1606	850	708	578	592	396	1151	523	327	494	126	255	204	122	57	87	143	96	175	199	140	65	88	130	86	91	72	6	
in	3377	1322	1057	516	578	262	399	494	500	332	296	221	200	244	153	163	178	174	208	123	186	66	147	116	123	105	143	90	129	60	87	50	92	
on	3189	1299	1120	694	592	399	142	259	324	330	249	277	248	235	163	104	168	138	135	107	102	187	95	115	102	79	159	200	116	133	110	137	73	
fox	3028	196	1057	532	396	494	259	146	350	328	324	191	200	125	171	139	175	153	118	101	149	119	80	142	82	77	102	137	112	65	107	97	85	
of	2635	879	1230	806	1151	500	324	350	246	332	389	250	225	174	231	159	164	148	165	138	131	64	101	61	73	59	165	109	83	74	72	54	65	
president	2139	813	1181	446	523	332	330	328	332	34	240	194	211	202	130	133	112	99	174	83	138	32	121	71	65	76	123	43	47	13	88	38	67	
and	1582	1640	144	402	327	286	249	324	389	249	100	210	375	125	80	109	133	93	133	91	80	60	57	35	43	35	76	145	86	30	151	57	50	
is	1640	480	871	304	494	221	277	191	250	194	210	104	115	91	80	109	138	50	171	37	36	12	45	122	49	56	47	32	46	18	31	11	24	
with	1409	442	660	385	211	200	248	200	225	211	375	115	86	82	69	107	176	123	68	26	29	17	73	27	29	69	34	45	44	155	30	39	39	
us	1545	508	561	219	189	344	235	125	174	202	125	91	84	48	102	95	77	43	101	24	63	53	44	93	77	75	53	42	58	35	32	34	39	
at	1176	695	322	132	128	315	163	171	231	130	86	80	62	102	12	46	27	163	89	74	132	39	80	10	12	9	28	23	35	19	37	77	82	
trump	1190	379	355	160	255	163	104	139	159	133	109	109	69	95	46	34	108	43	63	24	19	51	29	32	187	196	40	35	14	32	29	35	20	
house	1063	271	401	164	204	178	168	175	164	112	133	138	167	77	27	108	10	119	72	64	9	14	47	103	13	15	27	11	13	4	99	13	35	
bauck	1203	329	311	72	122	174	138	153	148	99	50	170	43	163	43	113	4	60	40	37	46	78	33	31	34	44	19	10	76	19	32	38	3	
as	916	275	379	101	121	123	107	101	138	83	91	37	68	34	74	24	64	40	48	84	49	36	20	48	15	17	49	21	36	12	31	26	8	
stitt	777	707	691	225	57	186	102	149	131	138	80	36	26	63	132	19	9	37	35	49	14	3	30	2	50	52	47	1	17	1	15	2	44	
court	707	457	185	202	82	66	187	119	64	32	60	12	29	53	39	51	14	46	2	36	3	6	27	31	95	22	29	3	12	27	19	68	5	
will	691	193	297	194	143	147	95	80	101	121	57	45	17	44	80	29	47	78	61	20	50	27	16	28	24	24	48	27	31	16	103	22	30	
clinton	705	282	270	124	96	116	115	143	61	71	35	122	73	93	10	32	103	33	47	48	2	16	28	2	12	13	18	12	7	5	37	15	17	
house	710	410	262	107	176	123	102	82	73	45	49	27	77	12	187	13	31	86	15	50	14	25	24	10	710	14	1	8	9	15	15	16	3	
white	675	339	286	90	199	105	79	77	59	76	35	56	29	75	9	198	15	34	38	17	52	22	24	13	710	4	15	10	8	3	16	19	21	
his	703	286	263	89	140	143	159	102	165	123	76	47	69	53	28	40	27	44	42	49	47	29	48	18	14	15	18	15	11	2	16	31	19	
gun	556	261	204	232	65	80	200	137	109	43	46	32	34	42	23	35	11	16	22	21	1	3	27	12	12	15	24	65	3	3	16	1	51	
new	606	253	233	159	88	129	116	112	83	47	86	46	4	58	35	14	13	19	22	36	17	12	31	7	11	8	11	65	2	4	73	21	8	
administration	774	330	300	11	130	60	133	65	74	13	30	18	44	35	19	32	4	10	2	12	1	27	16	5	5	3	2	3	73	0	14	9	10	
not	626	277	238	113	98	87	110	107	72	88	151	31	155	32	37	29	99	76	44	31	15	19	103	37	15	16	16	21	14	6	13	8	1	
supreme	562	380	208	178	91	91	137	97	54	38	57	111	30	34	27	19	30	34	27	19	30	34	27	19	30	34	27	19	30	34	27	19	30	34
after	619	185	277	69	72	92	73	85	65	67	50	24	39	39	52	20	35	38	28	8	44	3	30	17	18	21	19	51	16	10	8	3	2	
over	579	99	212	104	78	55	64	35	53	35	36	57	41	35	36	41	39	34	31	14	13	46	7	25	12	12	8	24	13	45	9	31	6	
about	432	202	131	161	84	38	34	43	28	66	57	61	69	42	23	22	61	45	29	10	8	12	11	12	12	11	32	17	10	18	16	12	9	
from	518	210	249	110	110	45	50	67	54	75	60	50	21	21	35	18	17	43	30	9	9	8	12	35	22	21	13	6	16	13	11	8	8	
state	541	253	155	188	327	151	91	90	327	42	38	26	36	43	61	14	24	24	17	22	26	0	39	6	6	37	4	6	2	18	0	7	7	
michelle	447	277	296	77	97	83	69	70	46	29	71	134	47	59	6	55	14	12	58	19	12	1	18	7	35	33	3	0	20	0	9	1	7	
be	449	252	181	135	91	61	82	65	73	42	28	16	42	24	63	28	16	182	29	12	13	182	29	12	13	182	29	12	13	182	29	12	13	182
gap	450	231	181	98	96	49	110	107	70	19	39	28	41	52	4	34	59	50	6	27	3	81	11	18	13	3	6	13	11	3	21	43	9	
into	452	203	135	105	71	61	124	42	68	41	41	57	63	40	46	19	25	37	22	20	9	1	31	20	7	5	15	1	22	5	30	0	13	
to	456	127	141	135	91	61	124	42	68	41	41	57	63	40	46	19	25	37	22	20	9	1	31	20	7	5	15	1	22	5	30	0	13	
climate	395	195	113	125	71	70	77	63	87	25	35	36	29	29	20	39	12	33	14	25	4	20	17	1	11	7	8	0	6	4	3	15	6	
calls	485	200	162	24	51	92	140	213	87	60	40	23	13	17	17	14	18	7	11	23	9	8	1	9	5	5	7	39	13	5	6	8	38	
has	428	127	213	75	111	50	57	61	59	70	102	26	16	22	27	15	22	39	31	11	5	11	7	11	9	10	26	12	10	13	9	10	14	
be	448	143	233	49	77	73	65	53	43	46	51	24	71	28	24	20	37	11	27	46	8	10	38	18	8	9	27	11	6	7	16	7	27	
plan	276	306	117	212	43	48	59	43	31	30	32	20	27	18	32	10	17	6	10	16	4	71	13	6	13	9	13	25	31	23	4	50	7	
against	402	120	137	72	46	72	29	30	41	29	20	21	44	18	60	13	38	27	14	10	4	12	17	11	8	6	11	4	17	6	17	10	15	

• Headline

	the	chama	he	in	on	fox	of	president	a	and	is	with	us	it	trump	says	1203	bauck	a	916	stitt	court	will	clinton	house	white	his	gun	new	administration	supreme	after	over			
the	69002	42882	4758	3210	2031	3036	3093	23472	3700	20541	13054	13037	11877	16027	11309	9277	10770	he	6205	45	915	7732	4607	7000	7905	7562	5930	5374	5161	7040	6000	4966	4736	4965	3974	3848
for	4758	2438	2140	3524	1434	1506	1521	1335	2243	1143	711	719	827	10006	6000	5098	645	5336	783	4392	354	3835	4304	4193	300	5209	2070	2322	2482	2592	2482	2592	2482	2592	2482	2592
to	32510	20688	914	3520	14261	3040	12914	1019	12514	9024	5963	5964	6852	4636	4387	5089	4303	4137	3434	3123	2944	3514	3143	2421	2854	2427	2640	2549	1976	1914	534	1510	1661	1661	1510	1661
a	29521	1849	1854	14261	12262	13555	13577	13770	9276	9026	6005	5019	6957	4633	4343	4400	3966	4025	3563	2206	304	3078	3133	2602	2178	2051	2395	2374	2090	2148	1514	1751	1751	1514	1751	
in	16027	11309	9277	10770	6205	45	915	7732	4607	7000	7905	7562	5930	5374	5161	7040	6000	4966	4736	4965	3974	3848	2592	2482	2592	2482	2592	2482	2592	2482	2592	2482	2592	2482	2592	
is	30383	16489	1210	1340	13277	11543	9184	8719	9844	7022	4703	538	5429	6204	3832	3539	4333	3447	3363	2783	2009	2602	2807	2993	2115	2202	2447	2297	2425	1642	1006	1901	1314	151	151	
and	23472	13612	13385	1019	12514	9027	9019	8719	9844	6844	6230	4013	4046	4073	5011	3249	3167	3343	2551	260	3040	1554	1881	2348	2522	1753	1681	1613	1701	1621	1422	1330	595	1165	1165	
back	20701	1245	12433	12514	9276	8896	8494	6844	210	6359	3491	713	4368	4835	2566	2977	3884	2009	2740	2551	1771	2003	2242	1599	2228	1572	1776	1719	1719	1230	1140	584	885	885		
the	1434	1506	1521	1335	2243	1143	711	719	827	10006	6000	5098	645	5336	783	4392	354	3835	4304	4193	300	5209	2070	2322	2482	2592	2482	2592	2482	2592	2482	2592	2482	2592		
to	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
for	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
is	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
in	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
with	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
the	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
is	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
with	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
the	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
is	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
with	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
the	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
is	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
with	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
the	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
is	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
with	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
the	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
is	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
with	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
the	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
is	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
with	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
the	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
is	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
with	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
the	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
is	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
with	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
the	13254	7523	7119	5963	5620	4688	4703	4013	3491	3205	2042	1968	2697	2693	2526	1333	1691	1913	1099	1145	905	1443	1294	1879	879	879	1035	721	678	1083	843	1101	9	9		
is	13254	7523	7119	5963	5620	4688	4703	4013																												

● Title

	palestine		of		palestinian		for		inrael		on		land		a		inrael		with		211		121		at		new		inraelpalest		peace		un		123		from		by		palestinian		after		state		east		over		palestine		as		un		peace		conflict		says		bank																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
palestine	in	1023	170	417	426	355	319	337	211	205	107	137	115	143	93	73	39	65	65	57	51	33	57	76	51	29	84	41	47	32	42	75	54	29	31	51																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

● Headline

	the	of	a	in	to	9729	and	palestine	for	4952	4250	4190	3139	2885	2471	2213	2468	2337	1904	1751	1998	1913	1937	1792	1122	1287	1165	1099	887	1258	1165	1315	1036	1134	107
the	23944	15300	5532	5325	4783	4377	3948	3945	2863	2303	1845	2122	1584	1272	1148	1065	1057	1065	983	975	977	928	891	803	577	480	563	568	524	595	636	579	530	494	42
of	4503	4516	4502	4370	3335	3155	2535	2033	1914	2035	1444	1250	1051	1084	1140	910	987	953	1112	742	857	856	884	441	633	500	406	432	424	528	479	481	4		
in	10472	4783	4783	4370	3335	3384	3300	3206	2148	1794	1549	1786	1196	1048	869	914	869	833	781	773	888	708	720	644	504	487	476	459	518	449	433	451	389	3	
to	9729	4377	4070	3384	3408	3078	3035	1965	1821	1555	1810	1275	1007	852	734	667	741	607	763	615	903	724	665	426	543	487	443	409	509	411	556	448	469	6	
palestine	7721	3948	3335	3500	3078	1110	2063	528	1562	1535	1457	1015	838	670	725	879	625	287	623	614	647	584	628	392	497	589	347	251	413	357	375	365	331	3	
and	8993	3945	3135	3226	3035	2863	2178	1714	1531	1255	1539	1072	670	614	706	654	713	636	553	561	566	632	542	336	475	344	425	340	370	449	399	347	365	3	
palestinian	6000	2863	2525	2148	1965	1714	628	1054	751	516	624	595	324	575	420	542	821	444	430	488	455	316	267	258	102	266	252	241	238	336	194	211	11		
is	4194	2351	4074	3504	3074	1554	1054	754	514	624	594	324	574	424	544	824	444	434	484	454	314	264	254	104	264	254	241	234	334	194	214	11			
for	4250	1454	1544	1549	1555	1255	751	716	596	773	530	455	456	324	347	309	211	359	327	319	262	244	191	204	207	206	162	252	170	193	232	183	17		
to	4194	2122	2005	1798	1810	1457	1539	1516	959	773	532	507	502	442	400	458	391	254	416	385	371	334	332	307	217	254	233	217	236	220	285	163	194	2	
is	3139	1584	1444	1446	1275	1015	1072	624	444	530	507	492	516	198	264	218	261	184	254	118	275	250	220	125	139	125	83	136	155	125	159	217	248	10	
with	12548	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	4446	
has	2471	1148	1051	869	852	670	614	524	335	456	442	188	346	152	192	150	184	179	271	106	128	187	140	115	77	91	43	129	204	59	106	77	132		
with	2213	1055	1084	914	734	725	706	575	413	324	400	364	227	192	186	162	209	125	162	201	187	221	179	141	122	113	74	124	105	157	101	92	117	82	
at	2468	1057	1140	869	667	679	654	400	500	347	458	218	173	150	209	232	185	150	242	236	114	95	162	156	178	109	95	102	89	102	89	102	89	102	
with	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	
israeli	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	
is	1971	975	975	975	773	763	623	553	401	359	416	254	256	271	242	202	202	281	178	251	188	215	125	139	125	83	136	155	125	159	217	248	10		
in	1998	987	1112	887	869	852	670	614	524	335	456	442	188	346	152	192	150	184	179	271	106	128	187	140	115	77	91	43	129	204	59	106	77	132	
israel	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415		
israel	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	1904	
from	1972	891	857	720	724	584	632	455	200	244	334	250	239	187	179	95	133	128	197	177	175	234	145	76	84	87	104	177	122	109	59	62	107		
as	1998	987	1112	887	869	852	670	614	524	335	456	442	188	346	152	192	150	184	179	271	106	128	187	140	115	77	91	43	129	204	59	106	77	132	
israel	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415		
from	1972	891	857	720	724	584	632	455	200	244	334	250	239	187	179	95	133	128	197	177	175	234	145	76	84	87	104	177	122	109	59	62	107		
as	1998	987	1112	887	869	852	670	614	524	335	456	442	188	346	152	192	150	184	179	271	106	128	187	140	115	77	91	43	129	204	59	106	77	132	
israel	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415		
from	1972	891	857	720	724	584	632	455	200	244	334	250	239	187	179	95	133	128	197	177	175	234	145	76	84	87	104	177	122	109	59	62	107		
as	1998	987	1112	887	869	852	670	614	524	335	456	442	188	346	152	192	150	184	179	271	106	128	187	140	115	77	91	43	129	204	59	106	77	132	
israel	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415		
from	1972	891	857	720	724	584	632	455	200	244	334	250	239	187	179	95	133	128	197	177	175	234	145	76	84	87	104	177	122	109	59	62	107		
as	1998	987	1112	887	869	852	670	614	524	335	456	442	188	346	152	192	150	184	179	271	106	128	187	140	115	77	91	43	129	204	59	106	77	132	
israel	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415		
from	1972	891	857	720	724	584	632	455	200	244	334	250	239	187	179	95	133	128	197	177	175	234	145	76	84	87	104	177	122	109	59	62	107		
as	1998	987	1112	887	869	852	670	614	524	335	456	442	188	346	152	192	150	184	179	271	106	128	187	140	115	77	91	43	129	204	59	106	77	132	
israel	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415		
from	1972	891	857	720	724	584	632	455	200	244	334	250	239	187	179	95	133	128	197	177	175	234	145	76	84	87	104	177	122	109	59	62	107		
as	1998	987	1112	887	869	852	670	614	524	335	456	442	188	346	152	192	150	184	179	271	106	128	187	140	115	77	91	43	129	204	59	106	77	132	
israel	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415		
from	1972	891	857	720	724	584	632	455	200	244	334	250	239	187	179	95	133	128	197	177	175	234	145	76	84	87	104	177	122	109	59	62	107		
as	1998	987	1112	887	869	852	670	614	524	335	456	442	188	346	152	192	150	184	179	271	106	128	187	140	115	77	91	43	129	204	59	106	77	132	
israel	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	7415	741							