Task 4 code

October 28, 2021

Installing pyhive

```
[2]: pip install pyhive
```

```
Collecting pyhive
  Downloading https://files.pythonhosted.org/packages/7a/3b/379563ead1d431
b946d5d20b8c3b960c318581926702040931aaa2d5cf28/PyHive-0.6.4.tar.gz (44kB)
      |                        | 51kB 4.9MB/s eta 0:00:011
Requirement already satisfied: future in
/opt/conda/anaconda/lib/python3.7/site-packages (from pyhive) (0.17.1)
Requirement already satisfied: python-dateutil in
/opt/conda/anaconda/lib/python3.7/site-packages (from pyhive) (2.8.0)
Requirement already satisfied: six>=1.5 in
/opt/conda/anaconda/lib/python3.7/site-packages (from python-dateutil->pyhive)
(1.15.0)
Building wheels for collected packages: pyhive
  Building wheel for pyhive (setup.py) … done
  Created wheel for pyhive: filename=PyHive-0.6.4-cp37-none-any.whl
size=51495
sha256=5ee4d6de420e212c7c9a3e0613c902440648ac9001865bf1f4e18d077890e9c8
  Stored in directory: /root/.cache/pip/wheels/0b/8d/51/4f4d0799c9281b8f6d742795
733395638b5c2f490cf49dc09a
Successfully built pyhive
Installing collected packages: pyhive
Successfully installed pyhive-0.6.4
Note: you may need to restart the kernel to use updated packages.
```

0.0.1 Installing sklearn: libs are used to calculate idf dtf

```
[4]: ! pip install sklearn
```

```
Collecting sklearn
  Downloading https://files.pythonhosted.org/packages/1e/7a/dbb3be0ce9bd5c8b7e3d
87328e79063f8b263b2b1bfa4774cb1147bfcd3f/sklearn-0.0.tar.gz
Requirement already satisfied: scikit-learn in
/opt/conda/anaconda/lib/python3.7/site-packages (from sklearn) (0.21.3)
Requirement already satisfied: numpy>=1.11.0 in
/opt/conda/anaconda/lib/python3.7/site-packages (from scikit-learn->sklearn)
```

```
(1.17.2)
Requirement already satisfied: joblib>=0.11 in
/opt/conda/anaconda/lib/python3.7/site-packages (from scikit-learn->sklearn)
(0.13.2)
Requirement already satisfied: scipy>=0.17.0 in
/opt/conda/anaconda/lib/python3.7/site-packages (from scikit-learn->sklearn)
(1.3.1)
Building wheels for collected packages: sklearn
  Building wheel for sklearn (setup.py) … done
  Created wheel for sklearn: filename=sklearn-0.0-py2.py3-none-any.whl
size=1316
sha256=a3e14ce2c5a79eef46c0c7d70e43a2b910702c4573c947f124f99bcb4231e059
  Stored in directory: /root/.cache/pip/wheels/76/03/bb/589d421d27431bcd2c6da284
d5f2286c8e3b2ea3cf1594c074
Successfully built sklearn
Installing collected packages: sklearn
Successfully installed sklearn-0.0
```

0.0.2 Importing the required libs

```python
[2]: from pyhive import hive
     import pandas as pd
     from sklearn.feature_extraction.text import TfidfVectorizer
     connection = hive.
      ↪Connection("localhost",10000,"rutuja_bhuwad2","5472246886210937407")
```

0.0.3 Get the records for top 10 users

```python
[28]: df1 = pd.read_sql("SELECT sum(Score) as score, userid, max(displayname) as␣
      ↪displayname   FROM Query_DATA where userid is not NULL GROUP BY userid SORT␣
      ↪BY score DESC LIMIT 10",connection)
      userid=tuple(df1['userid'])
      #tuple(userid)
      df = pd.read_sql(f"select id, body, title, owneruserid, displayname from␣
      ↪Query_DATA where owneruserid in {userid}",connection)
      df
```

```
[28]:           id                                                body  \
      0       927358  I accidentally committed the wrong files to Gi…
      1      2003505  I want to delete a branch both locally and rem…
      2        48198  How can you find out which process is listenin…
      3      1144783  I have this string in my JavaScript code   quo…
      4       221294  Something similar to Unix s timestamp  that is…
      ..         …                                                  …
      415   35416525  In my TabBarViewController  I create a UINavig…
```

```
416    4482392   I m using Django forms   I m validating in the …
417    7314901   I m trying to encrypt decrypt a string using   …
418   46151540   Following the instructions here    http    www b…
419     603661   If you have several classes where you want the…

                                                   title   owneruserid  \
0      How do I undo the most recent local commits in…         89904
1      How do I delete a Git branch locally and remot…         95592
2      How can you find out which process is listenin…          4883
3      How to replace all occurrences of a string in …         49153
4              How do you get a timestamp in JavaScript?          6068
..                                                    …            …
415    How to correctly dismiss a UINavigationControl…        179736
416    How do I raise a ValidationError (or do someth…        179736
417    How to add/remove PKCS7 padding from an AES en…         49153
418    Added Springfox Swagger-UI and it's not workin…          6068
419             Inherit from a class or an abstract class         51816

          displayname
0      Hamza Yerlikaya
1       Matthew Rankin
2             readonly
3                  Ali
4               pupeno
..                   …
415              TIMEX
416              TIMEX
417                Ali
418             pupeno
419         Joan Venge

[420 rows x 5 columns]
```

0.0.4 Merge body and title column

```
[22]: df['dfset']= df['body'] + ' ' + df['title']
      df
```

```
[22]:           id                                                body  \
0          927358  I accidentally committed the wrong files to Gi…
1         2003505  I want to delete a branch both locally and rem…
2           48198  How can you find out which process is listenin…
3         1144783  I have this string in my JavaScript code   quo…
4          221294  Something similar to Unix s timestamp  that is…
..            …                                                   …
415      35416525  In my TabBarViewController  I create a UINavig…
```

```
416   4482392  I m using Django forms  I m validating in the …
417   7314901  I m trying to encrypt decrypt a string using  …
418  46151540  Following the instructions here    http    www b…
419    603661  If you have several classes where you want the…


                                                title   owneruserid  \
0     How do I undo the most recent local commits in…         89904
1     How do I delete a Git branch locally and remot…         95592
2     How can you find out which process is listenin…          4883
3     How to replace all occurrences of a string in …         49153
4             How do you get a timestamp in JavaScript?          6068
..                                                  …             …
415   How to correctly dismiss a UINavigationControl…        179736
416   How do I raise a ValidationError (or do someth…        179736
417   How to add/remove PKCS7 padding from an AES en…         49153
418   Added Springfox Swagger-UI and it's not workin…          6068
419            Inherit from a class or an abstract class         51816

          displayname                                               dfset
0     Hamza Yerlikaya  I accidentally committed the wrong files to Gi…
1     Matthew Rankin  I want to delete a branch both locally and rem…
2             readonly  How can you find out which process is listenin…
3                  Ali  I have this string in my JavaScript code    quo…
4               pupeno  Something similar to Unix s timestamp   that is…
..                  …                                                   …
415              TIMEX  In my TabBarViewController  I create a UINavig…
416              TIMEX  I m using Django forms  I m validating in the …
417                Ali  I m trying to encrypt decrypt a string using  …
418             pupeno  Following the instructions here    http    www b…
419         Joan Venge  If you have several classes where you want the…

[420 rows x 6 columns]
```

0.0.5 Define function to calculate the Tf-Idf for userid

```python
def tfidfcal(sample):
    vectorizer = TfidfVectorizer(stop_words='english',lowercase=True)
    response = vectorizer.fit_transform(sample)
    df_tfidf_sklearn = pd.DataFrame(response.toarray(),columns=vectorizer.
 get_feature_names())
    Sum= df_tfidf_sklearn.sum(axis=0)
    totaldfset= Sum.nlargest(10)
    output = list(totaldfset.index)
    return df_tfidf_sklearn[output]
```

0.0.6 Call tfidfcal function in for loop to get the tfidf of top 10 user

```python
for i in df1.index:
    df2 = df.query(f"displayname == '{df1['displayname'].values[i]}'")
    df3 = tfidfcal(df2['dfset'])
    df3.insert(10,'useroutput',df1['displayname'].values[i])
    display(df3)
```

```
          lt      copy      data       int     idiom        gt      quot  \
0   0.431818  0.000000  0.51101  0.172727  0.000000  0.129546  0.086364
1   0.126037  0.000000  0.00000  0.252073  0.000000  0.252073  0.252073
2   0.000000  0.523691  0.00000  0.000000  0.418953  0.000000  0.000000

        swap  arraysize     array useroutput
0   0.000000   0.283895  0.194318  GManNickG
1   0.000000   0.000000  0.000000  GManNickG
2   0.314215   0.000000  0.079656  GManNickG
```

```
        python       use      ruby      list     table    branch       way  \
0    0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
1    0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
2    0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
3    0.000000  0.000000  0.413988  0.000000  0.000000  0.000000  0.000000
4    0.000000  0.000000  0.000000  0.000000  0.000000  0.636117  0.000000
5    0.152171  0.174938  0.000000  0.000000  0.000000  0.000000  0.000000
6    0.000000  0.191672  0.000000  0.000000  0.000000  0.000000  0.000000
7    0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
8    0.000000  0.000000  0.204627  0.000000  0.000000  0.000000  0.000000
9    0.251336  0.000000  0.000000  0.000000  0.000000  0.000000  0.144470
10   0.195328  0.112276  0.000000  0.000000  0.000000  0.000000  0.000000
11   0.000000  0.000000  0.000000  0.135482  0.000000  0.000000  0.000000
12   0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
13   0.000000  0.000000  0.404077  0.000000  0.000000  0.000000  0.000000
14   0.101808  0.234079  0.000000  0.418562  0.000000  0.000000  0.000000
15   0.000000  0.120988  0.000000  0.000000  0.310520  0.000000  0.120988
16   0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
17   0.000000  0.213146  0.000000  0.000000  0.000000  0.000000  0.000000
18   0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
19   0.088347  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
20   0.149597  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
21   0.194472  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
22   0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.179925
23   0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
24   0.000000  0.000000  0.000000  0.000000  0.000000  0.402695  0.114986
25   0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
26   0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
27   0.070218  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
```

```
28  0.000000   0.202521   0.000000   0.000000   0.259890   0.000000   0.101261
29  0.000000   0.000000   0.000000   0.000000   0.521156   0.000000   0.000000
30  0.000000   0.000000   0.000000   0.202044   0.000000   0.000000   0.169489
31  0.163253   0.000000   0.223728   0.447455   0.000000   0.000000   0.187678
32  0.121700   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
```

```
    difference        git     process  useroutput
0     0.000000   0.000000   0.350231    readonly
1     0.000000   0.203342   0.000000    readonly
2     0.000000   0.149441   0.000000    readonly
3     0.000000   0.000000   0.000000    readonly
4     0.000000   0.202994   0.000000    readonly
5     0.000000   0.000000   0.000000    readonly
6     0.491935   0.000000   0.000000    readonly
7     0.000000   0.000000   0.000000    readonly
8     0.000000   0.000000   0.000000    readonly
9     0.000000   0.000000   0.000000    readonly
10    0.288162   0.000000   0.000000    readonly
11    0.000000   0.000000   0.000000    readonly
12    0.000000   0.000000   0.000000    readonly
13    0.000000   0.000000   0.000000    readonly
14    0.000000   0.000000   0.000000    readonly
15    0.000000   0.000000   0.000000    readonly
16    0.000000   0.000000   0.187558    readonly
17    0.000000   0.238205   0.000000    readonly
18    0.000000   0.000000   0.000000    readonly
19    0.000000   0.000000   0.000000    readonly
20    0.220697   0.000000   0.000000    readonly
21    0.000000   0.000000   0.000000    readonly
22    0.000000   0.000000   0.000000    readonly
23    0.000000   0.000000   0.000000    readonly
24    0.000000   0.192758   0.000000    readonly
25    0.000000   0.000000   0.000000    readonly
26    0.000000   0.000000   0.000000    readonly
27    0.000000   0.000000   0.000000    readonly
28    0.000000   0.000000   0.389835    readonly
29    0.000000   0.000000   0.000000    readonly
30    0.000000   0.000000   0.000000    readonly
31    0.000000   0.000000   0.000000    readonly
32    0.000000   0.000000   0.000000    readonly
```

```
      python        git       head       does      using       like         gt  \
0   0.000000   0.070040   0.000000   0.000000   0.000000   0.062296   0.000000
1   0.000000   0.000000   0.000000   0.119001   0.000000   0.105843   0.000000
2   0.548044   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
3   0.466569   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
4   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
```

5	0.000000	0.000000	0.000000	0.381432	0.000000	0.000000	0.000000
6	0.000000	0.000000	0.000000	0.000000	0.125318	0.000000	0.000000
7	0.000000	0.000000	0.000000	0.226583	0.000000	0.000000	0.000000
8	0.000000	0.419950	0.348896	0.139983	0.000000	0.000000	0.000000
9	0.112558	0.000000	0.000000	0.000000	0.000000	0.234385	0.651160
10	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
11	0.000000	0.000000	0.000000	0.000000	0.000000	0.162964	0.000000
12	0.000000	0.074466	0.000000	0.000000	0.159032	0.000000	0.000000
13	0.000000	0.000000	0.000000	0.000000	0.000000	0.174931	0.000000
14	0.000000	0.000000	0.000000	0.000000	0.248870	0.000000	0.000000
15	0.000000	0.186841	0.698527	0.000000	0.000000	0.000000	0.000000
16	0.082390	0.000000	0.000000	0.154315	0.000000	0.137253	0.000000
17	0.000000	0.000000	0.000000	0.000000	0.174213	0.036277	0.000000
18	0.000000	0.336791	0.000000	0.000000	0.000000	0.000000	0.000000
19	0.115735	0.000000	0.000000	0.000000	0.000000	0.096401	0.000000
20	0.000000	0.187124	0.000000	0.062375	0.000000	0.000000	0.000000
21	0.000000	0.000000	0.134181	0.000000	0.000000	0.000000	0.295618
22	0.000000	0.000000	0.000000	0.000000	0.325353	0.000000	0.000000
23	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

	use	way	string	useroutput
0	0.000000	0.000000	0.000000	e-satis
1	0.000000	0.000000	0.000000	e-satis
2	0.256619	0.000000	0.000000	e-satis
3	0.000000	0.274178	0.000000	e-satis
4	0.000000	0.063801	0.000000	e-satis
5	0.000000	0.143609	0.475342	e-satis
6	0.117359	0.000000	0.000000	e-satis
7	0.113291	0.000000	0.000000	e-satis
8	0.139983	0.000000	0.000000	e-satis
9	0.000000	0.099216	0.065680	e-satis
10	0.000000	0.000000	0.000000	e-satis
11	0.000000	0.172458	0.000000	e-satis
12	0.000000	0.000000	0.000000	e-satis
13	0.196677	0.000000	0.000000	e-satis
14	0.000000	0.000000	0.290445	e-satis
15	0.000000	0.000000	0.000000	e-satis
16	0.000000	0.000000	0.000000	e-satis
17	0.122361	0.115173	0.000000	e-satis
18	0.000000	0.000000	0.000000	e-satis
19	0.000000	0.000000	0.000000	e-satis
20	0.000000	0.058710	0.000000	e-satis
21	0.000000	0.000000	0.000000	e-satis
22	0.000000	0.000000	0.000000	e-satis
23	0.000000	0.000000	0.000000	e-satis

	file	java	android	sql	git	way	like \

0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
1	0.000000	0.000000	0.000000	0.000000	0.728914	0.000000	0.000000
2	0.000000	0.000000	0.130150	0.000000	0.000000	0.000000	0.000000
3	0.000000	0.000000	0.174881	0.000000	0.000000	0.000000	0.000000
4	0.000000	0.000000	0.000000	0.000000	0.000000	0.140540	0.000000
5	0.000000	0.362108	0.000000	0.000000	0.000000	0.000000	0.000000
6	0.000000	0.000000	0.275010	0.000000	0.000000	0.000000	0.000000
7	0.000000	0.000000	0.000000	0.219137	0.000000	0.000000	0.000000
8	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.032758
9	0.000000	0.000000	0.151689	0.000000	0.000000	0.000000	0.000000
10	0.000000	0.000000	0.337085	0.000000	0.000000	0.125140	0.000000
11	0.000000	0.000000	0.000000	0.000000	0.000000	0.079078	0.164020
12	0.000000	0.000000	0.000000	0.105631	0.000000	0.000000	0.072300
13	0.656317	0.000000	0.000000	0.000000	0.417075	0.085457	0.000000
14	0.108337	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
15	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
16	0.371197	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
17	0.000000	0.000000	0.352152	0.000000	0.000000	0.000000	0.000000
18	0.000000	0.000000	0.000000	0.000000	0.000000	0.084689	0.263487
19	0.000000	0.364640	0.000000	0.000000	0.000000	0.000000	0.000000
20	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
21	0.312392	0.000000	0.000000	0.000000	0.000000	0.122027	0.126552
22	0.082427	0.366784	0.000000	0.000000	0.000000	0.000000	0.066783
23	0.000000	0.000000	0.000000	0.000000	0.000000	0.083640	0.000000
24	0.000000	0.000000	0.000000	0.000000	0.000000	0.026801	0.055589
25	0.000000	0.000000	0.000000	0.000000	0.143193	0.088019	0.091283
26	0.000000	0.071220	0.000000	0.000000	0.000000	0.050015	0.000000
27	0.000000	0.000000	0.000000	0.000000	0.000000	0.081616	0.000000
28	0.000000	0.531605	0.000000	0.000000	0.000000	0.000000	0.064529
29	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.089201
30	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
31	0.000000	0.000000	0.000000	0.000000	0.000000	0.081609	0.000000
32	0.116987	0.000000	0.000000	0.692403	0.000000	0.000000	0.094784
33	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
34	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
35	0.187244	0.000000	0.000000	0.277057	0.000000	0.109712	0.000000
36	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.021477

	application	data	dump	useroutput
0	0.000000	0.000000	0.000000	pupeno
1	0.000000	0.000000	0.000000	pupeno
2	0.000000	0.000000	0.000000	pupeno
3	0.000000	0.000000	0.000000	pupeno
4	0.000000	0.000000	0.000000	pupeno
5	0.000000	0.000000	0.000000	pupeno
6	0.436139	0.261367	0.000000	pupeno
7	0.000000	0.000000	0.000000	pupeno
8	0.000000	0.040432	0.000000	pupeno

```
9      0.000000  0.000000  0.000000     pupeno
10     0.356390  0.000000  0.000000     pupeno
11     0.000000  0.000000  0.000000     pupeno
12     0.000000  0.267708  0.617252     pupeno
13     0.000000  0.000000  0.000000     pupeno
14     0.000000  0.123813  0.000000     pupeno
15     0.000000  0.000000  0.000000     pupeno
16     0.000000  0.000000  0.000000     pupeno
17     0.000000  0.000000  0.000000     pupeno
18     0.000000  0.000000  0.000000     pupeno
19     0.000000  0.000000  0.000000     pupeno
20     0.000000  0.095551  0.000000     pupeno
21     0.000000  0.000000  0.000000     pupeno
22     0.000000  0.000000  0.000000     pupeno
23     0.000000  0.000000  0.000000     pupeno
24     0.000000  0.000000  0.000000     pupeno
25     0.000000  0.000000  0.000000     pupeno
26     0.000000  0.000000  0.000000     pupeno
27     0.000000  0.000000  0.000000     pupeno
28     0.177202  0.000000  0.000000     pupeno
29     0.000000  0.000000  0.000000     pupeno
30     0.000000  0.000000  0.000000     pupeno
31     0.000000  0.000000  0.000000     pupeno
32     0.000000  0.116987  0.323682     pupeno
33     0.026204  0.000000  0.000000     pupeno
34     0.000000  0.000000  0.000000     pupeno
35     0.000000  0.093622  0.000000     pupeno
36     0.029489  0.000000  0.000000     pupeno
```

```
        file     timer     files      java       new     table  application  \
0   0.000000  0.000000  0.084239  0.000000  0.000000  0.000000     0.000000
1   0.000000  0.000000  0.000000  0.026395  0.000000  0.533399     0.000000
2   0.351468  0.000000  0.312480  0.000000  0.000000  0.000000     0.000000
3   0.000000  0.000000  0.000000  0.000000  0.000000  0.000000     0.000000
4   0.463315  0.000000  0.102980  0.000000  0.000000  0.000000     0.264787
5   0.000000  0.000000  0.000000  0.284629  0.000000  0.000000     0.000000
6   0.000000  0.782791  0.000000  0.066405  0.190127  0.000000     0.000000
7   0.064939  0.000000  0.000000  0.051849  0.371129  0.000000     0.000000
8   0.000000  0.000000  0.097851  0.000000  0.000000  0.000000     0.251599
9   0.000000  0.000000  0.000000  0.146846  0.000000  0.000000     0.000000
```

```
        jar     array      bits      useroutput
0  0.000000   0.00000   0.00000  Hamza Yerlikaya
1  0.000000   0.00000   0.00000  Hamza Yerlikaya
2  0.000000   0.00000   0.00000  Hamza Yerlikaya
3  0.000000   0.00000   0.00000  Hamza Yerlikaya
4  0.264787   0.00000   0.00000  Hamza Yerlikaya
```

```
5  0.000000   0.00000   0.00000   Hamza Yerlikaya
6  0.000000   0.00000   0.00000   Hamza Yerlikaya
7  0.000000   0.00000   0.00000   Hamza Yerlikaya
8  0.251599   0.00000   0.00000   Hamza Yerlikaya
9  0.000000   0.49458   0.49458   Hamza Yerlikaya


      python    string      like      list        gt     class      want  \
0   0.146097  0.433565  0.071733  0.000000  0.000000  0.000000  0.000000
1   0.061488  0.000000  0.060381  0.364949  0.000000  0.000000  0.164387
2   0.000000  0.000000  0.052305  0.000000  0.000000  0.000000  0.071200
3   0.085815  0.636669  0.084269  0.000000  0.000000  0.000000  0.000000
4   0.195965  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
..       ...       ...       ...       ...       ...       ...       ...
59  0.000000  0.061414  0.000000  0.184242  0.067256  0.000000  0.000000
60  0.000000  0.040140  0.079694  0.200699  0.043958  0.090934  0.072322
61  0.102420  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
62  0.000000  0.000000  0.092893  0.000000  0.000000  0.000000  0.063225
63  0.000000  0.000000  0.000000  0.000000  0.000000  0.710432  0.094171

       index       use     value  useroutput
0   0.000000  0.000000  0.000000  Joan Venge
1   0.222751  0.000000  0.000000  Joan Venge
2   0.289438  0.000000  0.000000  Joan Venge
3   0.000000  0.000000  0.000000  Joan Venge
4   0.000000  0.000000  0.000000  Joan Venge
..       ...       ...       ...         ...
59  0.000000  0.000000  0.000000  Joan Venge
60  0.000000  0.000000  0.000000  Joan Venge
61  0.000000  0.000000  0.172141  Joan Venge
62  0.000000  0.072233  0.000000  Joan Venge
63  0.000000  0.000000  0.000000  Joan Venge

[64 rows x 11 columns]


          gt     array  javascript       php     using        lt    jquery  \
0   0.000000  0.000000     0.09527  0.000000  0.000000  0.000000  0.000000
1   0.000000  0.000000     0.00000  0.000000  0.000000  0.000000  0.000000
2   0.226733  0.000000     0.00000  0.000000  0.169265  0.244775  0.244775
3   0.000000  0.382036     0.14211  0.000000  0.000000  0.000000  0.000000
4   0.000000  0.000000     0.00000  0.083204  0.000000  0.000000  0.000000
..       ...       ...         ...       ...       ...       ...       ...
74  0.000000  0.602876     0.00000  0.112129  0.000000  0.000000  0.000000
75  0.000000  0.000000     0.00000  0.000000  0.031352  0.000000  0.000000
76  0.332715  0.000000     0.00000  0.000000  0.000000  0.359189  0.000000
77  0.000000  0.000000     0.00000  0.000000  0.000000  0.000000  0.000000
78  0.000000  0.000000     0.00000  0.000000  0.070152  0.000000  0.000000
```

```
           id  key  file useroutput
0    0.000000  0.0   0.0        Ali
1    0.000000  0.0   0.0        Ali
2    0.000000  0.0   0.0        Ali
3    0.000000  0.0   0.0        Ali
4    0.000000  0.0   0.0        Ali
..        ...  ...   ...        ...
74   0.000000  0.0   0.0        Ali
75   0.317373  0.0   0.0        Ali
76   0.000000  0.0   0.0        Ali
77   0.167844  0.0   0.0        Ali
78   0.000000  0.0   0.0        Ali

[79 rows x 11 columns]

        python      want      user    string   gt  dictionary        lt  \
0     0.284599  0.000000  0.000000  0.000000  0.0    0.000000  0.000000
1     0.134752  0.000000  0.000000  0.000000  0.0    0.000000  0.000000
2     0.000000  0.000000  0.000000  0.000000  0.0    0.000000  0.127690
3     0.000000  0.000000  0.000000  0.177586  0.0    0.000000  0.000000
4     0.000000  0.000000  0.000000  0.000000  0.0    0.000000  0.000000
..         ...       ...       ...       ...  ...         ...       ...
109   0.000000  0.074997  0.113117  0.000000  0.0    0.000000  0.000000
110   0.071466  0.000000  0.000000  0.000000  0.0    0.000000  0.000000
111   0.053356  0.000000  0.000000  0.000000  0.0    0.076317  0.000000
112   0.000000  0.031898  0.000000  0.000000  0.0    0.000000  0.000000
113   0.000000  0.000000  0.132504  0.000000  0.0    0.000000  0.064626

          use  javascript    return useroutput
0    0.000000     0.00000  0.000000      TIMEX
1    0.000000     0.00000  0.000000      TIMEX
2    0.056226     0.00000  0.000000      TIMEX
3    0.000000     0.00000  0.000000      TIMEX
4    0.000000     0.00000  0.000000      TIMEX
..        ...         ...       ...        ...
109  0.097172     0.00000  0.000000      TIMEX
110  0.000000     0.09971  0.209897      TIMEX
111  0.000000     0.00000  0.000000      TIMEX
112  0.000000     0.00000  0.000000      TIMEX
113  0.000000     0.00000  0.068021      TIMEX

[114 rows x 11 columns]

     install       pip    python        lt        gt    branch  installed  \
0   0.000000  0.000000  0.000000  0.000000  0.043561  0.571753   0.000000
1   0.000000  0.000000  0.000000  0.650278  0.544984  0.000000   0.000000
2   0.349045  0.319958  0.319958  0.000000  0.000000  0.000000   0.000000
```

```
3  0.235219  0.211697  0.094087  0.000000  0.000000  0.000000  0.109034
4  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.447027
5  0.427251  0.284834  0.000000  0.000000  0.000000  0.000000  0.000000
6  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
7  0.000000  0.000000  0.338392  0.000000  0.000000  0.000000  0.000000

      flask    version    django     useroutput
0  0.000000  0.000000  0.000000  Matthew Rankin
1  0.000000  0.000000  0.000000  Matthew Rankin
2  0.000000  0.000000  0.000000  Matthew Rankin
3  0.000000  0.000000  0.054517  Matthew Rankin
4  0.533396  0.533396  0.000000  Matthew Rankin
5  0.000000  0.000000  0.000000  Matthew Rankin
6  0.000000  0.000000  0.425746  Matthew Rankin
7  0.000000  0.000000  0.000000  Matthew Rankin

        file    python      want      java        gt       use      bash  \
0   0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
1   0.000000  0.000000  0.112223  0.000000  0.000000  0.000000  0.000000
2   0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
3   0.000000  0.120125  0.000000  0.000000  0.000000  0.000000  0.000000
4   0.399122  0.000000  0.000000  0.000000  0.300058  0.157152  0.165376
5   0.165486  0.000000  0.154401  0.000000  0.000000  0.000000  0.411414
6   0.000000  0.000000  0.000000  0.656906  0.000000  0.000000  0.000000
7   0.098326  0.110882  0.000000  0.000000  0.000000  0.000000  0.000000
8   0.000000  0.460545  0.000000  0.000000  0.000000  0.000000  0.000000
9   0.000000  0.000000  0.121899  0.000000  0.000000  0.000000  0.000000
10  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
11  0.226738  0.000000  0.105775  0.000000  0.000000  0.000000  0.000000
12  0.000000  0.146123  0.000000  0.000000  0.000000  0.306123  0.000000
13  0.075997  0.000000  0.283624  0.000000  0.000000  0.000000  0.000000
14  0.000000  0.112566  0.000000  0.000000  0.225132  0.000000  0.000000
15  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
16  0.000000  0.000000  0.000000  0.543006  0.000000  0.114080  0.000000
17  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
18  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
19  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
20  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
21  0.000000  0.000000  0.086072  0.000000  0.052016  0.054486  0.172010
22  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
23  0.071193  0.000000  0.066424  0.000000  0.000000  0.000000  0.176992
24  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
25  0.000000  0.000000  0.115857  0.000000  0.280062  0.000000  0.000000
26  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
27  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
28  0.314898  0.000000  0.097935  0.000000  0.000000  0.000000  0.260955
29  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
```

```
30   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
31   0.000000   0.316141   0.000000   0.000000   0.000000   0.000000   0.000000
32   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
33   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
34   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
35   0.000000   0.000000   0.068072   0.000000   0.082275   0.000000   0.000000
36   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
37   0.175326   0.000000   0.081791   0.000000   0.197713   0.000000   0.000000
38   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
39   0.000000   0.000000   0.000000   0.138102   0.110795   0.000000   0.000000
40   0.236363   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
41   0.000000   0.000000   0.000000   0.000000   0.000000   0.387017   0.000000
42   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
43   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
44   0.297153   0.000000   0.138624   0.000000   0.000000   0.175504   0.000000
45   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000
46   0.000000   0.321164   0.000000   0.000000   0.000000   0.000000   0.000000
47   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000   0.000000


     instance   standard     output  useroutput
0    0.000000   0.000000   0.000000   flybywire
1    0.000000   0.000000   0.000000   flybywire
2    0.000000   0.000000   0.000000   flybywire
3    0.000000   0.000000   0.000000   flybywire
4    0.000000   0.498681   0.291836   flybywire
5    0.000000   0.465224   0.217805   flybywire
6    0.000000   0.000000   0.000000   flybywire
7    0.000000   0.000000   0.000000   flybywire
8    0.000000   0.000000   0.000000   flybywire
9    0.000000   0.000000   0.000000   flybywire
10   0.000000   0.000000   0.000000   flybywire
11   0.000000   0.000000   0.000000   flybywire
12   0.000000   0.000000   0.000000   flybywire
13   0.000000   0.000000   0.000000   flybywire
14   0.000000   0.000000   0.000000   flybywire
15   0.000000   0.000000   0.000000   flybywire
16   0.000000   0.000000   0.000000   flybywire
17   0.000000   0.000000   0.000000   flybywire
18   0.000000   0.000000   0.000000   flybywire
19   0.864950   0.000000   0.000000   flybywire
20   0.000000   0.000000   0.000000   flybywire
21   0.000000   0.000000   0.364252   flybywire
22   0.000000   0.000000   0.000000   flybywire
23   0.000000   0.000000   0.281102   flybywire
24   0.000000   0.000000   0.000000   flybywire
25   0.000000   0.000000   0.000000   flybywire
26   0.000000   0.000000   0.000000   flybywire
27   0.000000   0.000000   0.000000   flybywire
```

```
28   0.000000   0.000000   0.000000   flybywire
29   0.000000   0.000000   0.000000   flybywire
30   0.000000   0.000000   0.000000   flybywire
31   0.000000   0.000000   0.000000   flybywire
32   0.000000   0.000000   0.000000   flybywire
33   0.000000   0.000000   0.000000   flybywire
34   0.000000   0.000000   0.000000   flybywire
35   0.000000   0.000000   0.000000   flybywire
36   0.000000   0.000000   0.000000   flybywire
37   0.000000   0.000000   0.000000   flybywire
38   0.000000   0.000000   0.000000   flybywire
39   0.000000   0.000000   0.000000   flybywire
40   0.000000   0.000000   0.000000   flybywire
41   0.000000   0.000000   0.000000   flybywire
42   0.000000   0.207097   0.000000   flybywire
43   0.000000   0.000000   0.000000   flybywire
44   0.000000   0.000000   0.000000   flybywire
45   0.317672   0.000000   0.000000   flybywire
46   0.000000   0.000000   0.000000   flybywire
47   0.000000   0.000000   0.000000   flybywire
```

[ ]: