

```
1 C:\ProgramData\Anaconda3\python.exe "C:\Program Files\  
JetBrains\PyCharm 2020.3.3\plugins\python\helpers\pydev  
\pydevconsole.py" --mode=client --port=49988  
2  
3 import sys; print('Python %s on %s' % (sys.version, sys  
.platform))  
4 sys.path.extend(['C:\\Users\\admin-zoicanma\\Documents  
\\GitHub\\RA-materials', 'C:/Users/admin-zoicanma/  
Documents/GitHub/RA-materials'])  
5  
6 Python 3.8.5 (default, Sep 3 2020, 21:29:08) [MSC v.  
1916 64 bit (AMD64)]  
7 Type 'copyright', 'credits' or 'license' for more  
information  
8 IPython 7.19.0 -- An enhanced Interactive Python. Type  
'?' for help.  
9 PyDev console: using IPython 7.19.0  
10  
11 Python 3.8.5 (default, Sep 3 2020, 21:29:08) [MSC v.  
1916 64 bit (AMD64)] on win32  
12 In[2]: runfile('C:/Users/admin-zoicanma/Documents/  
GitHub/RA-materials/build_shapleyvalue.py', wdir='C:/  
Users/admin-zoicanma/Documents/GitHub/RA-materials')  
13 (1010.0, '2018 q1') 1  
14 16  
15 APA  
16 COG  
17 COP  
18 CVX  
19 CXO  
20 DVN  
21 EOG  
22 FANG  
23 FTI  
24 HAL  
25 HES  
26 HFC  
27 HP  
28 KMI  
29 MPC
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30 MRO
31 NBL
32 NOV
33 OKE
34 OXY
35 PSX
36 PXD
37 SLB
38 VLO
39 WMB
40 XOM
41 --- 66.75206208229065 seconds ---
42 (1010.0, '2018 q2') 2
43 16
44 APA
45 COG
46 COP
47 CVX
48 CXO
49 DVN
50 EOG
51 FANG
52 FTI
53 HAL
54 0
55 1
56 2
57 3
58 4
59 5
60 6
61 7
62 8
63 9
64 10
65 11
66 12
67 13
68 14
69 15
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70 16
71 HES
72 HFC
73 HP
74 KMI
75 MPC
76 MRO
77 NBL
78 NOV
79 OKE
80 OXY
81 PSX
82 PXD
83 SLB
84 VLO
85 WMB
86 XOM
87 --- 4698.4935739040375 seconds ---
88 (1010.0, '2018 q3') 3
89 16
90 APA
91 COG
92 COP
93 CVX
94 CXO
95 DVN
96 EOG
97 FANG
98 FTI
99 HAL
100 HES
101 HFC
102 HP
103 KMI
104 MPC
105 MRO
106 NBL
107 NOV
108 OKE
109 OXY
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110 PSX
111 PXD
112 SLB
113 VLO
114 WMB
115 XOM
116 --- 56.53771090507507 seconds ---
117 (1010.0, '2018 q4') 4
118 16
119 APA
120 BKR
121 COG
122 COP
123 CVX
124 CXO
125 DVN
126 EOG
127 FANG
128 FTI
129 0
130 1
131 2
132 3
133 4
134 5
135 6
136 7
137 8
138 9
139 10
140 11
141 12
142 13
143 14
144 15
145 16
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147 18
148 19
149 20
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150 21
151 22
152 HAL
153 HES
154 HFC
155 HP
156 KMI
157 MPC
158 MRO
159 NBL
160 NOV
161 OKE
162 OXY
163 PSX
164 PXD
165 SLB
166 0
167 1
168 2
169 3
170 4
171 5
172 6
173 7
174 8
175 9
176 10
177 11
178 12
179 13
180 14
181 15
182 16
183 17
184 VLO
185 WMB
186 XOM
187 --- 1212.9830405712128 seconds ---
188 (1010.0, '2019 q1') 5
189 16
```

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190 APA
191 BKR
192 COG
193 COP
194 CVX
195 CXO
196 DVN
197 EOG
198 FANG
199 FTI
200 HAL
201 HES
202 HFC
203 HP
204 KMI
205 MPC
206 MRO
207 NBL
208 NOV
209 OKE
210 OXY
211 PSX
212 PXD
213 SLB
214 VLO
215 WMB
216 XOM
217 --- 68.37135028839111 seconds ---
218 (1010.0, '2019 q2') 6
219 16
220 APA
221 BKR
222 COG
223 COP
224 CVX
225 CXO
226 DVN
227 EOG
228 FANG
229 FTI
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230 0
231 1
232 2
233 3
234 4
235 5
236 6
237 7
238 8
239 9
240 10
241 11
242 12
243 13
244 14
245 15
246 16
247 17
248 HAL
249 HES
250 HFC
251 HP
252 KMI
253 MPC
254 MRO
255 NBL
256 NOV
257 OKE
258 OXY
259 PSX
260 PXD
261 SLB
262 VLO
263 WMB
264 XOM
265 --- 632.2125425338745 seconds ---
266 (1010.0, '2019 q3') 7
267 16
268 APA
269 BKR
```

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270 COG
271 COP
272 CVX
273 CXO
274 DVN
275 EOG
276 FANG
277 FTI
278 HAL
279 HES
280 HFC
281 HP
282 KMI
283 MPC
284 MRO
285 NBL
286 NOV
287 OKE
288 OXY
289 PSX
290 PXD
291 SLB
292 VLO
293 WMB
294 XOM
295 --- 57.50203251838684 seconds ---
296 (1010.0, '2019 q4') 8
297 16
298 APA
299 BKR
300 COG
301 COP
302 CVX
303 CXO
304 DVN
305 EOG
306 FANG
307 FTI
308 HAL
309 HES
```

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310 HFC
311 HP
312 KMI
313 MPC
314 MRO
315 NBL
316 NOV
317 OKE
318 OXY
319 PSX
320 PXD
321 SLB
322 VLO
323 WMB
324 XOM
325 --- 60.46483135223389 seconds ---
326 (1010.0, '2020 q1') 9
327 16
328 APA
329 BKR
330 COG
331 COP
332 CVX
333 CXO
334 DVN
335 EOG
336 FANG
337 0
338 1
339 2
340 3
341 4
342 5
343 6
344 7
345 8
346 9
347 10
348 11
349 12
```

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350 13
351 14
352 15
353 16
354 17
355 FTI
356 HAL
357 HES
358 HFC
359 HP
360 KMI
361 MPC
362 MRO
363 NBL
364 NOV
365 OKE
366 OXY
367 PSX
368 PXD
369 SLB
370 VLO
371 WMB
372 XOM
373 --- 650.1267359256744 seconds ---
374 (1010.0, '2020 q2') 10
375 16
376 APA
377 BKR
378 COG
379 COP
380 CVX
381 CXO
382 DVN
383 EOG
384 FANG
385 FTI
386 HAL
387 HES
388 HFC
389 HP
```

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390 KMI
391 MPC
392 MRO
393 NBL
394 NOV
395 OKE
396 OXY
397 PSX
398 PXD
399 SLB
400 VLO
401 WMB
402 XOM
403 --- 48.28985261917114 seconds ---
404 (1510.0, '2018 q1') 11
405 16
406 ALB
407 APD
408 CE
409 CF
410 DD
411 ECL
412 EMN
413 FCX
414 FMC
415 IFF
416 IP
417 LYB
418 MLM
419 MOS
420 NEM
421 NUE
422 PKG
423 PPG
424 SEE
425 SHW
426 VMC
427 WRK
428 --- 39.69382357597351 seconds ---
429 (1510.0, '2018 q2') 12
```

430 16
431 ALB
432 APD
433 CE
434 CF
435 DD
436 ECL
437 EMN
438 FCX
439 FMC
440 IFF
441 IP
442 LYB
443 MLM
444 MOS
445 NEM
446 NUE
447 PKG
448 PPG
449 SEE
450 SHW
451 VMC
452 WRK
453 --- 37.71334671974182 seconds ---
454 (1510.0, '2018 q3') 13
455 16
456 ALB
457 APD
458 CE
459 CF
460 DD
461 ECL
462 EMN
463 FCX
464 FMC
465 IFF
466 IP
467 LYB
468 MLM
469 MOS

470 NEM
471 NUE
472 PKG
473 PPG
474 SEE
475 SHW
476 VMC
477 WRK
478 --- 38.73695969581604 seconds ---
479 (1510.0, '2018 q4') 14
480 16
481 ALB
482 APD
483 CE
484 CF
485 DD
486 ECL
487 EMN
488 FCX
489 FMC
490 IFF
491 IP
492 LIN
493 LYB
494 MLM
495 MOS
496 NEM
497 NUE
498 PKG
499 PPG
500 SEE
501 SHW
502 VMC
503 WRK
504 --- 39.84277105331421 seconds ---
505 (1510.0, '2019 q1') 15
506 16
507 ALB
508 APD
509 AVY

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510 BLL
511 CE
512 CF
513 DD
514 ECL
515 EMN
516 FCX
517 FMC
518 IFF
519 IP
520 LIN
521 LYB
522 MLM
523 MOS
524 NEM
525 NUE
526 PKG
527 PPG
528 SEE
529 SHW
530 VMC
531 WRK
532 --- 42.48733115196228 seconds ---
533 (1510.0, '2019 q2') 16
534 16
535 ALB
536 AMCR
537 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/
      build_shapleyvalue.py:132: RuntimeWarning: Mean of
      empty slice.
538     data = data.append({'Analyst': k, 'InfoContribution':
      'np.array(shapley_value).mean()}', ignore_index=True)
539 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\
      _methods.py:170: RuntimeWarning: invalid value
      encountered in double_scalars
540     ret = ret.dtype.type(ret / rcount)
541 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/
      build_shapleyvalue.py:139: RuntimeWarning: Mean of
      empty slice.
542     avg_similarity = cosine_matrix[np.triu_indices(np.
```

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542 shape(cosine_matrix)[1], k=1)].mean()
543 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\
    _methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
544     ret = ret.dtype.type(ret / rcount)
545 APD
546 AVY
547 BLL
548 CE
549 CF
550 CTVA
551 DD
552 DOW
553 ECL
554 EMN
555 FCX
556 FMC
557 IFF
558 IP
559 LIN
560 LYB
561 MLM
562 MOS
563 NEM
564 NUE
565 PKG
566 PPG
567 SEE
568 SHW
569 VMC
570 WRK
571 --- 43.63313436508179 seconds ---
572 (1510.0, '2019 q3') 17
573 16
574 ALB
575 AMCR
576 APD
577 AVY
578 BLL
579 CE
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580 CF
581 CTVA
582 DD
583 DOW
584 ECL
585 EMN
586 FCX
587 FMC
588 IFF
589 IP
590 LIN
591 LYB
592 MLM
593 MOS
594 NEM
595 NUE
596 PKG
597 PPG
598 SEE
599 SHW
600 VMC
601 WRK
602 --- 42.39002823829651 seconds ---
603 (1510.0, '2019 q4') 18
604 16
605 ALB
606 AMCR
607 APD
608 AVY
609 BLL
610 CE
611 CF
612 CTVA
613 DD
614 DOW
615 ECL
616 EMN
617 FCX
618 FMC
619 IFF
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620 IP
621 LIN
622 LYB
623 MLM
624 MOS
625 NEM
626 NUE
627 PKG
628 PPG
629 SEE
630 SHW
631 VMC
632 WRK
633 --- 44.14214324951172 seconds ---
634 (1510.0, '2020 q1') 19
635 16
636 ALB
637 AMCR
638 APD
639 AVY
640 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/
    build_shapleyvalue.py:132: RuntimeWarning: Mean of
    empty slice.
641     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True)
642 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\
    _methods.py:170: RuntimeWarning: invalid value
    encountered in double_scalars
643     ret = ret.dtype.type(ret / rcount)
644 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/
    build_shapleyvalue.py:139: RuntimeWarning: Mean of
    empty slice.
645     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
646 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\
    _methods.py:170: RuntimeWarning: invalid value
    encountered in true_divide
647     ret = ret.dtype.type(ret / rcount)
648 BLL
649 CE
```

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650 CF
651 CTVA
652 DD
653 DOW
654 ECL
655 EMN
656 FCX
657 FMC
658 IFF
659 IP
660 LIN
661 LYB
662 MLM
663 MOS
664 NEM
665 NUE
666 PKG
667 PPG
668 SEE
669 SHW
670 VMC
671 WRK
672 --- 42.22905468940735 seconds ---
673 (1510.0, '2020 q2') 20
674 16
675 ALB
676 AMCR
677 APD
678 AVY
679 BLL
680 CE
681 CF
682 CTVA
683 DD
684 DOW
685 ECL
686 EMN
687 FCX
688 FMC
689 IFF
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690 IP
691 LIN
692 LYB
693 MLM
694 MOS
695 NEM
696 NUE
697 PKG
698 PPG
699 SEE
700 SHW
701 VMC
702 WRK
703 --- 46.063475131988525 seconds ---
704 (2010.0, '2018 q1') 21
705 16
706 ALLE
707 AME
708 AOS
709 BA
710 CAT
711 CMI
712 DE
713 DOV
714 EMR
715 ETN
716 FAST
717 FBHS
718 FLS
719 GD
720 GE
721 GWW
722 HII
723 HON
724 HWM
725 IEX
726 IR
727 ITW
728 JCI
729 LHX

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730 LMT
731 MAS
732 MMM
733 NOC
734 PCAR
735 PH
736 PNR
737 PWR
738 ROK
739 ROP
740 RTX
741 SWK
742 TDG
743 TT
744 TXT
745 URI
746 WAB
747 --- 65.29055452346802 seconds ---
748 (2010.0, '2018 q2') 22
749 16
750 ALLE
751 AME
752 AOS
753 BA
754 CAT
755 CMI
756 DE
757 DOV
758 EMR
759 ETN
760 FAST
761 FBHS
762 FLS
763 GD
764 GE
765 GWW
766 HII
767 HON
768 HWM
769 IEX
```

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770 IR
771 ITW
772 JCI
773 LHX
774 LMT
775 MAS
776 MMM
777 NOC
778 PCAR
779 PH
780 PNR
781 PWR
782 ROK
783 ROP
784 RTX
785 SWK
786 TDG
787 TT
788 TXT
789 URI
790 WAB
791 --- 63.20947766304016 seconds ---
792 (2010.0, '2018 q3') 23
793 16
794 ALLE
795 AME
796 AOS
797 BA
798 CAT
799 CMI
800 DE
801 DOV
802 EMR
803 ETN
804 FAST
805 FBHS
806 FLS
807 GD
808 GE
809 GWW
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810 HII
811 HON
812 HWM
813 IEX
814 IR
815 ITW
816 JCI
817 LHX
818 LMT
819 MAS
820 MMM
821 NOC
822 PCAR
823 PH
824 PNR
825 PWR
826 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/
      build_shapleyvalue.py:132: RuntimeWarning: Mean of
      empty slice.
827     data = data.append({'Analyst': k, 'InfoContribution':
      'np.array(shapley_value).mean()', ignore_index=True})
828 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\
      _methods.py:170: RuntimeWarning: invalid value
      encountered in double_scalars
829     ret = ret.dtype.type(ret / rcount)
830 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/
      build_shapleyvalue.py:139: RuntimeWarning: Mean of
      empty slice.
831     avg_similarity = cosine_matrix[np.triu_indices(np.
      shape(cosine_matrix)[1], k=1)].mean()
832 ROK
833 ROP
834 RTX
835 SNA
836 SWK
837 TDG
838 TT
839 TXT
840 URI
841 WAB
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842 --- 63.62486934661865 seconds ---
843 (2010.0, '2018 q4') 24
844 16
845 ALLE
846 AME
847 AOS
848 BA
849 CAT
850 CMI
851 DE
852 DOV
853 EMR
854 ETN
855 FAST
856 FBHS
857 FLS
858 GD
859 GE
860 GWW
861 HII
862 HON
863 HWM
864 IEX
865 IR
866 ITW
867 JCI
868 LHX
869 LMT
870 MAS
871 MMM
872 NOC
873 PCAR
874 PH
875 PNR
876 PWR
877 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/
    build_shapleyvalue.py:132: RuntimeWarning: Mean of
    empty slice.
878     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True)
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879 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value
  encountered in double_scalars
880     ret = ret.dtype.type(ret / rcount)
881 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/
  build_shapleyvalue.py:139: RuntimeWarning: Mean of
  empty slice.
882     avg_similarity = cosine_matrix[np.triu_indices(np.
      shape(cosine_matrix)[1], k=1)].mean()
883 ROK
884 ROP
885 RTX
886 SNA
887 SWK
888 TDG
889 TT
890 TXT
891 URI
892 WAB
893 --- 64.49019742012024 seconds ---
894 (2010.0, '2019 q1') 25
895 16
896 ALLE
897 AME
898 AOS
899 BA
900 CAT
901 CMI
902 DE
903 DOV
904 EMR
905 ETN
906 FAST
907 FBHS
908 FLS
909 GD
910 GE
911 GWW
912 HII
913 HON
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914 HWM
915 IEX
916 IR
917 ITW
918 JCI
919 LHX
920 LMT
921 MAS
922 MMM
923 NOC
924 PCAR
925 PH
926 PNR
927 PWR
928 ROK
929 ROP
930 RTX
931 SNA
932 SWK
933 TDG
934 TT
935 TXT
936 URI
937 WAB
938 --- 62.26960778236389 seconds ---
939 (2010.0, '2019 q2') 26
940 16
941 ALLE
942 AME
943 AOS
944 BA
945 0
946 1
947 2
948 3
949 4
950 5
951 6
952 7
953 8
```

954	9
955	10
956	11
957	12
958	13
959	14
960	15
961	16
962	CAT
963	CMI
964	DE
965	DOV
966	EMR
967	ETN
968	FAST
969	FBHS
970	FLS
971	GD
972	GE
973	GWW
974	HII
975	HON
976	HWM
977	IEX
978	IR
979	ITW
980	JCI
981	LHX
982	LMT
983	MAS
984	MMM
985	NOC
986	PCAR
987	PH
988	PNR
989	PWR
990	ROK
991	ROP
992	RTX
993	SNA

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994 SWK
995 TDG
996 TT
997 TXT
998 URI
999 WAB
1000 --- 4231.339636325836 seconds ---
1001 (2010.0, '2019 q3') 27
1002 16
1003 ALLE
1004 AME
1005 AOS
1006 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
    empty slice.
1007     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
1008 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
    encountered in double_scalars
1009     ret = ret.dtype.type(ret / rcount)
1010 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
    empty slice.
1011     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
1012 BA
1013 CAT
1014 CMI
1015 DE
1016 DOV
1017 EMR
1018 ETN
1019 FAST
1020 FBHS
1021 FLS
1022 GD
1023 GE
1024 GWW
```

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1025 HII
1026 HON
1027 HWM
1028 IEX
1029 IR
1030 ITW
1031 JCI
1032 LHX
1033 LMT
1034 MAS
1035 MMM
1036 NOC
1037 PCAR
1038 PH
1039 PNR
1040 PWR
1041 ROK
1042 ROP
1043 RTX
1044 SNA
1045 SWK
1046 TDG
1047 TT
1048 TXT
1049 URI
1050 WAB
1051 --- 61.808675050735474 seconds ---
1052 (2010.0, '2019 q4') 28
1053 16
1054 ALLE
1055 AME
1056 AOS
1057 BA
1058 CAT
1059 CMI
1060 DE
1061 DOV
1062 EMR
1063 ETN
1064 FAST
```

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1065 FBHS
1066 FLS
1067 GD
1068 GE
1069 GWW
1070 HII
1071 HON
1072 HWM
1073 IEX
1074 IR
1075 ITW
1076 JCI
1077 LHX
1078 LMT
1079 MAS
1080 MMM
1081 NOC
1082 PCAR
1083 PH
1084 PNR
1085 PWR
1086 ROK
1087 ROP
1088 RTX
1089 SNA
1090 SWK
1091 TDG
1092 TT
1093 TXT
1094 URI
1095 WAB
1096 --- 70.70012307167053 seconds ---
1097 (2010.0, '2020 q1') 29
1098 16
1099 ALLE
1100 AME
1101 AOS
1102 BA
1103 CAT
1104 CMI
```

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1105 DE
1106 DOV
1107 EMR
1108 ETN
1109 FAST
1110 FBHS
1111 FLS
1112 GD
1113 GE
1114 GWW
1115 HII
1116 HON
1117 HWM
1118 IEX
1119 IR
1120 ITW
1121 JCI
1122 LHX
1123 LMT
1124 MAS
1125 MMM
1126 NOC
1127 PCAR
1128 PH
1129 PNR
1130 PWR
1131 ROK
1132 ROP
1133 RTX
1134 SNA
1135 SWK
1136 TDG
1137 TT
1138 TXT
1139 URI
1140 WAB
1141 --- 63.97635841369629 seconds ---
1142 (2010.0, '2020 q2') 30
1143 16
1144 ALLE
```

1145	AME
1146	AOS
1147	BA
1148	CARR
1149	CAT
1150	CMI
1151	DE
1152	DOV
1153	EMR
1154	ETN
1155	FAST
1156	FBHS
1157	FLS
1158	GD
1159	GE
1160	GWW
1161	HII
1162	HON
1163	HWM
1164	IEX
1165	IR
1166	ITW
1167	JCI
1168	LHX
1169	LMT
1170	MAS
1171	MMM
1172	NOC
1173	OTIS
1174	PCAR
1175	PH
1176	PNR
1177	PWR
1178	ROK
1179	ROP
1180	RTX
1181	SNA
1182	SWK
1183	TDG
1184	TT

```
1185 TXT
1186 URI
1187 WAB
1188 --- 52.12423801422119 seconds ---
1189 (2020.0, '2018 q1') 31
1190 16
1191 CPRT
1192 CTAS
1193 EFX
1194 INFO
1195 J
1196 LDOS
1197 NLSN
1198 RHI
1199 ROL
1200 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
1201     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
1202 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
1203     ret = ret.dtype.type(ret / rcount)
1204 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
1205     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
1206 RSG
1207 VRSK
1208 WM
1209 --- 29.538824558258057 seconds ---
1210 (2020.0, '2018 q2') 32
1211 16
1212 CPRT
1213 CTAS
1214 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
```

```
1214 empty slice.  
1215     data = data.append({'Analyst': k, 'InfoContribution':  
1216         np.array(shapley_value).mean()}, ignore_index=True  
1217     )  
1216 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core  
1216 \_methods.py:170: RuntimeWarning: invalid value  
1216     encountered in double_scalars  
1217     ret = ret.dtype.type(ret / rcount)  
1218 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
1218 /build_shapleyvalue.py:139: RuntimeWarning: Mean of  
1218     empty slice.  
1219     avg_similarity = cosine_matrix[np.triu_indices(np.  
1219     shape(cosine_matrix)[1], k=1)].mean()  
1220 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core  
1220 \_methods.py:170: RuntimeWarning: invalid value  
1220     encountered in true_divide  
1221     ret = ret.dtype.type(ret / rcount)  
1222 EFX  
1223 INFO  
1224 J  
1225 LDOS  
1226 NLSN  
1227 RHI  
1228 ROL  
1229 RSG  
1230 VRSK  
1231 WM  
1232 --- 28.894583225250244 seconds ---  
1233 (2020.0, '2018 q3') 33  
1234 16  
1235 CPRT  
1236 CTAS  
1237 EFX  
1238 INFO  
1239 J  
1240 LDOS  
1241 NLSN  
1242 RHI  
1243 ROL  
1244 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
```

```
1244 /build_shapleyvalue.py:132: RuntimeWarning: Mean of
      empty slice.
1245     data = data.append({'Analyst': k, 'InfoContribution':
      ': np.array(shapley_value).mean()}, ignore_index=True
      )
1246 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
      \_methods.py:170: RuntimeWarning: invalid value
      encountered in double_scalars
1247     ret = ret.dtype.type(ret / rcount)
1248 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
      /build_shapleyvalue.py:139: RuntimeWarning: Mean of
      empty slice.
1249     avg_similarity = cosine_matrix[np.triu_indices(np.
      shape(cosine_matrix)[1], k=1)].mean()
1250 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
      \_methods.py:170: RuntimeWarning: invalid value
      encountered in true_divide
1251     ret = ret.dtype.type(ret / rcount)
1252 RSG
1253 VRSK
1254 WM
1255 --- 28.59249520301819 seconds ---
1256 (2020.0, '2018 q4') 34
1257 16
1258 CPRT
1259 CTAS
1260 EFX
1261 INFO
1262 J
1263 LDOS
1264 NLSN
1265 RHI
1266 ROL
1267 RSG
1268 VRSK
1269 WM
1270 --- 29.307483434677124 seconds ---
1271 (2020.0, '2019 q1') 35
1272 16
1273 CPRT
```

```
1274 CTAS
1275 EFX
1276 INFO
1277 J
1278 LDOS
1279 NLSN
1280 RHI
1281 ROL
1282 RSG
1283 VRSK
1284 WM
1285 --- 30.29691433906555 seconds ---
1286 (2020.0, '2019 q2') 36
1287 16
1288 CPRT
1289 CTAS
1290 EFX
1291 INFO
1292 J
1293 LDOS
1294 NLSN
1295 RHI
1296 ROL
1297 RSG
1298 VRSK
1299 WM
1300 --- 29.56733012199402 seconds ---
1301 (2020.0, '2019 q3') 37
1302 16
1303 CPRT
1304 CTAS
1305 EFX
1306 INFO
1307 J
1308 LDOS
1309 NLSN
1310 RHI
1311 ROL
1312 RSG
1313 VRSK
```

```
1314 WM
1315 --- 29.353686094284058 seconds ---
1316 (2020.0, '2019 q4') 38
1317 16
1318 CPRT
1319 CTAS
1320 EFX
1321 INFO
1322 J
1323 LDOS
1324 NLSN
1325 RHI
1326 ROL
1327 RSG
1328 VRSK
1329 WM
1330 --- 29.767578840255737 seconds ---
1331 (2020.0, '2020 q1') 39
1332 16
1333 CPRT
1334 CTAS
1335 EFX
1336 INFO
1337 J
1338 LDOS
1339 NLSN
1340 RHI
1341 ROL
1342 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
    empty slice.
1343     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
1344 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
    encountered in double_scalars
1345     ret = ret.dtype.type(ret / rcount)
1346 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
```

```
1346 empty slice.  
1347     avg_similarity = cosine_matrix[np.triu_indices(np.  
         shape(cosine_matrix)[1], k=1)].mean()  
1348 RSG  
1349 VRSK  
1350 WM  
1351 --- 31.04495334625244 seconds ---  
1352 (2020.0, '2020 q2') 40  
1353 16  
1354 CPRT  
1355 CTAS  
1356 EFX  
1357 INFO  
1358 J  
1359 LDOS  
1360 NLSN  
1361 RHI  
1362 ROL  
1363 RSG  
1364 VRSK  
1365 WM  
1366 --- 29.24017858505249 seconds ---  
1367 (2030.0, '2018 q1') 41  
1368 16  
1369 AAL  
1370 ALK  
1371 CHRW  
1372 CSX  
1373 DAL  
1374 EXPD  
1375 FDX  
1376 JBHT  
1377 KSU  
1378 LUV  
1379 NSC  
1380 ODFL  
1381 UAL  
1382 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of  
    empty slice.
```

```
1383     data = data.append({'Analyst': k, 'InfoContribution': np.array(shapley_value).mean()}, ignore_index=True)
1384 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value
encountered in double_scalars
1385     ret = ret.dtype.type(ret / rcount)
1386 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/build_shapleyvalue.py:139: RuntimeWarning: Mean of
empty slice.
1387     avg_similarity = cosine_matrix[np.triu_indices(np.
shape(cosine_matrix)[1], k=1)].mean()
1388 UNP
1389 UPS
1390 --- 32.74287009239197 seconds ---
1391 (2030.0, '2018 q2') 42
1392 16
1393 AAL
1394 ALK
1395 CHRW
1396 CSX
1397 DAL
1398 EXPD
1399 FDX
1400 JBHT
1401 KSU
1402 LUV
1403 NSC
1404 ODFL
1405 UNP
1406 UPS
1407 --- 33.517760038375854 seconds ---
1408 (2030.0, '2018 q3') 43
1409 16
1410 AAL
1411 ALK
1412 CHRW
1413 CSX
1414 DAL
1415 EXPD
```

```
1416 FDX
1417 JBHT
1418 KSU
1419 LUV
1420 NSC
1421 ODFL
1422 UAL
1423 UNP
1424 UPS
1425 --- 32.12173795700073 seconds ---
1426 (2030.0, '2018 q4') 44
1427 16
1428 AAL
1429 ALK
1430 CHRW
1431 CSX
1432 DAL
1433 EXPD
1434 FDX
1435 JBHT
1436 KSU
1437 LUV
1438 NSC
1439 ODFL
1440 UAL
1441 UNP
1442 UPS
1443 --- 35.13943529129028 seconds ---
1444 (2030.0, '2019 q1') 45
1445 16
1446 AAL
1447 ALK
1448 CHRW
1449 CSX
1450 DAL
1451 EXPD
1452 FDX
1453 JBHT
1454 KSU
1455 LUV
```

```
1456 NSC
1457 ODFL
1458 UAL
1459 UNP
1460 UPS
1461 --- 36.00062608718872 seconds ---
1462 (2030.0, '2019 q2') 46
1463 16
1464 AAL
1465 ALK
1466 CHRW
1467 CSX
1468 DAL
1469 EXPD
1470 FDX
1471 JBHT
1472 KSU
1473 LUV
1474 NSC
1475 ODFL
1476 UAL
1477 UNP
1478 UPS
1479 --- 34.33961033821106 seconds ---
1480 (2030.0, '2019 q3') 47
1481 16
1482 AAL
1483 ALK
1484 CHRW
1485 CSX
1486 DAL
1487 EXPD
1488 FDX
1489 JBHT
1490 KSU
1491 LUV
1492 NSC
1493 ODFL
1494 UAL
1495 UNP
```

```
1496 UPS
1497 --- 33.898719787597656 seconds ---
1498 (2030.0, '2019 q4') 48
1499 16
1500 AAL
1501 ALK
1502 CHRW
1503 CSX
1504 DAL
1505 EXPD
1506 FDX
1507 JBHT
1508 KSU
1509 LUV
1510 NSC
1511 ODFL
1512 UAL
1513 UNP
1514 UPS
1515 --- 32.21089005470276 seconds ---
1516 (2030.0, '2020 q1') 49
1517 16
1518 AAL
1519 ALK
1520 CHRW
1521 CSX
1522 DAL
1523 EXPD
1524 FDX
1525 JBHT
1526 KSU
1527 LUV
1528 NSC
1529 ODFL
1530 UAL
1531 UNP
1532 UPS
1533 --- 40.65440535545349 seconds ---
1534 (2030.0, '2020 q2') 50
1535 16
```

```
1536 AAL
1537 ALK
1538 CHRW
1539 CSX
1540 DAL
1541 EXPD
1542 FDX
1543 JBHT
1544 KSU
1545 LUV
1546 NSC
1547 ODFL
1548 UAL
1549 UNP
1550 UPS
1551 --- 32.8240704536438 seconds ---
1552 (2510.0, '2018 q1') 51
1553 16
1554 APTV
1555 F
1556 GM
1557 HOG
1558 --- 27.54677104949951 seconds ---
1559 (2510.0, '2018 q2') 52
1560 16
1561 APTV
1562 F
1563 GM
1564 HOG
1565 --- 29.554731130599976 seconds ---
1566 (2510.0, '2018 q3') 53
1567 16
1568 APTV
1569 F
1570 GM
1571 HOG
1572 --- 27.6392343044281 seconds ---
1573 (2510.0, '2018 q4') 54
1574 16
1575 APTV
```

```
1576 F
1577 GM
1578 HOG
1579 --- 26.886406898498535 seconds ---
1580 (2510.0, '2019 q1') 55
1581 16
1582 APTV
1583 BWA
1584 F
1585 GM
1586 HOG
1587 --- 27.569594860076904 seconds ---
1588 (2510.0, '2019 q2') 56
1589 16
1590 APTV
1591 BWA
1592 F
1593 GM
1594 HOG
1595 --- 32.46217656135559 seconds ---
1596 (2510.0, '2019 q3') 57
1597 16
1598 APTV
1599 BWA
1600 F
1601 GM
1602 HOG
1603 --- 26.372413396835327 seconds ---
1604 (2510.0, '2019 q4') 58
1605 16
1606 APTV
1607 BWA
1608 F
1609 GM
1610 HOG
1611 --- 28.252956867218018 seconds ---
1612 (2510.0, '2020 q1') 59
1613 16
1614 APTV
1615 BWA
```

```
1616 F
1617 GM
1618 HOG
1619 --- 28.159770488739014 seconds ---
1620 (2510.0, '2020 q2') 60
1621 16
1622 APTV
1623 BWA
1624 F
1625 GM
1626 HOG
1627 --- 26.76998257637024 seconds ---
1628 (2520.0, '2018 q1') 61
1629 16
1630 DHI
1631 GRMN
1632 HAS
1633 HBI
1634 LEG
1635 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
    empty slice.
1636     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
1637 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
    encountered in double_scalars
1638     ret = ret.dtype.type(ret / rcount)
1639 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
    empty slice.
1640     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
1641 LEN
1642 MHK
1643 NKE
1644 NVR
1645 NWL
1646 PHM
```

```
1647 PVH
1648 TPR
1649 UAA
1650 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
1651     ret = ret.dtype.type(ret / rcount)
1652 VFC
1653 WHR
1654 --- 42.981406450271606 seconds ---
1655 (2520.0, '2018 q2') 62
1656 16
1657 DHI
1658 GRMN
1659 HAS
1660 HBI
1661 LEG
1662 LEN
1663 MHK
1664 NKE
1665 NVR
1666 NWL
1667 PHM
1668 PVH
1669 RL
1670 TPR
1671 VFC
1672 WHR
1673 --- 45.26220464706421 seconds ---
1674 (2520.0, '2018 q3') 63
1675 16
1676 DHI
1677 GRMN
1678 HAS
1679 HBI
1680 LEG
1681 LEN
1682 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
```

```
1683     data = data.append({'Analyst': k, 'InfoContribution': np.array(shapley_value).mean()}, ignore_index=True)
1684 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value
encountered in double_scalars
1685     ret = ret.dtype.type(ret / rcount)
1686 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/build_shapleyvalue.py:139: RuntimeWarning: Mean of
empty slice.
1687     avg_similarity = cosine_matrix[np.triu_indices(np.
shape(cosine_matrix)[1], k=1)].mean()
1688 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value
encountered in true_divide
1689     ret = ret.dtype.type(ret / rcount)
1690 MHK
1691 NKE
1692 0
1693 1
1694 2
1695 3
1696 4
1697 5
1698 6
1699 7
1700 8
1701 9
1702 10
1703 11
1704 12
1705 13
1706 14
1707 15
1708 16
1709 NVR
1710 NWL
1711 PHM
1712 PVH
1713 RL
```

```
1714 TPR
1715 UAA
1716 VFC
1717 WHR
1718 --- 4376.918967485428 seconds ---
1719 (2520.0, '2018 q4') 64
1720 16
1721 DHI
1722 GRMN
1723 HAS
1724 HBI
1725 LEG
1726 LEN
1727 MHK
1728 NKE
1729 NVR
1730 NWL
1731 PHM
1732 PVH
1733 RL
1734 TPR
1735 UAA
1736 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
    empty slice.
1737     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
1738 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
    encountered in double_scalars
1739     ret = ret.dtype.type(ret / rcount)
1740 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
    empty slice.
1741     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
1742 VFC
1743 WHR
1744 --- 38.851929664611816 seconds ---
```

```
1745 (2520.0, '2019 q1') 65
1746 16
1747 DHI
1748 GRMN
1749 HAS
1750 HBI
1751 LEG
1752 LEN
1753 MHK
1754 NKE
1755 0
1756 1
1757 2
1758 3
1759 4
1760 5
1761 6
1762 7
1763 8
1764 9
1765 10
1766 11
1767 12
1768 13
1769 14
1770 15
1771 16
1772 17
1773 NVR
1774 NWL
1775 PHM
1776 PVH
1777 RL
1778 TPR
1779 UAA
1780 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
    empty slice.
1781     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
```

```
1781 )
1782 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
1783     ret = ret.dtype.type(ret / rcount)
1784 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
1785     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
1786 VFC
1787 WHR
1788 --- 587.4933681488037 seconds ---
1789 (2520.0, '2019 q2') 66
1790 16
1791 DHI
1792 GRMN
1793 HAS
1794 HBI
1795 LEG
1796 LEN
1797 MHK
1798 NKE
1799 NVR
1800 NWL
1801 PHM
1802 PVH
1803 RL
1804 TPR
1805 UAA
1806 VFC
1807 WHR
1808 --- 33.014984130859375 seconds ---
1809 (2520.0, '2019 q3') 67
1810 16
1811 DHI
1812 GRMN
1813 HAS
1814 HBI
1815 LEG
```

```
1816 LEN
1817 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
1818     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
1819 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
1820     ret = ret.dtype.type(ret / rcount)
1821 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
1822     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
1823 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
1824     ret = ret.dtype.type(ret / rcount)
1825 MHK
1826 NKE
1827 NVR
1828 NWL
1829 PHM
1830 PVH
1831 RL
1832 TPR
1833 UAA
1834 VFC
1835 WHR
1836 --- 38.98237943649292 seconds ---
1837 (2520.0, '2019 q4') 68
1838 16
1839 DHI
1840 GRMN
1841 HAS
1842 HBI
1843 LEG
1844 LEN
```

1845	MHK		
1846	NKE		
1847	NVR		
1848	NWL		
1849	PHM		
1850	PVH		
1851	RL		
1852	TPR		
1853	UAA		
1854	VFC		
1855	WHR		
1856	---	38.54331398010254 seconds	---
1857	(2520.0, '2020 q1')	69	
1858	16		
1859	DHI		
1860	GRMN		
1861	HAS		
1862	HBI		
1863	LEG		
1864	LEN		
1865	MHK		
1866	NKE		
1867	NVR		
1868	NWL		
1869	PHM		
1870	PVH		
1871	RL		
1872	TPR		
1873	UAA		
1874	VFC		
1875	0		
1876	1		
1877	2		
1878	3		
1879	4		
1880	5		
1881	6		
1882	7		
1883	8		
1884	9		

```
1885 10
1886 11
1887 12
1888 13
1889 14
1890 15
1891 16
1892 WHR
1893 --- 4423.1522471904755 seconds ---
1894 (2520.0, '2020 q2') 70
1895 16
1896 DHI
1897 GRMN
1898 HAS
1899 HBI
1900 LEG
1901 LEN
1902 MHK
1903 NKE
1904 NVR
1905 NWL
1906 PHM
1907 PVH
1908 RL
1909 TPR
1910 UAA
1911 VFC
1912 WHR
1913 --- 44.6560480594635 seconds ---
1914 (2530.0, '2018 q1') 71
1915 16
1916 CMG
1917 DPZ
1918 DRI
1919 0
1920 1
1921 2
1922 3
1923 4
1924 5
```

1925	6
1926	7
1927	8
1928	9
1929	10
1930	11
1931	12
1932	13
1933	14
1934	15
1935	16
1936	17
1937	HLT
1938	HRB
1939	LVS
1940	MAR
1941	MCD
1942	MGM
1943	NCLH
1944	RCL
1945	SBUX
1946	WYNN
1947	YUM
1948	--- 581.5996789932251 seconds ---
1949	(2530.0, '2018 q2') 72
1950	16
1951	CMG
1952	0
1953	1
1954	2
1955	3
1956	4
1957	5
1958	6
1959	7
1960	8
1961	9
1962	10
1963	11
1964	12

```
1965 13
1966 14
1967 15
1968 16
1969 DPZ
1970 DRI
1971 HLT
1972 HRB
1973 LVS
1974 MAR
1975 MCD
1976 MGM
1977 NCLH
1978 RCL
1979 SBUX
1980 WYNN
1981 YUM
1982 --- 4479.726910352707 seconds ---
1983 (2530.0, '2018 q3') 73
1984 16
1985 CMG
1986 DPZ
1987 DRI
1988 HLT
1989 HRB
1990 LVS
1991 MAR
1992 MCD
1993 MGM
1994 NCLH
1995 RCL
1996 SBUX
1997 WYNN
1998 YUM
1999 --- 41.10417342185974 seconds ---
2000 (2530.0, '2018 q4') 74
2001 16
2002 CCL
2003 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
/build_shapleyvalue.py:132: RuntimeWarning: Mean of
```

```
2003 empty slice.
2004     data = data.append({'Analyst': k, 'InfoContribution':
2005         ': np.array(shapley_value).mean()}, ignore_index=True
2006     )
2005 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
2006 \_methods.py:170: RuntimeWarning: invalid value
2007     encountered in double_scalars
2008     ret = ret.dtype.type(ret / rcount)
2007 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
2008 /build_shapleyvalue.py:139: RuntimeWarning: Mean of
2009     empty slice.
2008     avg_similarity = cosine_matrix[np.triu_indices(np.
2010         shape(cosine_matrix)[1], k=1)].mean()
2009 CMG
2010 DPZ
2011 DRI
2012 HLT
2013 HRB
2014 LVS
2015 MAR
2016 MCD
2017 MGM
2018 NCLH
2019 RCL
2020 SBUX
2021 WYNN
2022 YUM
2023 --- 44.25994420051575 seconds ---
2024 (2530.0, '2019 q1') 75
2025 16
2026 CCL
2027 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
2028 /build_shapleyvalue.py:132: RuntimeWarning: Mean of
2029     empty slice.
2028     data = data.append({'Analyst': k, 'InfoContribution':
2029         ': np.array(shapley_value).mean()}, ignore_index=True
2030     )
2029 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
2030 \_methods.py:170: RuntimeWarning: invalid value
2031     encountered in double_scalars
```

```
2030     ret = ret.dtype.type(ret / rcount)
2031 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
2032     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
2033 CMG
2034 DPZ
2035 DRI
2036 HLT
2037 HRB
2038 LVS
2039 MAR
2040 MCD
2041 MGM
2042 NCLH
2043 RCL
2044 SBUX
2045 WYNN
2046 YUM
2047 --- 47.091174840927124 seconds ---
2048 (2530.0, '2019 q2') 76
2049 16
2050 CCL
2051 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
2052     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
2053 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
2054     ret = ret.dtype.type(ret / rcount)
2055 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
2056     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
2057 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
```

```
2057 \_methods.py:170: RuntimeWarning: invalid value
    encountered in true_divide
2058     ret = ret.dtype.type(ret / rcount)
2059 CMG
2060 0
2061 1
2062 2
2063 3
2064 4
2065 5
2066 6
2067 7
2068 8
2069 9
2070 10
2071 11
2072 12
2073 13
2074 14
2075 15
2076 16
2077 DPZ
2078 DRI
2079 HLT
2080 HRB
2081 LVS
2082 MAR
2083 MCD
2084 MGM
2085 NCLH
2086 RCL
2087 SBUX
2088 WYNN
2089 YUM
2090 --- 4472.489811182022 seconds ---
2091 (2530.0, '2019 q3') 77
2092 16
2093 CCL
2094 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
```

```
2094 empty slice.  
2095     data = data.append({'Analyst': k, 'InfoContribution':  
2096         np.array(shapley_value).mean()}, ignore_index=True  
2097     )  
2096 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core  
2096 \_methods.py:170: RuntimeWarning: invalid value  
2096     encountered in double_scalars  
2097     ret = ret.dtype.type(ret / rcount)  
2098 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
2098 /build_shapleyvalue.py:139: RuntimeWarning: Mean of  
2098     empty slice.  
2099     avg_similarity = cosine_matrix[np.triu_indices(np.  
2099     shape(cosine_matrix)[1], k=1)].mean()  
2100 CMG  
2101 0  
2102 1  
2103 2  
2104 3  
2105 4  
2106 5  
2107 6  
2108 7  
2109 8  
2110 9  
2111 10  
2112 11  
2113 12  
2114 13  
2115 14  
2116 15  
2117 16  
2118 17  
2119 DPZ  
2120 DRI  
2121 HLT  
2122 HRB  
2123 LVS  
2124 MAR  
2125 MCD  
2126 MGM
```

```
2127 NCLH
2128 RCL
2129 SBUX
2130 WYNN
2131 YUM
2132 --- 582.9734964370728 seconds ---
2133 (2530.0, '2019 q4') 78
2134 16
2135 CCL
2136 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
2137     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
2138 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
2139     ret = ret.dtype.type(ret / rcount)
2140 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
2141     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
2142 CMG
2143 0
2144 1
2145 2
2146 3
2147 4
2148 5
2149 6
2150 7
2151 8
2152 9
2153 10
2154 11
2155 12
2156 13
2157 14
```

```
2158 15
2159 16
2160 DPZ
2161 DRI
2162 HLT
2163 HRB
2164 LVS
2165 MAR
2166 MCD
2167 MGM
2168 NCLH
2169 RCL
2170 SBUX
2171 WYNN
2172 YUM
2173 --- 4426.289927721024 seconds ---
2174 (2530.0, '2020 q1') 79
2175 C:\ProgramData\Anaconda3\lib\site-packages\gensim\
    models\ldamodel.py:821: RuntimeWarning: divide by
        zero encountered in double_scalars
2176     perwordbound = self.bound(chunk, subsample_ratio=
        subsample_ratio) / (subsample_ratio * corpus_words)
2177 16
2178 CCL
2179 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
2180     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
2181 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
2182     ret = ret.dtype.type(ret / rcount)
2183 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
2184     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
2185 CMG
```

2186	0
2187	1
2188	2
2189	3
2190	4
2191	5
2192	6
2193	7
2194	8
2195	9
2196	10
2197	11
2198	12
2199	13
2200	14
2201	15
2202	16
2203	17
2204	DPZ
2205	DRI
2206	HLT
2207	HRB
2208	LVS
2209	MAR
2210	MCD
2211	MGM
2212	NCLH
2213	RCL
2214	SBUX
2215	0
2216	1
2217	2
2218	3
2219	4
2220	5
2221	6
2222	7
2223	8
2224	9
2225	10

```
2226 11
2227 12
2228 13
2229 14
2230 15
2231 16
2232 WYNN
2233 YUM
2234 --- 4998.754610776901 seconds ---
2235 (2530.0, '2020 q2') 80
2236 16
2237 CCL
2238 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
2239     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
2240 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
2241     ret = ret.dtype.type(ret / rcount)
2242 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
2243     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
2244 CMG
2245 DPZ
2246 DRI
2247 HLT
2248 HRB
2249 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
2250     ret = ret.dtype.type(ret / rcount)
2251 LVS
2252 MAR
2253 MCD
2254 MGM
```

```
2255 NCLH
2256 RCL
2257 SBUX
2258 WYNN
2259 YUM
2260 --- 67.22568273544312 seconds ---
2261 (2550.0, '2018 q1') 81
2262 16
2263 AAP
2264 AMZN
2265 0
2266 1
2267 2
2268 3
2269 4
2270 5
2271 6
2272 7
2273 8
2274 9
2275 10
2276 11
2277 12
2278 13
2279 14
2280 15
2281 16
2282 17
2283 18
2284 19
2285 20
2286 21
2287 22
2288 23
2289 24
2290 25
2291 26
2292 27
2293 28
2294 29
```

```
2295 30
2296 AZO
2297 BBY
2298 BKNG
2299 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
2300     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
2301 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
2302     ret = ret.dtype.type(ret / rcount)
2303 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
2304     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
2305 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
2306     ret = ret.dtype.type(ret / rcount)
2307 DG
2308 DLTR
2309 EBAY
2310 EXPE
2311 0
2312 1
2313 2
2314 3
2315 4
2316 5
2317 6
2318 7
2319 8
2320 9
2321 10
2322 11
2323 12
```

```
2324 13
2325 14
2326 15
2327 16
2328 17
2329 GPC
2330 GPS
2331 HD
2332 JWN
2333 KMX
2334 KSS
2335 LB
2336 LKQ
2337 LOW
2338 ORLY
2339 ROST
2340 TGT
2341 TIF
2342 TJX
2343 TSCO
2344 --- 1351.2074904441833 seconds ---
2345 (2550.0, '2018 q2') 82
2346 16
2347 AAP
2348 AMZN
2349 0
2350 1
2351 2
2352 3
2353 4
2354 5
2355 6
2356 7
2357 8
2358 9
2359 10
2360 11
2361 12
2362 13
2363 14
```

```
2364 15
2365 16
2366 17
2367 18
2368 19
2369 20
2370 21
2371 22
2372 23
2373 24
2374 25
2375 26
2376 27
2377 28
2378 29
2379 30
2380 AZ0
2381 BBY
2382 BKNG
2383 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
2384     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
2385 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
2386     ret = ret.dtype.type(ret / rcount)
2387 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
2388     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
2389 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
2390     ret = ret.dtype.type(ret / rcount)
2391 DG
2392 DLTR
```

```
2393 EBAY
2394 EXPE
2395 GPC
2396 GPS
2397 HD
2398 JWN
2399 KMX
2400 KSS
2401 LB
2402 0
2403 1
2404 2
2405 3
2406 4
2407 5
2408 6
2409 7
2410 8
2411 9
2412 10
2413 11
2414 12
2415 13
2416 14
2417 15
2418 16
2419 17
2420 LKQ
2421 LOW
2422 ORLY
2423 ROST
2424 TGT
2425 TIF
2426 TJX
2427 TSCO
2428 --- 1343.511454820633 seconds ---
2429 (2550.0, '2018 q3') 83
2430 16
2431 AAP
2432 AMZN
```

2433	0
2434	1
2435	2
2436	3
2437	4
2438	5
2439	6
2440	7
2441	8
2442	9
2443	10
2444	11
2445	12
2446	13
2447	14
2448	15
2449	16
2450	17
2451	18
2452	19
2453	20
2454	21
2455	22
2456	23
2457	24
2458	25
2459	26
2460	27
2461	28
2462	29
2463	30
2464	31
2465	32
2466	33
2467	AZ0
2468	BBY
2469	DG
2470	DLTR
2471	EBAY
2472	EXPE

```
2473 0
2474 1
2475 2
2476 3
2477 4
2478 5
2479 6
2480 7
2481 8
2482 9
2483 10
2484 11
2485 12
2486 13
2487 14
2488 15
2489 16
2490 GPC
2491 GPS
2492 HD
2493 JWN
2494 KMX
2495 KSS
2496 LB
2497 LKQ
2498 LOW
2499 ORLY
2500 ROST
2501 TGT
2502 TIF
2503 TJX
2504 TSCO
2505 --- 5077.665709018707 seconds ---
2506 (2550.0, '2018 q4') 84
2507 16
2508 AAP
2509 AMZN
2510 0
2511 1
2512 2
```

```
2513 3
2514 4
2515 5
2516 6
2517 7
2518 8
2519 9
2520 10
2521 11
2522 12
2523 13
2524 14
2525 15
2526 16
2527 17
2528 18
2529 19
2530 20
2531 21
2532 22
2533 23
2534 24
2535 25
2536 AZ0
2537 BBY
2538 BKNG
2539 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
2540     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
        )
2541 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
2542     ret = ret.dtype.type(ret / rcount)
2543 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
2544     avg_similarity = cosine_matrix[np.triu_indices(np.
```

```
2544 shape(cosine_matrix)[1], k=1)].mean()
2545 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
2546     ret = ret.dtype.type(ret / rcount)
2547 DG
2548 DLTR
2549 EBAY
2550 EXPE
2551 GPC
2552 GPS
2553 HD
2554 JWN
2555 KMX
2556 KSS
2557 LB
2558 LKQ
2559 LOW
2560 ORLY
2561 ROST
2562 TGT
2563 TIF
2564 TJX
2565 TSCO
2566 ULTA
2567 --- 705.1753106117249 seconds ---
2568 (2550.0, '2019 q1') 85
2569 16
2570 AAP
2571 AMZN
2572 0
2573 1
2574 2
2575 3
2576 4
2577 5
2578 6
2579 7
2580 8
2581 9
```

2582	10
2583	11
2584	12
2585	13
2586	14
2587	15
2588	16
2589	17
2590	18
2591	19
2592	20
2593	21
2594	22
2595	23
2596	24
2597	25
2598	26
2599	27
2600	28
2601	AZ0
2602	BBY
2603	BKNG
2604	DG
2605	DLTR
2606	EBAY
2607	EXPE
2608	GPC
2609	GPS
2610	HD
2611	JWN
2612	KMX
2613	KSS
2614	LB
2615	LKQ
2616	LOW
2617	ORLY
2618	ROST
2619	TGT
2620	TIF
2621	TJX

```
2622 TSCO
2623 ULTA
2624 --- 770.3663022518158 seconds ---
2625 (2550.0, '2019 q2') 86
2626 16
2627 AAP
2628 AMZN
2629 0
2630 1
2631 2
2632 3
2633 4
2634 5
2635 6
2636 7
2637 8
2638 9
2639 10
2640 11
2641 12
2642 13
2643 14
2644 15
2645 16
2646 17
2647 18
2648 19
2649 20
2650 21
2651 22
2652 23
2653 24
2654 25
2655 26
2656 27
2657 28
2658 29
2659 AZO
2660 BBY
2661 BKNG
```

```
2662 DG
2663 DLTR
2664 EBAY
2665 EXPE
2666 GPC
2667 GPS
2668 HD
2669 JWN
2670 KMX
2671 KSS
2672 LB
2673 LKQ
2674 LOW
2675 ORLY
2676 ROST
2677 TGT
2678 TIF
2679 TJX
2680 TSCO
2681 ULTA
2682 --- 785.4133679866791 seconds ---
2683 (2550.0, '2019 q3') 87
2684 16
2685 AAP
2686 AMZN
2687 0
2688 1
2689 2
2690 3
2691 4
2692 5
2693 6
2694 7
2695 8
2696 9
2697 10
2698 11
2699 12
2700 13
2701 14
```

2702	15
2703	16
2704	17
2705	18
2706	19
2707	20
2708	21
2709	22
2710	AZ0
2711	BBY
2712	BKNG
2713	DG
2714	DLTR
2715	EBAY
2716	EXPE
2717	GPC
2718	GPS
2719	HD
2720	JWN
2721	KMX
2722	KSS
2723	LB
2724	LKQ
2725	LOW
2726	ORLY
2727	ROST
2728	TGT
2729	TIF
2730	TJX
2731	TSCO
2732	ULTA
2733	--- 607.5773892402649 seconds ---
2734	(2550.0, '2019 q4') 88
2735	16
2736	AAP
2737	AMZN
2738	0
2739	1
2740	2
2741	3

2742	4
2743	5
2744	6
2745	7
2746	8
2747	9
2748	10
2749	11
2750	12
2751	13
2752	14
2753	15
2754	16
2755	17
2756	18
2757	19
2758	20
2759	21
2760	22
2761	23
2762	24
2763	25
2764	26
2765	27
2766	28
2767	AZ0
2768	BBY
2769	BKNG
2770	DG
2771	DLTR
2772	EBAY
2773	0
2774	1
2775	2
2776	3
2777	4
2778	5
2779	6
2780	7
2781	8

2782	9
2783	10
2784	11
2785	12
2786	13
2787	14
2788	15
2789	16
2790	EXPE
2791	0
2792	1
2793	2
2794	3
2795	4
2796	5
2797	6
2798	7
2799	8
2800	9
2801	10
2802	11
2803	12
2804	13
2805	14
2806	15
2807	16
2808	17
2809	GPC
2810	GPS
2811	0
2812	1
2813	2
2814	3
2815	4
2816	5
2817	6
2818	7
2819	8
2820	9
2821	10

```
2822 11
2823 12
2824 13
2825 14
2826 15
2827 16
2828 HD
2829 JWN
2830 KMX
2831 KSS
2832 LB
2833 LKQ
2834 LOW
2835 ORLY
2836 ROST
2837 TGT
2838 TIF
2839 TJX
2840 TSCO
2841 ULTA
2842 --- 9910.185322761536 seconds ---
2843 (2550.0, '2020 q1') 89
2844 16
2845 AAP
2846 AMZN
2847 0
2848 1
2849 2
2850 3
2851 4
2852 5
2853 6
2854 7
2855 8
2856 9
2857 10
2858 11
2859 12
2860 13
2861 14
```

2862	15
2863	16
2864	17
2865	18
2866	19
2867	20
2868	21
2869	22
2870	23
2871	24
2872	25
2873	26
2874	27
2875	28
2876	29
2877	30
2878	AZ0
2879	BBY
2880	BKNG
2881	DG
2882	DLTR
2883	EBAY
2884	0
2885	1
2886	2
2887	3
2888	4
2889	5
2890	6
2891	7
2892	8
2893	9
2894	10
2895	11
2896	12
2897	13
2898	14
2899	15
2900	16
2901	17

```
2902 18
2903 EXPE
2904 GPC
2905 GPS
2906 HD
2907 JWN
2908 KMX
2909 KSS
2910 LB
2911 LKQ
2912 LOW
2913 ORLY
2914 ROST
2915 TGT
2916 TIF
2917 TJX
2918 TSCO
2919 ULTA
2920 --- 1396.8017423152924 seconds ---
2921 (2550.0, '2020 q2') 90
2922 16
2923 AAP
2924 AMZN
2925 0
2926 1
2927 2
2928 3
2929 4
2930 5
2931 6
2932 7
2933 8
2934 9
2935 10
2936 11
2937 12
2938 13
2939 14
2940 15
2941 16
```

2942 17
2943 18
2944 19
2945 20
2946 21
2947 22
2948 23
2949 24
2950 25
2951 AZO
2952 BBY
2953 BKNG
2954 DG
2955 DLTR
2956 EBAY
2957 EXPE
2958 GPC
2959 GPS
2960 HD
2961 JWN
2962 KMX
2963 KSS
2964 LB
2965 LKQ
2966 LOW
2967 ORLY
2968 ROST
2969 TGT
2970 TIF
2971 TJX
2972 TSCO
2973 ULTA
2974 --- 728.3842763900757 seconds ---
2975 (3010.0, '2018 q1') 91
2976 16
2977 COST
2978 KR
2979 SYY
2980 WBA
2981 WMT

```
2982 --- 32.35931181907654 seconds ---
2983 (3010.0, '2018 q2') 92
2984 16
2985 COST
2986 KR
2987 SYY
2988 WBA
2989 WMT
2990 --- 29.759861946105957 seconds ---
2991 (3010.0, '2018 q3') 93
2992 16
2993 COST
2994 KR
2995 SYY
2996 WBA
2997 WMT
2998 --- 29.767205476760864 seconds ---
2999 (3010.0, '2018 q4') 94
3000 16
3001 COST
3002 KR
3003 SYY
3004 WBA
3005 WMT
3006 --- 34.75904417037964 seconds ---
3007 (3010.0, '2019 q1') 95
3008 16
3009 COST
3010 KR
3011 SYY
3012 WBA
3013 WMT
3014 --- 29.91226363182068 seconds ---
3015 (3010.0, '2019 q2') 96
3016 16
3017 COST
3018 KR
3019 SYY
3020 WBA
3021 WMT
```

```
3022 --- 31.710151433944702 seconds ---
3023 (3010.0, '2019 q3') 97
3024 16
3025 COST
3026 KR
3027 SYY
3028 WBA
3029 WMT
3030 --- 29.420881986618042 seconds ---
3031 (3010.0, '2019 q4') 98
3032 16
3033 COST
3034 KR
3035 SYY
3036 WBA
3037 WMT
3038 --- 35.101940870285034 seconds ---
3039 (3010.0, '2020 q1') 99
3040 16
3041 COST
3042 KR
3043 SYY
3044 WBA
3045 WMT
3046 --- 32.28720688819885 seconds ---
3047 (3010.0, '2020 q2') 100
3048 16
3049 COST
3050 KR
3051 SYY
3052 WBA
3053 WMT
3054 --- 49.26429343223572 seconds ---
3055 (3020.0, '2018 q1') 101
3056 16
3057 ADM
3058 BFb
3059 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
    empty slice.
```

```
3060     data = data.append({'Analyst': k, 'InfoContribution': np.array(shapley_value).mean()}, ignore_index=True)
3061 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value
encountered in double_scalars
3062     ret = ret.dtype.type(ret / rcount)
3063 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/build_shapleyvalue.py:139: RuntimeWarning: Mean of
empty slice.
3064     avg_similarity = cosine_matrix[np.triu_indices(np.
shape(cosine_matrix)[1], k=1)].mean()
3065 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value
encountered in true_divide
3066     ret = ret.dtype.type(ret / rcount)
3067 CAG
3068 CPB
3069 HRL
3070 HSY
3071 K
3072 KHC
3073 KO
3074 MDLZ
3075 MKC
3076 MNST
3077 MO
3078 PEP
3079 PM
3080 SJM
3081 STZ
3082 TAP
3083 --- 51.12401056289673 seconds ---
3084 (3020.0, '2018 q2') 102
3085 16
3086 ADM
3087 CAG
3088 CPB
3089 HRL
3090 HSY
```

```
3091 K
3092 KHC
3093 KO
3094 MDLZ
3095 MKC
3096 MNST
3097 MO
3098 PEP
3099 PM
3100 SJM
3101 STZ
3102 TAP
3103 --- 38.671170473098755 seconds ---
3104 (3020.0, '2018 q3') 103
3105 16
3106 ADM
3107 CAG
3108 CPB
3109 HRL
3110 HSY
3111 K
3112 KHC
3113 KO
3114 LW
3115 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
      /build_shapleyvalue.py:132: RuntimeWarning: Mean of
      empty slice.
3116     data = data.append({'Analyst': k, 'InfoContribution':
      ': np.array(shapley_value).mean()}, ignore_index=True
      )
3117 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
      \_methods.py:170: RuntimeWarning: invalid value
      encountered in double_scalars
3118     ret = ret.dtype.type(ret / rcount)
3119 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
      /build_shapleyvalue.py:139: RuntimeWarning: Mean of
      empty slice.
3120     avg_similarity = cosine_matrix[np.triu_indices(np.
      shape(cosine_matrix)[1], k=1)].mean()
3121 MDLZ
```

3122 MKC
3123 MNST
3124 M0
3125 PEP
3126 PM
3127 SJM
3128 STZ
3129 TAP
3130 --- 48.35430717468262 seconds ---
3131 (3020.0, '2018 q4') 104
3132 16
3133 ADM
3134 BFb
3135 CAG
3136 CPB
3137 HRL
3138 HSY
3139 K
3140 KHC
3141 KO
3142 MDLZ
3143 MKC
3144 MNST
3145 M0
3146 PEP
3147 PM
3148 SJM
3149 STZ
3150 0
3151 1
3152 2
3153 3
3154 4
3155 5
3156 6
3157 7
3158 8
3159 9
3160 10
3161 11

```
3162 12
3163 13
3164 14
3165 15
3166 16
3167 17
3168 18
3169 19
3170 TAP
3171 --- 567.2498297691345 seconds ---
3172 (3020.0, '2019 q1') 105
3173 16
3174 ADM
3175 BFb
3176 CAG
3177 CPB
3178 HRL
3179 HSY
3180 K
3181 KHC
3182 KO
3183 MDLZ
3184 MKC
3185 MNST
3186 M0
3187 PEP
3188 PM
3189 SJM
3190 STZ
3191 0
3192 1
3193 2
3194 3
3195 4
3196 5
3197 6
3198 7
3199 8
3200 9
3201 10
```

3202 11
3203 12
3204 13
3205 14
3206 15
3207 16
3208 17
3209 TAP
3210 --- 590.4225332736969 seconds ---
3211 (3020.0, '2019 q2') 106
3212 16
3213 ADM
3214 BFb
3215 CAG
3216 CPB
3217 HRL
3218 HSY
3219 K
3220 KHC
3221 KO
3222 MDLZ
3223 MKC
3224 MNST
3225 MO
3226 PEP
3227 PM
3228 SJM
3229 STZ
3230 0
3231 1
3232 2
3233 3
3234 4
3235 5
3236 6
3237 7
3238 8
3239 9
3240 10
3241 11

```
3242 12
3243 13
3244 14
3245 15
3246 16
3247 17
3248 18
3249 TAP
3250 TSN
3251 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
3252     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
3253 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
3254     ret = ret.dtype.type(ret / rcount)
3255 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
3256     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
3257 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
3258     ret = ret.dtype.type(ret / rcount)
3259 --- 553.0681874752045 seconds ---
3260 (3020.0, '2019 q3') 107
3261 16
3262 ADM
3263 BFb
3264 CAG
3265 CPB
3266 HRL
3267 HSY
3268 K
3269 KHC
3270 KO
```

```
3271 0
3272 1
3273 2
3274 3
3275 4
3276 5
3277 6
3278 7
3279 8
3280 9
3281 10
3282 11
3283 12
3284 13
3285 14
3286 15
3287 16
3288 MDLZ
3289 MKC
3290 MNST
3291 MO
3292 PEP
3293 PM
3294 SJM
3295 STZ
3296 TAP
3297 TSN
3298 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
3299     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
3300 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
3301     ret = ret.dtype.type(ret / rcount)
3302 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
```

```
3303     avg_similarity = cosine_matrix[np.triu_indices(np.
    shape(cosine_matrix)[1], k=1)].mean()
3304 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
3305     ret = ret.dtype.type(ret / rcount)
3306 --- 4464.381721019745 seconds ---
3307 (3020.0, '2019 q4') 108
3308 16
3309 ADM
3310 BFb
3311 CAG
3312 CPB
3313 HRL
3314 HSY
3315 K
3316 KHC
3317 KO
3318 MDLZ
3319 MKC
3320 MNST
3321 MO
3322 PEP
3323 PM
3324 SJM
3325 STZ
3326 0
3327 1
3328 2
3329 3
3330 4
3331 5
3332 6
3333 7
3334 8
3335 9
3336 10
3337 11
3338 12
3339 13
```

```
3340 14
3341 15
3342 16
3343 17
3344 18
3345 TAP
3346 TSN
3347 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
3348     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
3349 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
3350     ret = ret.dtype.type(ret / rcount)
3351 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
3352     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
3353 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
3354     ret = ret.dtype.type(ret / rcount)
3355 --- 574.7634427547455 seconds ---
3356 (3020.0, '2020 q1') 109
3357 16
3358 ADM
3359 BFb
3360 CAG
3361 CPB
3362 HRL
3363 HSY
3364 K
3365 KHC
3366 KO
3367 MDLZ
3368 MKC
```

```
3369 MNST
3370 MO
3371 PEP
3372 PM
3373 SJM
3374 STZ
3375 0
3376 1
3377 2
3378 3
3379 4
3380 5
3381 6
3382 7
3383 8
3384 9
3385 10
3386 11
3387 12
3388 13
3389 14
3390 15
3391 16
3392 TAP
3393 TSN
3394 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
3395     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
3396 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
3397     ret = ret.dtype.type(ret / rcount)
3398 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
3399     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
```

```
3400 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
3401     ret = ret.dtype.type(ret / rcount)
3402 --- 4600.88334774971 seconds ---
3403 (3020.0, '2020 q2') 110
3404 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3405 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3406     from .axes3d import Axes3D
3407 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3408 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3409     from .axes3d import Axes3D
3410 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3411 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3412     from .axes3d import Axes3D
3413 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3414 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3415     from .axes3d import Axes3D
3416 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3417 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3418     from .axes3d import Axes3D
3419 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3420 The deprecated function was deprecated in Matplotlib
```

```
3420 3.4 and will be removed two minor releases later.  
3421     from .axes3d import Axes3D  
3422 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3423 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3424     from .axes3d import Axes3D  
3425 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3426 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3427     from .axes3d import Axes3D  
3428 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3429 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3430     from .axes3d import Axes3D  
3431 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3432 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3433     from .axes3d import Axes3D  
3434 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3435 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3436     from .axes3d import Axes3D  
3437 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3438 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3439     from .axes3d import Axes3D  
3440 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:
```

```
3440 MatplotlibDeprecationWarning:  
3441 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
3442     from .axes3d import Axes3D  
3443 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
3444 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
3445     from .axes3d import Axes3D  
3446 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
3447 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
3448     from .axes3d import Axes3D  
3449 16  
3450 ADM  
3451 BFb  
3452 CAG  
3453 CPB  
3454 HRL  
3455 HSY  
3456 K  
3457 KHC  
3458 KO  
3459 LW  
3460 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of  
    empty slice.  
3461     data = data.append({'Analyst': k, 'InfoContribution':  
        np.array(shapley_value).mean()}, ignore_index=True  
    )  
3462 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\  
    \_methods.py:170: RuntimeWarning: invalid value  
    encountered in double_scalars  
3463     ret = ret.dtype.type(ret / rcount)  
3464 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of  
    empty slice.
```

```
3465 avg_similarity = cosine_matrix[np.triu_indices(np.
    shape(cosine_matrix)[1], k=1)].mean()
3466 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
3467 ret = ret.dtype.type(ret / rcount)
3468 MDLZ
3469 MKC
3470 MNST
3471 M0
3472 PEP
3473 PM
3474 SJM
3475 STZ
3476 TAP
3477 --- 49.13334107398987 seconds ---
3478 (3030.0, '2018 q1') 111
3479 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3480 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3481 from .axes3d import Axes3D
3482 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3483 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3484 from .axes3d import Axes3D
3485 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3486 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3487 from .axes3d import Axes3D
3488 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3489 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
3490 from .axes3d import Axes3D
3491 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3492 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3493     from .axes3d import Axes3D
3494 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3495 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3496     from .axes3d import Axes3D
3497 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3498 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3499     from .axes3d import Axes3D
3500 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3501 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3502     from .axes3d import Axes3D
3503 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3504 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3505     from .axes3d import Axes3D
3506 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3507 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3508     from .axes3d import Axes3D
3509 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
3510 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3511     from .axes3d import Axes3D
3512 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3513 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3514     from .axes3d import Axes3D
3515 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3516 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3517     from .axes3d import Axes3D
3518 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3519 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3520     from .axes3d import Axes3D
3521 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3522 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3523     from .axes3d import Axes3D
3524 16
3525 CHD
3526 CL
3527 CLX
3528 COTY
3529 EI
3530 KMB
3531 PG
3532 --- 31.025498867034912 seconds ---
3533 (3030.0, '2018 q2') 112
3534 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
```

```
3535 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3536     from .axes3d import Axes3D
3537 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3538 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3539     from .axes3d import Axes3D
3540 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3541 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3542     from .axes3d import Axes3D
3543 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3544 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3545     from .axes3d import Axes3D
3546 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3547 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3548     from .axes3d import Axes3D
3549 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3550 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3551     from .axes3d import Axes3D
3552 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3553 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3554     from .axes3d import Axes3D
3555 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
3555 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3556 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3557     from .axes3d import Axes3D  
3558 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3559 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3560     from .axes3d import Axes3D  
3561 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3562 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3563     from .axes3d import Axes3D  
3564 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3565 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3566     from .axes3d import Axes3D  
3567 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3568 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3569     from .axes3d import Axes3D  
3570 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3571 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3572     from .axes3d import Axes3D  
3573 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3574 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
3575 from .axes3d import Axes3D
3576 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
3577 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3578 from .axes3d import Axes3D
3579 16
3580 CHD
3581 CL
3582 CLX
3583 COTY
3584 EI
3585 KMB
3586 PG
3587 --- 31.671169757843018 seconds ---
3588 (3030.0, '2018 q3') 113
3589 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
3590 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3591 from .axes3d import Axes3D
3592 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
3593 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3594 from .axes3d import Axes3D
3595 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
3596 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3597 from .axes3d import Axes3D
3598 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
3599 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
3600 from .axes3d import Axes3D
3601 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
3602 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3603     from .axes3d import Axes3D
3604 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
3605 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3606     from .axes3d import Axes3D
3607 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
3608 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3609     from .axes3d import Axes3D
3610 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
3611 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3612     from .axes3d import Axes3D
3613 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
3614 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3615     from .axes3d import Axes3D
3616 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
3617 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3618     from .axes3d import Axes3D
3619 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

```
3620 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3621     from .axes3d import Axes3D
3622 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3623 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3624     from .axes3d import Axes3D
3625 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3626 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3627     from .axes3d import Axes3D
3628 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3629 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3630     from .axes3d import Axes3D
3631 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3632 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3633     from .axes3d import Axes3D
3634 16
3635 CHD
3636 CL
3637 CLX
3638 COTY
3639 EI
3640 KMB
3641 PG
3642 --- 30.58576011657715 seconds ---
3643 (3030.0, '2018 q4') 114
3644 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
```

```
3645 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3646     from .axes3d import Axes3D
3647 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3648 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3649     from .axes3d import Axes3D
3650 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3651 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3652     from .axes3d import Axes3D
3653 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3654 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3655     from .axes3d import Axes3D
3656 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3657 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3658     from .axes3d import Axes3D
3659 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3660 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3661     from .axes3d import Axes3D
3662 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3663 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3664     from .axes3d import Axes3D
3665 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
3665 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3666 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3667     from .axes3d import Axes3D  
3668 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3669 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3670     from .axes3d import Axes3D  
3671 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3672 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3673     from .axes3d import Axes3D  
3674 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3675 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3676     from .axes3d import Axes3D  
3677 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3678 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3679     from .axes3d import Axes3D  
3680 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3681 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3682     from .axes3d import Axes3D  
3683 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3684 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
3685     from .axes3d import Axes3D
3686 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3687 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3688     from .axes3d import Axes3D
3689 16
3690 CHD
3691 CL
3692 CLX
3693 COTY
3694 EI
3695 KMB
3696 PG
3697 --- 30.584944486618042 seconds ---
3698 (3030.0, '2019 q1') 115
3699 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3700 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3701     from .axes3d import Axes3D
3702 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3703 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3704     from .axes3d import Axes3D
3705 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3706 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3707     from .axes3d import Axes3D
3708 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3709 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
```

```
3710 from .axes3d import Axes3D
3711 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3712 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3713 from .axes3d import Axes3D
3714 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3715 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3716 from .axes3d import Axes3D
3717 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3718 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3719 from .axes3d import Axes3D
3720 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3721 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3722 from .axes3d import Axes3D
3723 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3724 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3725 from .axes3d import Axes3D
3726 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3727 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3728 from .axes3d import Axes3D
3729 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
3730 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3731     from .axes3d import Axes3D
3732 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3733 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3734     from .axes3d import Axes3D
3735 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3736 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3737     from .axes3d import Axes3D
3738 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3739 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3740     from .axes3d import Axes3D
3741 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3742 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3743     from .axes3d import Axes3D
3744 16
3745 CHD
3746 CL
3747 CLX
3748 COTY
3749 EI
3750 KMB
3751 PG
3752 --- 35.32694387435913 seconds ---
3753 (3030.0, '2019 q2') 116
3754 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
```

```
3755 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3756     from .axes3d import Axes3D
3757 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3758 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3759     from .axes3d import Axes3D
3760 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3761 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3762     from .axes3d import Axes3D
3763 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3764 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3765     from .axes3d import Axes3D
3766 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3767 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3768     from .axes3d import Axes3D
3769 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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3770 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3771     from .axes3d import Axes3D
3772 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3773 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3774     from .axes3d import Axes3D
3775 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
3775 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3776 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3777     from .axes3d import Axes3D  
3778 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3779 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3780     from .axes3d import Axes3D  
3781 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3782 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3783     from .axes3d import Axes3D  
3784 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3785 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3786     from .axes3d import Axes3D  
3787 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3788 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3789     from .axes3d import Axes3D  
3790 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3791 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3792     from .axes3d import Axes3D  
3793 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3794 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
3795     from .axes3d import Axes3D
3796 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3797 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3798     from .axes3d import Axes3D
3799 16
3800 CHD
3801 CL
3802 CLX
3803 COTY
3804 EI
3805 KMB
3806 PG
3807 --- 30.917720317840576 seconds ---
3808 (3030.0, '2019 q3') 117
3809 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3810 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3811     from .axes3d import Axes3D
3812 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3813 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3814     from .axes3d import Axes3D
3815 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3816 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3817     from .axes3d import Axes3D
3818 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3819 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
```

```
3820 from .axes3d import Axes3D
3821 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3822 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3823     from .axes3d import Axes3D
3824 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3825 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3826     from .axes3d import Axes3D
3827 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3828 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3829     from .axes3d import Axes3D
3830 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3831 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
3832     from .axes3d import Axes3D
3833 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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3834 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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3836 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
3837 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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3839 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
```

```
3840 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3841     from .axes3d import Axes3D
3842 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3843 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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3845 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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3846 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3847     from .axes3d import Axes3D
3848 C:\ProgramData\Anaconda3\lib\site-packages\
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3849 The deprecated function was deprecated in Matplotlib
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3850     from .axes3d import Axes3D
3851 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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3852 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3853     from .axes3d import Axes3D
3854 16
3855 CHD
3856 CL
3857 CLX
3858 COTY
3859 EI
3860 KMB
3861 PG
3862 --- 36.68269062042236 seconds ---
3863 (3030.0, '2019 q4') 118
3864 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
```

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3865 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3868 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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3870 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
3871 The deprecated function was deprecated in Matplotlib
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3873 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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      mpl_toolkits\mplot3d\__init__.py:1:
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      mpl_toolkits\mplot3d\__init__.py:1:
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      3.4 and will be removed two minor releases later.
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3885 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
3885 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3886 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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3888 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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3891 C:\ProgramData\Anaconda3\lib\site-packages\  
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3897 C:\ProgramData\Anaconda3\lib\site-packages\  
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3901 The deprecated function was deprecated in Matplotlib  
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    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3904 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
3905     from .axes3d import Axes3D
3906 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3907 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
3908     from .axes3d import Axes3D
3909 16
3910 CHD
3911 CL
3912 CLX
3913 COTY
3914 EI
3915 KMB
3916 PG
3917 --- 30.988924503326416 seconds ---
3918 (3030.0, '2020 q1') 119
3919 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
3920 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
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3925 C:\ProgramData\Anaconda3\lib\site-packages\
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3926 The deprecated function was deprecated in Matplotlib
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3930 from .axes3d import Axes3D
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3950 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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3955 C:\ProgramData\Anaconda3\lib\site-packages\
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3958 C:\ProgramData\Anaconda3\lib\site-packages\
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3962 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
3963     from .axes3d import Axes3D
3964 16
3965 CHD
3966 CL
3967 CLX
3968 COTY
3969 EI
3970 KMB
3971 PG
3972 --- 34.73805046081543 seconds ---
3973 (3030.0, '2020 q2') 120
3974 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
```

```
3975 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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      3.4 and will be removed two minor releases later.
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3992 C:\ProgramData\Anaconda3\lib\site-packages\
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3995 C:\ProgramData\Anaconda3\lib\site-packages\
```

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3995 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
3996 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
3997     from .axes3d import Axes3D  
3998 C:\ProgramData\Anaconda3\lib\site-packages\  
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4000     from .axes3d import Axes3D  
4001 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4002 The deprecated function was deprecated in Matplotlib  
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4005 The deprecated function was deprecated in Matplotlib  
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    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4008 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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4010 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4011 The deprecated function was deprecated in Matplotlib  
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4012     from .axes3d import Axes3D  
4013 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4014 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
4015     from .axes3d import Axes3D
4016 C:\ProgramData\Anaconda3\lib\site-packages\
        mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
4017 The deprecated function was deprecated in Matplotlib
        3.4 and will be removed two minor releases later.
4018     from .axes3d import Axes3D
4019 16
4020 CHD
4021 CL
4022 CLX
4023 COTY
4024 EI
4025 KMB
4026 PG
4027 --- 31.5640230178833 seconds ---
4028 (3510.0, '2018 q1') 121
4029 C:\ProgramData\Anaconda3\lib\site-packages\
        mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
4030 The deprecated function was deprecated in Matplotlib
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4040 from .axes3d import Axes3D
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4059 C:\ProgramData\Anaconda3\lib\site-packages\
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4060 The deprecated function was deprecated in Matplotlib
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4072 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
4073     from .axes3d import Axes3D
4074 16
4075 ABC
4076 ABT
4077 ALGN
4078 ANTM
4079 BAX
4080 BDX
4081 CAH
4082 CERN
4083 CI
4084 0
4085 1
4086 2
```

4087	3
4088	4
4089	5
4090	6
4091	7
4092	8
4093	9
4094	10
4095	11
4096	12
4097	13
4098	14
4099	15
4100	16
4101	CNC
4102	COO
4103	CVS
4104	DGX
4105	DHR
4106	DVA
4107	DXCM
4108	EW
4109	HCA
4110	HOLX
4111	HSIC
4112	HUM
4113	IDXX
4114	ISRG
4115	LH
4116	MDT
4117	RMD
4118	STE
4119	SYK
4120	TFX
4121	UHS
4122	UNH
4123	VAR
4124	XRAY
4125	ZBH
4126	--- 4350.136974334717 seconds ---

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4127 (3510.0, '2018 q2') 122
4128 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4129 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4141 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4142     from .axes3d import Axes3D
4143 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4144 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4145     from .axes3d import Axes3D
4146 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

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4147 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
4148     from .axes3d import Axes3D
4149 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
4150 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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4152 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
4153 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
4154     from .axes3d import Axes3D
4155 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
4156 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
4157     from .axes3d import Axes3D
4158 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
4159 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
4160     from .axes3d import Axes3D
4161 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
4162 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
4163     from .axes3d import Axes3D
4164 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
4165 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
4166     from .axes3d import Axes3D
4167 C:\ProgramData\Anaconda3\lib\site-packages\
```

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4167 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4168 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4169     from .axes3d import Axes3D  
4170 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4171 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4172     from .axes3d import Axes3D  
4173 16  
4174 ABC  
4175 ABT  
4176 ALGN  
4177 ANTM  
4178 BAX  
4179 BDX  
4180 CAH  
4181 CERN  
4182 CI  
4183 CNC  
4184 COO  
4185 CVS  
4186 DGX  
4187 DHR  
4188 DVA  
4189 DXCM  
4190 EW  
4191 HCA  
4192 HOLX  
4193 HSIC  
4194 0  
4195 1  
4196 2  
4197 3  
4198 4  
4199 5  
4200 6  
4201 7
```

```
4202 8
4203 9
4204 10
4205 11
4206 12
4207 13
4208 14
4209 15
4210 16
4211 HUM
4212 IDXX
4213 ISRG
4214 LH
4215 MCK
4216 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
    empty slice.
4217     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
4218 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
    encountered in double_scalars
4219     ret = ret.dtype.type(ret / rcount)
4220 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
    empty slice.
4221     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
4222 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
    encountered in true_divide
4223     ret = ret.dtype.type(ret / rcount)
4224 MDT
4225 RMD
4226 STE
4227 SYK
4228 TFX
4229 UHS
4230 UNH
```

```
4231 VAR
4232 XRAY
4233 ZBH
4234 --- 4653.220772027969 seconds ---
4235 (3510.0, '2018 q3') 123
4236 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
4237 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4238     from .axes3d import Axes3D
4239 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
4240 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4241     from .axes3d import Axes3D
4242 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
4243 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4244     from .axes3d import Axes3D
4245 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
4246 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4247     from .axes3d import Axes3D
4248 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
4249 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4250     from .axes3d import Axes3D
4251 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
4252 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
4253 from .axes3d import Axes3D
4254 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4255 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4256     from .axes3d import Axes3D
4257 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4258 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4259     from .axes3d import Axes3D
4260 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4261 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4262     from .axes3d import Axes3D
4263 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4264 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4265     from .axes3d import Axes3D
4266 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4267 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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4269 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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4270 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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4272 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

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4273 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
4274     from .axes3d import Axes3D
4275 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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4276 The deprecated function was deprecated in Matplotlib
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4278 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
4279 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
4280     from .axes3d import Axes3D
4281 16
4282 ABC
4283 ABT
4284 ALGN
4285 ANTM
4286 BAX
4287 BDX
4288 CAH
4289 CERN
4290 CI
4291 CNC
4292 COO
4293 CVS
4294 DGX
4295 DHR
4296 DVA
4297 DXCM
4298 EW
4299 HCA
4300 HOLX
4301 HSIC
4302 HUM
4303 0
4304 1
4305 2
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4306 3
4307 4
4308 5
4309 6
4310 7
4311 8
4312 9
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4314 11
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4318 15
4319 16
4320 IDXX
4321 ISRG
4322 LH
4323 MDT
4324 RMD
4325 STE
4326 SYK
4327 TFX
4328 UHS
4329 UNH
4330 VAR
4331 XRAY
4332 ZBH
4333 --- 4777.3103930950165 seconds ---
4334 (3510.0, '2018 q4') 124
4335 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4336 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4337     from .axes3d import Axes3D
4338 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4339 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
4340 from .axes3d import Axes3D
4341 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4342 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4343     from .axes3d import Axes3D
4344 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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4345 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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4347 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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4348 The deprecated function was deprecated in Matplotlib
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4350 C:\ProgramData\Anaconda3\lib\site-packages\
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4351 The deprecated function was deprecated in Matplotlib
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4353 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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4356 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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4357 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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4359 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

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4360 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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4362 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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4363 The deprecated function was deprecated in Matplotlib
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4365 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
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4367     from .axes3d import Axes3D
4368 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
4369 The deprecated function was deprecated in Matplotlib
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      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
4372 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
4373     from .axes3d import Axes3D
4374 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
4375 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
4376     from .axes3d import Axes3D
4377 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
4378 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
4379     from .axes3d import Axes3D
4380 16
```

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4381 ABC
4382 ABT
4383 ALGN
4384 ANTM
4385 BAX
4386 BDX
4387 BSX
4388 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
4389     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
4390 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
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4391     ret = ret.dtype.type(ret / rcount)
4392 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
4393     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
4394 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
4395     ret = ret.dtype.type(ret / rcount)
4396 CAH
4397 CERN
4398 CI
4399 CNC
4400 COO
4401 CVS
4402 DGX
4403 DHR
4404 DVA
4405 DXCM
4406 EW
4407 HCA
4408 HOLX
4409 HSIC
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4410 HUM
4411 0
4412 1
4413 2
4414 3
4415 4
4416 5
4417 6
4418 7
4419 8
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4421 10
4422 11
4423 12
4424 13
4425 14
4426 15
4427 16
4428 17
4429 18
4430 19
4431 IDXX
4432 ISRG
4433 LH
4434 MDT
4435 RMD
4436 STE
4437 SYK
4438 TFX
4439 UHS
4440 UNH
4441 VAR
4442 XRAY
4443 ZBH
4444 --- 609.958652973175 seconds ---
4445 (3510.0, '2019 q1') 125
4446 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4447 The deprecated function was deprecated in Matplotlib
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4447 3.4 and will be removed two minor releases later.  
4448     from .axes3d import Axes3D  
4449 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4450 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4451     from .axes3d import Axes3D  
4452 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4453 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4454     from .axes3d import Axes3D  
4455 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4456 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4457     from .axes3d import Axes3D  
4458 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4459 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4460     from .axes3d import Axes3D  
4461 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4462 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4463     from .axes3d import Axes3D  
4464 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4465 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4466     from .axes3d import Axes3D  
4467 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:
```

```
4467 MatplotlibDeprecationWarning:  
4468 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4469     from .axes3d import Axes3D  
4470 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4471 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4472     from .axes3d import Axes3D  
4473 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4474 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4475     from .axes3d import Axes3D  
4476 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4477 The deprecated function was deprecated in Matplotlib  
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4479 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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4480 The deprecated function was deprecated in Matplotlib  
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4481     from .axes3d import Axes3D  
4482 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4483 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4484     from .axes3d import Axes3D  
4485 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4486 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4487     from .axes3d import Axes3D
```

```
4488 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4489 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4490     from .axes3d import Axes3D  
4491 16  
4492 ABC  
4493 ABT  
4494 ALGN  
4495 ANTM  
4496 BAX  
4497 BDX  
4498 BSX  
4499 CAH  
4500 CERN  
4501 CI  
4502 CNC  
4503 COO  
4504 CVS  
4505 DGX  
4506 DHR  
4507 DVA  
4508 DXCM  
4509 EW  
4510 HCA  
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4512 HSIC  
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4525	12
4526	13
4527	14
4528	15
4529	16
4530	HUM
4531	IDXX
4532	ISRG
4533	LH
4534	MDT
4535	0
4536	1
4537	2
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4541	6
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4543	8
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4547	12
4548	13
4549	14
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4552	17
4553	18
4554	19
4555	20
4556	RMD
4557	STE
4558	SYK
4559	0
4560	1
4561	2
4562	3
4563	4
4564	5

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4565 6
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4571 12
4572 13
4573 14
4574 15
4575 16
4576 17
4577 TFX
4578 UHS
4579 UNH
4580 VAR
4581 XRAY
4582 ZBH
4583 --- 5482.240970373154 seconds ---
4584 (3510.0, '2019 q2') 126
4585 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4586 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4587     from .axes3d import Axes3D
4588 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
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4592 The deprecated function was deprecated in Matplotlib
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4593     from .axes3d import Axes3D
4594 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
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4594 MatplotlibDeprecationWarning:  
4595 The deprecated function was deprecated in Matplotlib  
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4597 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4598 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4599     from .axes3d import Axes3D  
4600 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4601 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4602     from .axes3d import Axes3D  
4603 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4604 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
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4606 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4607 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
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4609 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4610 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4611     from .axes3d import Axes3D  
4612 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4613 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4614     from .axes3d import Axes3D
```

```
4615 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4616 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4617     from .axes3d import Axes3D  
4618 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4619 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4620     from .axes3d import Axes3D  
4621 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4622 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4623     from .axes3d import Axes3D  
4624 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4625 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4626     from .axes3d import Axes3D  
4627 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4628 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4629     from .axes3d import Axes3D  
4630 16  
4631 ABC  
4632 ABT  
4633 ALGN  
4634 ANTM  
4635 BAX  
4636 BDX  
4637 BSX  
4638 CAH  
4639 CERN
```

```
4640 CI
4641 CNC
4642 COO
4643 CVS
4644 DGX
4645 DHR
4646 DVA
4647 DXCM
4648 EW
4649 HCA
4650 HOLX
4651 HSIC
4652 HUM
4653 IDXX
4654 ISRG
4655 LH
4656 MDT
4657 RMD
4658 STE
4659 SYK
4660 TFX
4661 UHS
4662 UNH
4663 VAR
4664 XRAY
4665 ZBH
4666 --- 65.03478574752808 seconds ---
4667 (3510.0, '2019 q3') 127
4668 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4669 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4670     from .axes3d import Axes3D
4671 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4672 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4673     from .axes3d import Axes3D
```

```
4674 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4675 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4676     from .axes3d import Axes3D  
4677 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4678 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4679     from .axes3d import Axes3D  
4680 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4681 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4682     from .axes3d import Axes3D  
4683 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4684 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4685     from .axes3d import Axes3D  
4686 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4687 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4688     from .axes3d import Axes3D  
4689 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4690 The deprecated function was deprecated in Matplotlib  
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4691     from .axes3d import Axes3D  
4692 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4693 The deprecated function was deprecated in Matplotlib
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4693 3.4 and will be removed two minor releases later.  
4694     from .axes3d import Axes3D  
4695 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4696 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4697     from .axes3d import Axes3D  
4698 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4699 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4700     from .axes3d import Axes3D  
4701 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4702 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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4704 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4705 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4706     from .axes3d import Axes3D  
4707 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4708 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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4710 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4711 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4712     from .axes3d import Axes3D  
4713 16  
4714 ABC
```

```
4715 ABT
4716 ALGN
4717 ANTM
4718 BAX
4719 BDX
4720 BSX
4721 CAH
4722 CERN
4723 CI
4724 CNC
4725 COO
4726 CVS
4727 DGX
4728 DHR
4729 DVA
4730 DXCM
4731 EW
4732 HCA
4733 HOLX
4734 HSIC
4735 HUM
4736 IDXX
4737 ISRG
4738 LH
4739 MDT
4740 RMD
4741 STE
4742 SYK
4743 TFX
4744 UHS
4745 UNH
4746 VAR
4747 XRAY
4748 ZBH
4749 --- 69.77484130859375 seconds ---
4750 (3510.0, '2019 q4') 128
4751 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4752 The deprecated function was deprecated in Matplotlib
```

```
4752 3.4 and will be removed two minor releases later.  
4753     from .axes3d import Axes3D  
4754 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4755 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4756     from .axes3d import Axes3D  
4757 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4758 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4759     from .axes3d import Axes3D  
4760 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4761 The deprecated function was deprecated in Matplotlib  
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4762     from .axes3d import Axes3D  
4763 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4764 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4765     from .axes3d import Axes3D  
4766 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4767 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4768     from .axes3d import Axes3D  
4769 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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4770 The deprecated function was deprecated in Matplotlib  
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4771     from .axes3d import Axes3D  
4772 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:
```

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4772 MatplotlibDeprecationWarning:  
4773 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4774     from .axes3d import Axes3D  
4775 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4776 The deprecated function was deprecated in Matplotlib  
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4778 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4779 The deprecated function was deprecated in Matplotlib  
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4780     from .axes3d import Axes3D  
4781 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4782 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4783     from .axes3d import Axes3D  
4784 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4785 The deprecated function was deprecated in Matplotlib  
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4786     from .axes3d import Axes3D  
4787 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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4788 The deprecated function was deprecated in Matplotlib  
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4790 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4791 The deprecated function was deprecated in Matplotlib  
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4792     from .axes3d import Axes3D
```

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4793 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4794 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4795     from .axes3d import Axes3D  
4796 16  
4797 ABC  
4798 ABT  
4799 ALGN  
4800 ANTM  
4801 BAX  
4802 BDX  
4803 BSX  
4804 CAH  
4805 CERN  
4806 CI  
4807 CNC  
4808 COO  
4809 CVS  
4810 DGX  
4811 DHR  
4812 DVA  
4813 DXCM  
4814 EW  
4815 0  
4816 1  
4817 2  
4818 3  
4819 4  
4820 5  
4821 6  
4822 7  
4823 8  
4824 9  
4825 10  
4826 11  
4827 12  
4828 13  
4829 14
```

```
4830 15
4831 16
4832 17
4833 HCA
4834 HOLX
4835 HSIC
4836 HUM
4837 IDXX
4838 ISRG
4839 LH
4840 MCK
4841 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
4842     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
        )
4843 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
4844     ret = ret.dtype.type(ret / rcount)
4845 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
4846     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
4847 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
4848     ret = ret.dtype.type(ret / rcount)
4849 MDT
4850 RMD
4851 STE
4852 SYK
4853 TFX
4854 UHS
4855 UNH
4856 VAR
4857 XRAY
4858 ZBH
```

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4859 --- 610.5256175994873 seconds ---
4860 (3510.0, '2020 q1') 129
4861 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4862 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4863     from .axes3d import Axes3D
4864 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4865 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4866     from .axes3d import Axes3D
4867 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4868 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4869     from .axes3d import Axes3D
4870 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4871 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4872     from .axes3d import Axes3D
4873 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4874 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4875     from .axes3d import Axes3D
4876 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4877 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4878     from .axes3d import Axes3D
4879 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
```

```
4879 MatplotlibDeprecationWarning:  
4880 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4881     from .axes3d import Axes3D  
4882 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4883 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4884     from .axes3d import Axes3D  
4885 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4886 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4887     from .axes3d import Axes3D  
4888 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4889 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4890     from .axes3d import Axes3D  
4891 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4892 The deprecated function was deprecated in Matplotlib  
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4893     from .axes3d import Axes3D  
4894 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
4895 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
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4897 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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4898 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
4899     from .axes3d import Axes3D
```

```
4900 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4901 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4902     from .axes3d import Axes3D  
4903 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
4904 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
4905     from .axes3d import Axes3D  
4906 16  
4907 ABC  
4908 ABT  
4909 ALGN  
4910 ANTM  
4911 BAX  
4912 BDX  
4913 BSX  
4914 CAH  
4915 CERN  
4916 CI  
4917 CNC  
4918 0  
4919 1  
4920 2  
4921 3  
4922 4  
4923 5  
4924 6  
4925 7  
4926 8  
4927 9  
4928 10  
4929 11  
4930 12  
4931 13  
4932 14  
4933 15
```

4934	16
4935	C00
4936	CVS
4937	DGX
4938	DHR
4939	DVA
4940	DXCM
4941	EW
4942	HCA
4943	HOLX
4944	HSIC
4945	HUM
4946	IDXX
4947	ISRG
4948	LH
4949	MDT
4950	0
4951	1
4952	2
4953	3
4954	4
4955	5
4956	6
4957	7
4958	8
4959	9
4960	10
4961	11
4962	12
4963	13
4964	14
4965	15
4966	16
4967	RMD
4968	STE
4969	SYK
4970	TFX
4971	UHS
4972	UNH
4973	VAR

```
4974 XRAY
4975 ZBH
4976 0
4977 1
4978 2
4979 3
4980 4
4981 5
4982 6
4983 7
4984 8
4985 9
4986 10
4987 11
4988 12
4989 13
4990 14
4991 15
4992 16
4993 17
4994 --- 9133.922906637192 seconds ---
4995 (3510.0, '2020 q2') 130
4996 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
4997 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
4998     from .axes3d import Axes3D
4999 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5000 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5001     from .axes3d import Axes3D
5002 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5003 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5004     from .axes3d import Axes3D
```

```
5005 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
5006 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5007     from .axes3d import Axes3D  
5008 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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5009 The deprecated function was deprecated in Matplotlib  
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5010     from .axes3d import Axes3D  
5011 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
5012 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5013     from .axes3d import Axes3D  
5014 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
5015 The deprecated function was deprecated in Matplotlib  
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5016     from .axes3d import Axes3D  
5017 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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5018 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5019     from .axes3d import Axes3D  
5020 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
5021 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5022     from .axes3d import Axes3D  
5023 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
5024 The deprecated function was deprecated in Matplotlib
```

```
5024 3.4 and will be removed two minor releases later.  
5025     from .axes3d import Axes3D  
5026 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5027 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5028     from .axes3d import Axes3D  
5029 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5030 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5031     from .axes3d import Axes3D  
5032 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5033 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5034     from .axes3d import Axes3D  
5035 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5036 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5037     from .axes3d import Axes3D  
5038 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5039 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5040     from .axes3d import Axes3D  
5041 16  
5042 ABC  
5043 ABT  
5044 ALGN  
5045 ANTM  
5046 BAX  
5047 BDX  
5048 BSX
```

```
5049 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
/build_shapleyvalue.py:132: RuntimeWarning: Mean of  
empty slice.  
5050     data = data.append({'Analyst': k, 'InfoContribution'  
': np.array(shapley_value).mean()}, ignore_index=True  
)  
5051 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core  
\_methods.py:170: RuntimeWarning: invalid value  
encountered in double_scalars  
5052     ret = ret.dtype.type(ret / rcount)  
5053 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
/build_shapleyvalue.py:139: RuntimeWarning: Mean of  
empty slice.  
5054     avg_similarity = cosine_matrix[np.triu_indices(np.  
shape(cosine_matrix)[1], k=1)].mean()  
5055 CAH  
5056 CERN  
5057 CI  
5058 CNC  
5059 COO  
5060 CVS  
5061 DGX  
5062 DHR  
5063 DVA  
5064 DXCM  
5065 EW  
5066 HCA  
5067 HOLX  
5068 HSIC  
5069 HUM  
5070 IDXX  
5071 ISRG  
5072 LH  
5073 MDT  
5074 RMD  
5075 STE  
5076 SYK  
5077 TFX  
5078 UHS  
5079 UNH
```

```
5080 VAR
5081 XRAY
5082 ZBH
5083 --- 46.424081325531006 seconds ---
5084 (3520.0, '2018 q1') 131
5085 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5086 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5087     from .axes3d import Axes3D
5088 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5089 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5090     from .axes3d import Axes3D
5091 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5092 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5093     from .axes3d import Axes3D
5094 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5095 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5096     from .axes3d import Axes3D
5097 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5098 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5099     from .axes3d import Axes3D
5100 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5101 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
5102 from .axes3d import Axes3D
5103 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5104 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5105     from .axes3d import Axes3D
5106 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5107 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5108     from .axes3d import Axes3D
5109 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5110 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5111     from .axes3d import Axes3D
5112 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5113 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5114     from .axes3d import Axes3D
5115 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5116 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5117     from .axes3d import Axes3D
5118 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5119 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5120     from .axes3d import Axes3D
5121 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
```

```
5122 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5123     from .axes3d import Axes3D
5124 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5125 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5126     from .axes3d import Axes3D
5127 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5128 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5129     from .axes3d import Axes3D
5130 16
5131 ABBV
5132 ALXN
5133 AMGN
5134 GILD
5135 ILMN
5136 INCY
5137 IQV
5138 JNJ
5139 LLY
5140 MRK
5141 MTD
5142 MYL
5143 PFE
5144 PKI
5145 PRGO
5146 REGN
5147 TMO
5148 VRTX
5149 WAT
5150 --- 38.68104553222656 seconds ---
5151 (3520.0, '2018 q2') 132
5152 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
```

```
5153 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5154     from .axes3d import Axes3D
5155 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5156 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5157     from .axes3d import Axes3D
5158 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5159 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5160     from .axes3d import Axes3D
5161 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5162 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5163     from .axes3d import Axes3D
5164 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5165 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5166     from .axes3d import Axes3D
5167 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5168 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5169     from .axes3d import Axes3D
5170 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5171 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5172     from .axes3d import Axes3D
5173 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
5173 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5174 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5175     from .axes3d import Axes3D  
5176 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5177 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5178     from .axes3d import Axes3D  
5179 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5180 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5181     from .axes3d import Axes3D  
5182 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5183 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5184     from .axes3d import Axes3D  
5185 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5186 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5187     from .axes3d import Axes3D  
5188 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5189 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5190     from .axes3d import Axes3D  
5191 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5192 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
5193 from .axes3d import Axes3D
5194 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5195 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5196 from .axes3d import Axes3D
5197 16
5198 ABBV
5199 ALXN
5200 AMGN
5201 GILD
5202 ILMN
5203 INCY
5204 IQV
5205 JNJ
5206 LLY
5207 MRK
5208 MTD
5209 MYL
5210 PFE
5211 PKI
5212 PRGO
5213 REGN
5214 TMO
5215 VRTX
5216 WAT
5217 --- 36.91675519943237 seconds ---
5218 (3520.0, '2018 q3') 133
5219 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5220 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5221 from .axes3d import Axes3D
5222 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5223 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
```

```
5224     from .axes3d import Axes3D
5225 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5226 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5227     from .axes3d import Axes3D
5228 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5229 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5230     from .axes3d import Axes3D
5231 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5232 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5233     from .axes3d import Axes3D
5234 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5235 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5236     from .axes3d import Axes3D
5237 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5238 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5239     from .axes3d import Axes3D
5240 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5241 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5242     from .axes3d import Axes3D
5243 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
```

```
5244 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5245     from .axes3d import Axes3D
5246 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5247 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5248     from .axes3d import Axes3D
5249 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5250 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5251     from .axes3d import Axes3D
5252 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5253 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5254     from .axes3d import Axes3D
5255 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5256 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5257     from .axes3d import Axes3D
5258 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5259 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5260     from .axes3d import Axes3D
5261 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5262 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5263     from .axes3d import Axes3D
5264 16
```

```
5265 ABBV
5266 ALXN
5267 AMGN
5268 GILD
5269 ILMN
5270 INCY
5271 IQV
5272 JNJ
5273 LLY
5274 MRK
5275 MTD
5276 MYL
5277 PFE
5278 PKI
5279 PRGO
5280 REGN
5281 TMO
5282 VRTX
5283 WAT
5284 --- 42.60084843635559 seconds ---
5285 (3520.0, '2018 q4') 134
5286 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5287 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5288     from .axes3d import Axes3D
5289 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5290 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5291     from .axes3d import Axes3D
5292 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5293 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5294     from .axes3d import Axes3D
5295 C:\ProgramData\Anaconda3\lib\site-packages\
```

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5295 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5296 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5297     from .axes3d import Axes3D  
5298 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5299 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5300     from .axes3d import Axes3D  
5301 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5302 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5303     from .axes3d import Axes3D  
5304 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5305 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5306     from .axes3d import Axes3D  
5307 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5308 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5309     from .axes3d import Axes3D  
5310 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5311 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5312     from .axes3d import Axes3D  
5313 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5314 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
5315 from .axes3d import Axes3D
5316 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5317 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5318     from .axes3d import Axes3D
5319 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5320 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5321     from .axes3d import Axes3D
5322 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5323 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5324     from .axes3d import Axes3D
5325 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5326 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5327     from .axes3d import Axes3D
5328 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5329 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5330     from .axes3d import Axes3D
5331 16
5332 ABBV
5333 ALXN
5334 AMGN
5335 GILD
5336 ILMN
5337 INCY
5338 IQV
5339 JNJ
```

```
5340 LLY
5341 MRK
5342 MTD
5343 MYL
5344 PFE
5345 PKI
5346 PRGO
5347 REGN
5348 TMO
5349 VRTX
5350 WAT
5351 --- 36.217236280441284 seconds ---
5352 (3520.0, '2019 q1') 135
5353 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5354 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5355     from .axes3d import Axes3D
5356 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5357 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5358     from .axes3d import Axes3D
5359 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5360 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5361     from .axes3d import Axes3D
5362 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5363 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5364     from .axes3d import Axes3D
5365 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

```
5366 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5367     from .axes3d import Axes3D
5368 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5369 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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5371 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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5372 The deprecated function was deprecated in Matplotlib
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5374 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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5375 The deprecated function was deprecated in Matplotlib
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5378 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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5380 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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5381 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5382     from .axes3d import Axes3D
5383 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5384 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5385     from .axes3d import Axes3D
5386 C:\ProgramData\Anaconda3\lib\site-packages\
```

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5386 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5387 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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5389 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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5390 The deprecated function was deprecated in Matplotlib  
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    mpl_toolkits\mplot3d\__init__.py:1:  
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5395 C:\ProgramData\Anaconda3\lib\site-packages\  
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5396 The deprecated function was deprecated in Matplotlib  
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5398 16  
5399 ABBV  
5400 ALXN  
5401 AMGN  
5402 BIIB  
5403 BMY  
5404 GILD  
5405 ILMN  
5406 INCY  
5407 IQV  
5408 JNJ  
5409 LLY  
5410 MRK  
5411 MTD  
5412 MYL  
5413 PFE  
5414 PKI
```

```
5415 PRGO
5416 REGN
5417 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
5418     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
5419 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
5420     ret = ret.dtype.type(ret / rcount)
5421 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
5422     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
5423 TMO
5424 VRTX
5425 WAT
5426 --- 40.22411036491394 seconds ---
5427 (3520.0, '2019 q2') 136
5428 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5429 The deprecated function was deprecated in Matplotlib
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5431 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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5432 The deprecated function was deprecated in Matplotlib
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5437 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
5438 The deprecated function was deprecated in Matplotlib  
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5440 C:\ProgramData\Anaconda3\lib\site-packages\  
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5443 C:\ProgramData\Anaconda3\lib\site-packages\  
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5444 The deprecated function was deprecated in Matplotlib  
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5446 C:\ProgramData\Anaconda3\lib\site-packages\  
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5447 The deprecated function was deprecated in Matplotlib  
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5449 C:\ProgramData\Anaconda3\lib\site-packages\  
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5465 The deprecated function was deprecated in Matplotlib  
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5467 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5468 The deprecated function was deprecated in Matplotlib  
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5469     from .axes3d import Axes3D  
5470 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5471 The deprecated function was deprecated in Matplotlib  
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5472     from .axes3d import Axes3D  
5473 16  
5474 ABBV  
5475 ALXN  
5476 AMGN  
5477 BIIIB  
5478 BMY  
5479 GILD  
5480 ILMN
```

```
5481 INCY
5482 IQV
5483 JNJ
5484 LLY
5485 MRK
5486 MTD
5487 MYL
5488 PFE
5489 PKI
5490 PRGO
5491 REGN
5492 TMO
5493 VRTX
5494 WAT
5495 --- 35.499290227890015 seconds ---
5496 (3520.0, '2019 q3') 137
5497 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5498 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5499     from .axes3d import Axes3D
5500 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5501 The deprecated function was deprecated in Matplotlib
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5502     from .axes3d import Axes3D
5503 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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5504 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5505     from .axes3d import Axes3D
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    mpl_toolkits\mplot3d\__init__.py:1:
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5507 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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```

```
5509 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
5510 The deprecated function was deprecated in Matplotlib  
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5511     from .axes3d import Axes3D  
5512 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
5513 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5514     from .axes3d import Axes3D  
5515 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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5516 The deprecated function was deprecated in Matplotlib  
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5519 The deprecated function was deprecated in Matplotlib  
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5520     from .axes3d import Axes3D  
5521 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
5522 The deprecated function was deprecated in Matplotlib  
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5524 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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5525 The deprecated function was deprecated in Matplotlib  
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5542 16  
5543 ABBV  
5544 ALXN  
5545 AMGN  
5546 BIIB  
5547 BMY  
5548 GILD  
5549 ILMN  
5550 INCY  
5551 IQV  
5552 JNJ  
5553 LLY  
5554 MRK  
5555 MTD
```

```
5556 MYL
5557 PFE
5558 PKI
5559 PRGO
5560 REGN
5561 TMO
5562 VRTX
5563 WAT
5564 --- 35.60948991775513 seconds ---
5565 (3520.0, '2019 q4') 138
5566 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5567 The deprecated function was deprecated in Matplotlib
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```

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5581 C:\ProgramData\Anaconda3\lib\site-packages\  
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5585 The deprecated function was deprecated in Matplotlib  
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5587 C:\ProgramData\Anaconda3\lib\site-packages\  
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5610 from .axes3d import Axes3D  
5611 16  
5612 ABBV  
5613 ALXN  
5614 AMGN  
5615 BIIB  
5616 BMY  
5617 GILD  
5618 ILMN  
5619 INCY  
5620 IQV  
5621 JNJ  
5622 LLY  
5623 MRK  
5624 MTD  
5625 MYL  
5626 PFE  
5627 PKI  
5628 PRGO  
5629 REGN  
5630 TMO
```

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5631 VRTX
5632 WAT
5633 --- 36.36156606674194 seconds ---
5634 (3520.0, '2020 q1') 139
5635 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5636 The deprecated function was deprecated in Matplotlib
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5680 16  
5681 ABBV  
5682 ALXN  
5683 AMGN  
5684 BIIB  
5685 BMY  
5686 GILD  
5687 ILMN  
5688 INCY  
5689 IQV  
5690 JNJ  
5691 LLY  
5692 MRK  
5693 MTD  
5694 MYL  
5695 PFE  
5696 PKI  
5697 PRGO  
5698 REGN  
5699 TMO  
5700 VRTX  
5701 WAT  
5702 --- 47.009368896484375 seconds ---  
5703 (3520.0, '2020 q2') 140  
5704 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:
```

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5704 MatplotlibDeprecationWarning:  
5705 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
5706     from .axes3d import Axes3D  
5707 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\mplot3d\__init__.py:1:  
      MatplotlibDeprecationWarning:  
5708 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
5709     from .axes3d import Axes3D  
5710 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\mplot3d\__init__.py:1:  
      MatplotlibDeprecationWarning:  
5711 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
5712     from .axes3d import Axes3D  
5713 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\mplot3d\__init__.py:1:  
      MatplotlibDeprecationWarning:  
5714 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
5715     from .axes3d import Axes3D  
5716 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\mplot3d\__init__.py:1:  
      MatplotlibDeprecationWarning:  
5717 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
5718     from .axes3d import Axes3D  
5719 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\mplot3d\__init__.py:1:  
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5720 The deprecated function was deprecated in Matplotlib  
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5721     from .axes3d import Axes3D  
5722 C:\ProgramData\Anaconda3\lib\site-packages\  
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5723 The deprecated function was deprecated in Matplotlib  
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```

```
5725 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
5726 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5727     from .axes3d import Axes3D  
5728 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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5729 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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5731 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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5732 The deprecated function was deprecated in Matplotlib  
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5734 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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5735 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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5737 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
5738 The deprecated function was deprecated in Matplotlib  
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5739     from .axes3d import Axes3D  
5740 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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5741 The deprecated function was deprecated in Matplotlib  
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5743 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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5744 The deprecated function was deprecated in Matplotlib
```

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5744 3.4 and will be removed two minor releases later.  
5745     from .axes3d import Axes3D  
5746 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
5747 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
5748     from .axes3d import Axes3D  
5749 16  
5750 ABBV  
5751 ALXN  
5752 AMGN  
5753 BIIB  
5754 BMY  
5755 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of  
    empty slice.  
5756     data = data.append({'Analyst': k, 'InfoContribution':  
        np.array(shapley_value).mean()}, ignore_index=True  
    )  
5757 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\  
    \_methods.py:170: RuntimeWarning: invalid value  
    encountered in double_scalars  
5758     ret = ret.dtype.type(ret / rcount)  
5759 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of  
    empty slice.  
5760     avg_similarity = cosine_matrix[np.triu_indices(np.  
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5761 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\  
    \_methods.py:170: RuntimeWarning: invalid value  
    encountered in true_divide  
5762     ret = ret.dtype.type(ret / rcount)  
5763 GILD  
5764 ILMN  
5765 INCY  
5766 IQV  
5767 JNJ  
5768 LLY  
5769 MRK
```

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5770 MTD
5771 MYL
5772 PFE
5773 PKI
5774 PRGO
5775 REGN
5776 TMO
5777 VRTX
5778 WAT
5779 --- 36.19254398345947 seconds ---
5780 (4010.0, '2018 q1') 141
5781 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5782 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5783     from .axes3d import Axes3D
5784 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5785 The deprecated function was deprecated in Matplotlib
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5787 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5788 The deprecated function was deprecated in Matplotlib
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5790 C:\ProgramData\Anaconda3\lib\site-packages\
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5791 The deprecated function was deprecated in Matplotlib
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5793 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5794 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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```
5795 from .axes3d import Axes3D
5796 C:\ProgramData\Anaconda3\lib\site-packages\
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5797 The deprecated function was deprecated in Matplotlib
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5798     from .axes3d import Axes3D
5799 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5800 The deprecated function was deprecated in Matplotlib
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5802 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5803 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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5805 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5806 The deprecated function was deprecated in Matplotlib
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5808 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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5809 The deprecated function was deprecated in Matplotlib
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5810     from .axes3d import Axes3D
5811 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5812 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5813     from .axes3d import Axes3D
5814 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

```
5815 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5816     from .axes3d import Axes3D
5817 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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5818 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5819     from .axes3d import Axes3D
5820 C:\ProgramData\Anaconda3\lib\site-packages\
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      MatplotlibDeprecationWarning:
5821 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5822     from .axes3d import Axes3D
5823 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5824 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5825     from .axes3d import Axes3D
5826 16
5827 BAC
5828 CFG
5829 CMA
5830 FITB
5831 FRC
5832 HBAN
5833 JPM
5834 MTB
5835 PBCT
5836 PNC
5837 RF
5838 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
      /build_shapleyvalue.py:132: RuntimeWarning: Mean of
      empty slice.
5839     data = data.append({'Analyst': k, 'InfoContribution':
      ': np.array(shapley_value).mean()}, ignore_index=True
      )
5840 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
```

```
5840 \_methods.py:170: RuntimeWarning: invalid value
    encountered in double_scalars
5841     ret = ret.dtype.type(ret / rcount)
5842 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
5843     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
5844 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
5845     ret = ret.dtype.type(ret / rcount)
5846 SIVB
5847 TFC
5848 USB
5849 WFC
5850 ZION
5851 --- 52.20494222640991 seconds ---
5852 (4010.0, '2018 q2') 142
5853 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5854 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5855     from .axes3d import Axes3D
5856 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5857 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5858     from .axes3d import Axes3D
5859 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5860 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
5861     from .axes3d import Axes3D
5862 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

```
5863 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
5864     from .axes3d import Axes3D
5865 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
5866 The deprecated function was deprecated in Matplotlib
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5867     from .axes3d import Axes3D
5868 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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5869 The deprecated function was deprecated in Matplotlib
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      mpl_toolkits\mplot3d\__init__.py:1:
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5877 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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5880 C:\ProgramData\Anaconda3\lib\site-packages\
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5881 The deprecated function was deprecated in Matplotlib
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5883 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
5883 mpl_toolkits\mplot3d\__init__.py:1:  
      MatplotlibDeprecationWarning:  
5884 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
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5886 C:\ProgramData\Anaconda3\lib\site-packages\  
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5887 The deprecated function was deprecated in Matplotlib  
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5889 C:\ProgramData\Anaconda3\lib\site-packages\  
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5890 The deprecated function was deprecated in Matplotlib  
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5898 16  
5899 BAC  
5900 CFG  
5901 CMA  
5902 FITB  
5903 FRC  
5904 HBAN  
5905 JPM  
5906 MTB  
5907 PBCT  
5908 PNC
```

```
5909 RF
5910 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
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5911     data = data.append({'Analyst': k, 'InfoContribution':
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    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
5917     ret = ret.dtype.type(ret / rcount)
5918 SIVB
5919 TFC
5920 USB
5921 WFC
5922 ZION
5923 --- 39.53815174102783 seconds ---
5924 (4010.0, '2018 q3') 143
5925 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
5926 The deprecated function was deprecated in Matplotlib
        3.4 and will be removed two minor releases later.
5927     from .axes3d import Axes3D
5928 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
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5929 The deprecated function was deprecated in Matplotlib
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5931 C:\ProgramData\Anaconda3\lib\site-packages\
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5931 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
5932 The deprecated function was deprecated in Matplotlib  
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5934 C:\ProgramData\Anaconda3\lib\site-packages\  
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5937 C:\ProgramData\Anaconda3\lib\site-packages\  
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5941 The deprecated function was deprecated in Matplotlib  
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5943 C:\ProgramData\Anaconda3\lib\site-packages\  
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5949 C:\ProgramData\Anaconda3\lib\site-packages\  
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5950 The deprecated function was deprecated in Matplotlib  
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```
5951 from .axes3d import Axes3D
5952 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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5953 The deprecated function was deprecated in Matplotlib
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5955 C:\ProgramData\Anaconda3\lib\site-packages\
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5961 C:\ProgramData\Anaconda3\lib\site-packages\
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5967 C:\ProgramData\Anaconda3\lib\site-packages\
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      MatplotlibDeprecationWarning:
5968 The deprecated function was deprecated in Matplotlib
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5969     from .axes3d import Axes3D
5970 16
5971 BAC
5972 CFG
```

```
5973 CMA
5974 FITB
5975 FRC
5976 HBAN
5977 JPM
5978 MTB
5979 PBCT
5980 PNC
5981 RF
5982 SIVB
5983 TFC
5984 USB
5985 WFC
5986 ZION
5987 --- 46.23688077926636 seconds ---
5988 (4010.0, '2018 q4') 144
5989 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
5990 The deprecated function was deprecated in Matplotlib
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5992 C:\ProgramData\Anaconda3\lib\site-packages\
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5995 C:\ProgramData\Anaconda3\lib\site-packages\
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5998 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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```

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6001 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
6002 The deprecated function was deprecated in Matplotlib  
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6003     from .axes3d import Axes3D  
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6007 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
6008 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6009     from .axes3d import Axes3D  
6010 C:\ProgramData\Anaconda3\lib\site-packages\  
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        MatplotlibDeprecationWarning:  
6011 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6012     from .axes3d import Axes3D  
6013 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
6014 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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6016 C:\ProgramData\Anaconda3\lib\site-packages\  
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6017 The deprecated function was deprecated in Matplotlib  
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6019 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
6020 The deprecated function was deprecated in Matplotlib
```

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6020 3.4 and will be removed two minor releases later.  
6021     from .axes3d import Axes3D  
6022 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6023 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6024     from .axes3d import Axes3D  
6025 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6026 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6027     from .axes3d import Axes3D  
6028 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6029 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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6031 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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6032 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6033     from .axes3d import Axes3D  
6034 16  
6035 BAC  
6036 C  
6037 CFG  
6038 CMA  
6039 FITB  
6040 FRC  
6041 HBAN  
6042 JPM  
6043 MTB  
6044 PBCT  
6045 PNC  
6046 RF  
6047 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
```

```
6047 /build_shapleyvalue.py:132: RuntimeWarning: Mean of
empty slice.
6048     data = data.append({'Analyst': k, 'InfoContribution':
       ': np.array(shapley_value).mean()}, ignore_index=True
      )
6049 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
\_\methods.py:170: RuntimeWarning: invalid value
encountered in double_scalars
6050     ret = ret.dtype.type(ret / rcount)
6051 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
/build_shapleyvalue.py:139: RuntimeWarning: Mean of
empty slice.
6052     avg_similarity = cosine_matrix[np.triu_indices(np.
shape(cosine_matrix)[1], k=1)].mean()
6053 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
\_\methods.py:170: RuntimeWarning: invalid value
encountered in true_divide
6054     ret = ret.dtype.type(ret / rcount)
6055 SIVB
6056 TFC
6057 USB
6058 WFC
6059 ZION
6060 --- 45.174017667770386 seconds ---
6061 (4010.0, '2019 q1') 145
6062 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
6063 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
6064     from .axes3d import Axes3D
6065 C:\ProgramData\Anaconda3\lib\site-packages\
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6066 The deprecated function was deprecated in Matplotlib
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6067     from .axes3d import Axes3D
6068 C:\ProgramData\Anaconda3\lib\site-packages\
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6069 The deprecated function was deprecated in Matplotlib
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6070     from .axes3d import Axes3D
6071 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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6078 The deprecated function was deprecated in Matplotlib
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      MatplotlibDeprecationWarning:
6081 The deprecated function was deprecated in Matplotlib
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      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
6084 The deprecated function was deprecated in Matplotlib
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6086 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
6087 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6088     from .axes3d import Axes3D
6089 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
6089 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6090 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6091     from .axes3d import Axes3D  
6092 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6093 The deprecated function was deprecated in Matplotlib  
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6095 C:\ProgramData\Anaconda3\lib\site-packages\  
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6098 C:\ProgramData\Anaconda3\lib\site-packages\  
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6099 The deprecated function was deprecated in Matplotlib  
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6101 C:\ProgramData\Anaconda3\lib\site-packages\  
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6102 The deprecated function was deprecated in Matplotlib  
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6104 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
6105 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6106     from .axes3d import Axes3D  
6107 16  
6108 BAC  
6109 C  
6110 CFG  
6111 CMA
```

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6112 FITB
6113 FRC
6114 HBAN
6115 JPM
6116 MTB
6117 PBCT
6118 PNC
6119 RF
6120 SIVB
6121 TFC
6122 USB
6123 WFC
6124 ZION
6125 --- 41.540706396102905 seconds ---
6126 (4010.0, '2019 q2') 146
6127 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
6128 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6129     from .axes3d import Axes3D
6130 C:\ProgramData\Anaconda3\lib\site-packages\
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6131 The deprecated function was deprecated in Matplotlib
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6133 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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6134 The deprecated function was deprecated in Matplotlib
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6136 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
6137 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6138     from .axes3d import Axes3D
6139 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
6139 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6140 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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6142 C:\ProgramData\Anaconda3\lib\site-packages\  
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6143 The deprecated function was deprecated in Matplotlib  
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6146 The deprecated function was deprecated in Matplotlib  
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6151 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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6152 The deprecated function was deprecated in Matplotlib  
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6154 C:\ProgramData\Anaconda3\lib\site-packages\  
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6155 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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6159 from .axes3d import Axes3D
6160 C:\ProgramData\Anaconda3\lib\site-packages\
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6161 The deprecated function was deprecated in Matplotlib
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6169 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6170 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6171     from .axes3d import Axes3D
6172 16
6173 BAC
6174 C
6175 CFG
6176 CMA
6177 FITB
6178 FRC
6179 HBAN
6180 JPM
6181 MTB
6182 PBCT
6183 PNC
6184 RF
6185 SIVB
6186 TFC
```

```
6187 USB
6188 WFC
6189 ZION
6190 --- 36.125608682632446 seconds ---
6191 (4010.0, '2019 q3') 147
6192 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
6193 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6194     from .axes3d import Axes3D
6195 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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6202 The deprecated function was deprecated in Matplotlib
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6205 The deprecated function was deprecated in Matplotlib
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6207 C:\ProgramData\Anaconda3\lib\site-packages\
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6208 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
6209 from .axes3d import Axes3D
6210 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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6211 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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6213 C:\ProgramData\Anaconda3\lib\site-packages\
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6214 The deprecated function was deprecated in Matplotlib
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6216 C:\ProgramData\Anaconda3\lib\site-packages\
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6217 The deprecated function was deprecated in Matplotlib
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6219 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6220 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6221     from .axes3d import Axes3D
6222 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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6223 The deprecated function was deprecated in Matplotlib
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6225 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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6226 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6227     from .axes3d import Axes3D
6228 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

```
6229 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6230     from .axes3d import Axes3D
6231 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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6232 The deprecated function was deprecated in Matplotlib
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6233     from .axes3d import Axes3D
6234 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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6235 The deprecated function was deprecated in Matplotlib
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6236     from .axes3d import Axes3D
6237 16
6238 BAC
6239 C
6240 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
      /build_shapleyvalue.py:132: RuntimeWarning: Mean of
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6241     data = data.append({'Analyst': k, 'InfoContribution':
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6242 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
      \_methods.py:170: RuntimeWarning: invalid value
      encountered in double_scalars
6243     ret = ret.dtype.type(ret / rcount)
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6245     avg_similarity = cosine_matrix[np.triu_indices(np.
      shape(cosine_matrix)[1], k=1)].mean()
6246 CFG
6247 CMA
6248 FITB
6249 FRC
6250 HBAN
6251 JPM
6252 MTB
```

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6253 PBCT
6254 PNC
6255 RF
6256 SIVB
6257 TFC
6258 USB
6259 WFC
6260 ZION
6261 --- 47.22223615646362 seconds ---
6262 (4010.0, '2019 q4') 148
6263 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
6264 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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6266 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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6267 The deprecated function was deprecated in Matplotlib
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6269 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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6270 The deprecated function was deprecated in Matplotlib
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    mpl_toolkits\mplot3d\__init__.py:1:
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```

```
6278 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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6279 The deprecated function was deprecated in Matplotlib  
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6299 C:\ProgramData\Anaconda3\lib\site-packages\  
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6300 The deprecated function was deprecated in Matplotlib  
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6302 C:\ProgramData\Anaconda3\lib\site-packages\  
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6303 The deprecated function was deprecated in Matplotlib  
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6305 C:\ProgramData\Anaconda3\lib\site-packages\  
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6307     from .axes3d import Axes3D  
6308 16  
6309 BAC  
6310 C  
6311 CFG  
6312 CMA  
6313 FITB  
6314 FRC  
6315 HBAN  
6316 JPM  
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6320 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\  
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6321     ret = ret.dtype.type(ret / rcount)
```

```
6322 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
/build_shapleyvalue.py:139: RuntimeWarning: Mean of  
empty slice.  
6323     avg_similarity = cosine_matrix[np.triu_indices(np.  
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6324 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core  
\_methods.py:170: RuntimeWarning: invalid value  
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6325     ret = ret.dtype.type(ret / rcount)  
6326 MTB  
6327 PBCT  
6328 PNC  
6329 RF  
6330 SIVB  
6331 TFC  
6332 USB  
6333 WFC  
6334 ZION  
6335 --- 43.32195568084717 seconds ---  
6336 (4010.0, '2020 q1') 149  
6337 C:\ProgramData\Anaconda3\lib\site-packages\  
mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6338 The deprecated function was deprecated in Matplotlib  
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6340 C:\ProgramData\Anaconda3\lib\site-packages\  
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6346 C:\ProgramData\Anaconda3\lib\site-packages\  
mpl_toolkits\mplot3d\__init__.py:1:
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6346 MatplotlibDeprecationWarning:  
6347 The deprecated function was deprecated in Matplotlib  
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6350 The deprecated function was deprecated in Matplotlib  
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6352 C:\ProgramData\Anaconda3\lib\site-packages\  
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6359 The deprecated function was deprecated in Matplotlib  
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6367 C:\ProgramData\Anaconda3\lib\site-packages\  
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6381     from .axes3d import Axes3D  
6382 16  
6383 BAC  
6384 C  
6385 CFG  
6386 CMA  
6387 FITB  
6388 FRC  
6389 HBAN  
6390 JPM  
6391 MTB
```

```
6392 PBCT
6393 PNC
6394 RF
6395 SIVB
6396 TFC
6397 USB
6398 WFC
6399 ZION
6400 --- 39.496662616729736 seconds ---
6401 (4010.0, '2020 q2') 150
6402 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
6403 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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6417 C:\ProgramData\Anaconda3\lib\site-packages\  
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6446 from .axes3d import Axes3D  
6447 16  
6448 BAC  
6449 C  
6450 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of  
    empty slice.  
6451 data = data.append({'Analyst': k, 'InfoContribution':  
    np.array(shapley_value).mean()}, ignore_index=True)  
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6454 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
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6455 avg_similarity = cosine_matrix[np.triu_indices(np.  
    shape(cosine_matrix)[1], k=1)].mean()  
6456 CFG  
6457 CMA
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```
6458 FITB
6459 FRC
6460 HBAN
6461 JPM
6462 KEY
6463 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
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6465 MTB
6466 PBCT
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6468 RF
6469 SIVB
6470 TFC
6471 USB
6472 WFC
6473 ZION
6474 --- 43.49084401130676 seconds ---
6475 (4020.0, '2018 q1') 151
6476 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6477 The deprecated function was deprecated in Matplotlib
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6479 C:\ProgramData\Anaconda3\lib\site-packages\
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6482 C:\ProgramData\Anaconda3\lib\site-packages\
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6484     from .axes3d import Axes3D
6485 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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6485 MatplotlibDeprecationWarning:  
6486 The deprecated function was deprecated in Matplotlib  
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6506 C:\ProgramData\Anaconda3\lib\site-packages\  
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6521 16  
6522 AMP  
6523 BEN  
6524 BRKa  
6525 CME  
6526 COF  
6527 DFS  
6528 ETFC  
6529 GS  
6530 ICE
```

```
6531 IVZ
6532 MCO
6533 MKTX
6534 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
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6535     data = data.append({'Analyst': k, 'InfoContribution':
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6540 MS
6541 MSCI
6542 NDAQ
6543 NTRS
6544 RJF
6545 SCHW
6546 SPGI
6547 STT
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6550 SYF
6551 TROW
6552 --- 34.92329168319702 seconds ---
6553 (4020.0, '2018 q2') 152
6554 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
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6555 The deprecated function was deprecated in Matplotlib
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6607 GS  
6608 ICE  
6609 IVZ  
6610 MCO  
6611 MKTX  
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6625 \_methods.py:170: RuntimeWarning: invalid value
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6627 SYF
6628 TROW
6629 --- 34.83390665054321 seconds ---
6630 (4020.0, '2018 q3') 153
6631 C:\ProgramData\Anaconda3\lib\site-packages\
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6636     from .axes3d import Axes3D
6637 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6638 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6639     from .axes3d import Axes3D
6640 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6641 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6642     from .axes3d import Axes3D
6643 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6644 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6645     from .axes3d import Axes3D
6646 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

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6647 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6648     from .axes3d import Axes3D
6649 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
6650 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6651     from .axes3d import Axes3D
6652 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
6653 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6654     from .axes3d import Axes3D
6655 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
6656 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6657     from .axes3d import Axes3D
6658 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
6659 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6660     from .axes3d import Axes3D
6661 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
6662 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6663     from .axes3d import Axes3D
6664 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
6665 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6666     from .axes3d import Axes3D
6667 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
6667 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6668 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6669     from .axes3d import Axes3D  
6670 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6671 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6672     from .axes3d import Axes3D  
6673 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6674 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6675     from .axes3d import Axes3D  
6676 16  
6677 AMP  
6678 BEN  
6679 BLK  
6680 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of  
    empty slice.  
6681     data = data.append({'Analyst': k, 'InfoContribution':  
        np.array(shapley_value).mean()}, ignore_index=True)  
6682 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core  
    \_methods.py:170: RuntimeWarning: invalid value  
    encountered in double_scalars  
6683     ret = ret.dtype.type(ret / rcount)  
6684 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of  
    empty slice.  
6685     avg_similarity = cosine_matrix[np.triu_indices(np.  
        shape(cosine_matrix)[1], k=1)].mean()  
6686 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core  
    \_methods.py:170: RuntimeWarning: invalid value  
    encountered in true_divide  
6687     ret = ret.dtype.type(ret / rcount)
```

```
6688 BRKa
6689 CME
6690 COF
6691 DFS
6692 ETFC
6693 GS
6694 ICE
6695 IVZ
6696 MCO
6697 MKTX
6698 MS
6699 MSCI
6700 NDAQ
6701 NTRS
6702 RJF
6703 SCHW
6704 SPGI
6705 STT
6706 SYF
6707 TROW
6708 --- 36.609758138656616 seconds ---
6709 (4020.0, '2018 q4') 154
6710 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6711 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6712     from .axes3d import Axes3D
6713 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6714 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6715     from .axes3d import Axes3D
6716 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6717 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6718     from .axes3d import Axes3D
```

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6719 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
6720 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6721     from .axes3d import Axes3D  
6722 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
6723 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6724     from .axes3d import Axes3D  
6725 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
6726 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6727     from .axes3d import Axes3D  
6728 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
6729 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6730     from .axes3d import Axes3D  
6731 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
6732 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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6734 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
6735 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6736     from .axes3d import Axes3D  
6737 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
6738 The deprecated function was deprecated in Matplotlib
```

```
6738 3.4 and will be removed two minor releases later.  
6739     from .axes3d import Axes3D  
6740 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6741 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6742     from .axes3d import Axes3D  
6743 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6744 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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6746 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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6747 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6748     from .axes3d import Axes3D  
6749 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
6750 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6751     from .axes3d import Axes3D  
6752 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6753 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6754     from .axes3d import Axes3D  
6755 16  
6756 AMP  
6757 AXP  
6758 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of  
    empty slice.  
6759     data = data.append({'Analyst': k, 'InfoContribution':  
        np.array(shapley_value).mean()}, ignore_index=True
```

```
6759 )
6760 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
6761     ret = ret.dtype.type(ret / rcount)
6762 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
6763     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
6764 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
6765     ret = ret.dtype.type(ret / rcount)
6766 BEN
6767 BK
6768 BLK
6769 BRKa
6770 CME
6771 COF
6772 DFS
6773 ETFC
6774 GS
6775 ICE
6776 IVZ
6777 MCO
6778 MKTX
6779 MS
6780 MSCI
6781 NDAQ
6782 NTRS
6783 RJF
6784 SCHW
6785 SPGI
6786 STT
6787 SYF
6788 TROW
6789 --- 37.349448680877686 seconds ---
6790 (4020.0, '2019 q1') 155
6791 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
6791 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6792 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6793     from .axes3d import Axes3D  
6794 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6795 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6796     from .axes3d import Axes3D  
6797 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6798 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6799     from .axes3d import Axes3D  
6800 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6801 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6802     from .axes3d import Axes3D  
6803 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6804 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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6806 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6807 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6808     from .axes3d import Axes3D  
6809 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6810 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
6811 from .axes3d import Axes3D
6812 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6813 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6814     from .axes3d import Axes3D
6815 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6816 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6817     from .axes3d import Axes3D
6818 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6819 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6820     from .axes3d import Axes3D
6821 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6822 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6823     from .axes3d import Axes3D
6824 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6825 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6826     from .axes3d import Axes3D
6827 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
6828 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
6829     from .axes3d import Axes3D
6830 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

```
6831 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6832     from .axes3d import Axes3D
6833 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\matplotlib\__init__.py:1:
      MatplotlibDeprecationWarning:
6834 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6835     from .axes3d import Axes3D
6836 16
6837 AMP
6838 AXP
6839 BEN
6840 BK
6841 BLK
6842 BRKa
6843 CBOE
6844 CME
6845 COF
6846 DFS
6847 ETFC
6848 GS
6849 ICE
6850 IVZ
6851 MCO
6852 MKTX
6853 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
      /build_shapleyvalue.py:132: RuntimeWarning: Mean of
      empty slice.
6854     data = data.append({'Analyst': k, 'InfoContribution':
      ': np.array(shapley_value).mean()}, ignore_index=True
      )
6855 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
      \_methods.py:170: RuntimeWarning: invalid value
      encountered in double_scalars
6856     ret = ret.dtype.type(ret / rcount)
6857 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
      /build_shapleyvalue.py:139: RuntimeWarning: Mean of
      empty slice.
6858     avg_similarity = cosine_matrix[np.triu_indices(np.
```

```
6858 shape(cosine_matrix)[1], k=1)].mean()
6859 MS
6860 MSCI
6861 NDAQ
6862 NTRS
6863 RJF
6864 SCHW
6865 SPGI
6866 STT
6867 SYF
6868 TROW
6869 --- 38.64617371559143 seconds ---
6870 (4020.0, '2019 q2') 156
6871 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
6872 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
6873     from .axes3d import Axes3D
6874 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
6875 The deprecated function was deprecated in Matplotlib
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6877 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
6878 The deprecated function was deprecated in Matplotlib
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6879     from .axes3d import Axes3D
6880 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
6881 The deprecated function was deprecated in Matplotlib
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6882     from .axes3d import Axes3D
6883 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
6884 The deprecated function was deprecated in Matplotlib
       3.4 and will be removed two minor releases later.
6885     from .axes3d import Axes3D
6886 C:\ProgramData\Anaconda3\lib\site-packages\
       mpl_toolkits\mplot3d\__init__.py:1:
       MatplotlibDeprecationWarning:
6887 The deprecated function was deprecated in Matplotlib
       3.4 and will be removed two minor releases later.
6888     from .axes3d import Axes3D
6889 C:\ProgramData\Anaconda3\lib\site-packages\
       mpl_toolkits\mplot3d\__init__.py:1:
       MatplotlibDeprecationWarning:
6890 The deprecated function was deprecated in Matplotlib
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6892 C:\ProgramData\Anaconda3\lib\site-packages\
       mpl_toolkits\mplot3d\__init__.py:1:
       MatplotlibDeprecationWarning:
6893 The deprecated function was deprecated in Matplotlib
       3.4 and will be removed two minor releases later.
6894     from .axes3d import Axes3D
6895 C:\ProgramData\Anaconda3\lib\site-packages\
       mpl_toolkits\mplot3d\__init__.py:1:
       MatplotlibDeprecationWarning:
6896 The deprecated function was deprecated in Matplotlib
       3.4 and will be removed two minor releases later.
6897     from .axes3d import Axes3D
6898 C:\ProgramData\Anaconda3\lib\site-packages\
       mpl_toolkits\mplot3d\__init__.py:1:
       MatplotlibDeprecationWarning:
6899 The deprecated function was deprecated in Matplotlib
       3.4 and will be removed two minor releases later.
6900     from .axes3d import Axes3D
6901 C:\ProgramData\Anaconda3\lib\site-packages\
       mpl_toolkits\mplot3d\__init__.py:1:
       MatplotlibDeprecationWarning:
6902 The deprecated function was deprecated in Matplotlib
       3.4 and will be removed two minor releases later.
6903     from .axes3d import Axes3D
6904 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
6904 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6905 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6906     from .axes3d import Axes3D  
6907 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6908 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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6910 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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6911 The deprecated function was deprecated in Matplotlib  
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6912     from .axes3d import Axes3D  
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    mpl_toolkits\mplot3d\__init__.py:1:  
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6915     from .axes3d import Axes3D  
6916 16  
6917 AMP  
6918 AXP  
6919 BEN  
6920 BK  
6921 BLK  
6922 BRKa  
6923 CBOE  
6924 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of  
    empty slice.  
6925     data = data.append({'Analyst': k, 'InfoContribution'  
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6926 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core  
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```
6927     ret = ret.dtype.type(ret / rcount)
6928 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
       /build_shapleyvalue.py:139: RuntimeWarning: Mean of
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6929     avg_similarity = cosine_matrix[np.triu_indices(np.
       shape(cosine_matrix)[1], k=1)].mean()
6930 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
       \_methods.py:170: RuntimeWarning: invalid value
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6931     ret = ret.dtype.type(ret / rcount)
6932 CME
6933 COF
6934 DFS
6935 ETFC
6936 GS
6937 ICE
6938 IVZ
6939 MCO
6940 MKTX
6941 MS
6942 MSCI
6943 NDAQ
6944 NTRS
6945 RJF
6946 SCHW
6947 SPGI
6948 STT
6949 SYF
6950 TROW
6951 --- 37.03526496887207 seconds ---
6952 (4020.0, '2019 q3') 157
6953 C:\ProgramData\Anaconda3\lib\site-packages\
       mpl_toolkits\mplot3d\__init__.py:1:
       MatplotlibDeprecationWarning:
6954 The deprecated function was deprecated in Matplotlib
       3.4 and will be removed two minor releases later.
6955     from .axes3d import Axes3D
6956 C:\ProgramData\Anaconda3\lib\site-packages\
       mpl_toolkits\mplot3d\__init__.py:1:
       MatplotlibDeprecationWarning:
```

```
6957 The deprecated function was deprecated in Matplotlib
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6958     from .axes3d import Axes3D
6959 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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6960 The deprecated function was deprecated in Matplotlib
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6961     from .axes3d import Axes3D
6962 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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6963 The deprecated function was deprecated in Matplotlib
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6965 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
6966 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6967     from .axes3d import Axes3D
6968 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
6969 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6970     from .axes3d import Axes3D
6971 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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6972 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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6974 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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6975 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
6976     from .axes3d import Axes3D
6977 C:\ProgramData\Anaconda3\lib\site-packages\
```

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6977 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6978 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6979     from .axes3d import Axes3D  
6980 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6981 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
6982     from .axes3d import Axes3D  
6983 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6984 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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6986 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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6987 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
6990 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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6992 C:\ProgramData\Anaconda3\lib\site-packages\  
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6993 The deprecated function was deprecated in Matplotlib  
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6995 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
6996 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

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6997 from .axes3d import Axes3D
6998 16
6999 AMP
7000 AXP
7001 BEN
7002 BK
7003 BLK
7004 BRKa
7005 CBOE
7006 CME
7007 COF
7008 DFS
7009 ETFC
7010 GS
7011 ICE
7012 IVZ
7013 MCO
7014 MKTX
7015 MS
7016 MSCI
7017 NDAQ
7018 NTRS
7019 RJF
7020 SCHW
7021 SPGI
7022 STT
7023 SYF
7024 TROW
7025 --- 37.248180866241455 seconds ---
7026 (4020.0, '2019 q4') 158
7027 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7028 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7029     from .axes3d import Axes3D
7030 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7031 The deprecated function was deprecated in Matplotlib
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7031 3.4 and will be removed two minor releases later.  
7032     from .axes3d import Axes3D  
7033 C:\ProgramData\Anaconda3\lib\site-packages\  
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7034 The deprecated function was deprecated in Matplotlib  
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7035     from .axes3d import Axes3D  
7036 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
7037 The deprecated function was deprecated in Matplotlib  
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7038     from .axes3d import Axes3D  
7039 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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7040 The deprecated function was deprecated in Matplotlib  
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7042 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7043 The deprecated function was deprecated in Matplotlib  
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7045 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7046 The deprecated function was deprecated in Matplotlib  
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7048 C:\ProgramData\Anaconda3\lib\site-packages\  
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7049 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7050     from .axes3d import Axes3D  
7051 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:
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7051 MatplotlibDeprecationWarning:  
7052 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7053     from .axes3d import Axes3D  
7054 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
7055 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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7057 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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7058 The deprecated function was deprecated in Matplotlib  
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7060 C:\ProgramData\Anaconda3\lib\site-packages\  
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7061 The deprecated function was deprecated in Matplotlib  
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        MatplotlibDeprecationWarning:  
7064 The deprecated function was deprecated in Matplotlib  
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7066 C:\ProgramData\Anaconda3\lib\site-packages\  
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        MatplotlibDeprecationWarning:  
7067 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7068     from .axes3d import Axes3D  
7069 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
7070 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7071     from .axes3d import Axes3D
```

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7072 16
7073 AMP
7074 AXP
7075 BEN
7076 BK
7077 BLK
7078 BRKa
7079 CBOE
7080 CME
7081 COF
7082 DFS
7083 ETFC
7084 GS
7085 ICE
7086 IVZ
7087 MCO
7088 MKTX
7089 MS
7090 MSCI
7091 NDAQ
7092 NTRS
7093 RJF
7094 SCHW
7095 SPGI
7096 STT
7097 SYF
7098 TROW
7099 --- 40.2280387878418 seconds ---
7100 (4020.0, '2020 q1') 159
7101 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7102 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7103     from .axes3d import Axes3D
7104 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7105 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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7106 from .axes3d import Axes3D
7107 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7108 The deprecated function was deprecated in Matplotlib
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7109 from .axes3d import Axes3D
7110 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7111 The deprecated function was deprecated in Matplotlib
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7114 The deprecated function was deprecated in Matplotlib
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7117 The deprecated function was deprecated in Matplotlib
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        MatplotlibDeprecationWarning:
7120 The deprecated function was deprecated in Matplotlib
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7121 from .axes3d import Axes3D
7122 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7123 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7124 from .axes3d import Axes3D
7125 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
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7126 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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7128 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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7129 The deprecated function was deprecated in Matplotlib
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7130     from .axes3d import Axes3D
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7132 The deprecated function was deprecated in Matplotlib
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      mpl_toolkits\mplot3d\__init__.py:1:
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7138 The deprecated function was deprecated in Matplotlib
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      mpl_toolkits\mplot3d\__init__.py:1:
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7141 The deprecated function was deprecated in Matplotlib
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7144 The deprecated function was deprecated in Matplotlib
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7146 16
```

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7147 AMP
7148 AXP
7149 BEN
7150 BK
7151 BLK
7152 BRKa
7153 CBOE
7154 CME
7155 COF
7156 DFS
7157 ETFC
7158 GS
7159 ICE
7160 IVZ
7161 MCO
7162 MKTX
7163 MS
7164 MSCI
7165 NDAQ
7166 NTRS
7167 RJF
7168 SCHW
7169 SPGI
7170 STT
7171 SYF
7172 TROW
7173 --- 43.58435130119324 seconds ---
7174 (4020.0, '2020 q2') 160
7175 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7176 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7177     from .axes3d import Axes3D
7178 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7179 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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```

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7181 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
7182 The deprecated function was deprecated in Matplotlib  
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7184 C:\ProgramData\Anaconda3\lib\site-packages\  
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7185 The deprecated function was deprecated in Matplotlib  
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7187 C:\ProgramData\Anaconda3\lib\site-packages\  
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7188 The deprecated function was deprecated in Matplotlib  
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7190 C:\ProgramData\Anaconda3\lib\site-packages\  
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7191 The deprecated function was deprecated in Matplotlib  
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7193 C:\ProgramData\Anaconda3\lib\site-packages\  
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7194 The deprecated function was deprecated in Matplotlib  
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7196 C:\ProgramData\Anaconda3\lib\site-packages\  
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        MatplotlibDeprecationWarning:  
7197 The deprecated function was deprecated in Matplotlib  
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7198     from .axes3d import Axes3D  
7199 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
7200 The deprecated function was deprecated in Matplotlib
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7200 3.4 and will be removed two minor releases later.  
7201     from .axes3d import Axes3D  
7202 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7203 The deprecated function was deprecated in Matplotlib  
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7205 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7206 The deprecated function was deprecated in Matplotlib  
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7207     from .axes3d import Axes3D  
7208 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7209 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7210     from .axes3d import Axes3D  
7211 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7212 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7213     from .axes3d import Axes3D  
7214 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7215 The deprecated function was deprecated in Matplotlib  
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7216     from .axes3d import Axes3D  
7217 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7218 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7219     from .axes3d import Axes3D  
7220 16  
7221 AMP
```

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7222 AXP
7223 BEN
7224 BK
7225 BLK
7226 BRKa
7227 CB0E
7228 CME
7229 COF
7230 DFS
7231 ETFC
7232 GS
7233 ICE
7234 IVZ
7235 MCO
7236 MKTX
7237 MS
7238 MSCI
7239 NDAQ
7240 NTRS
7241 RJF
7242 SCHW
7243 SPGI
7244 STT
7245 SYF
7246 TROW
7247 --- 48.87473201751709 seconds ---
7248 (4030.0, '2018 q1') 161
7249 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
        MatplotlibDeprecationWarning:
7250 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7251     from .axes3d import Axes3D
7252 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
        MatplotlibDeprecationWarning:
7253 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7254     from .axes3d import Axes3D
7255 C:\ProgramData\Anaconda3\lib\site-packages\
```

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7255 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7256 The deprecated function was deprecated in Matplotlib  
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7257     from .axes3d import Axes3D  
7258 C:\ProgramData\Anaconda3\lib\site-packages\  
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7259 The deprecated function was deprecated in Matplotlib  
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7264 C:\ProgramData\Anaconda3\lib\site-packages\  
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7267 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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7268 The deprecated function was deprecated in Matplotlib  
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7270 C:\ProgramData\Anaconda3\lib\site-packages\  
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7271 The deprecated function was deprecated in Matplotlib  
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7273 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
7274 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

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7275 from .axes3d import Axes3D
7276 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7277 The deprecated function was deprecated in Matplotlib
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7278     from .axes3d import Axes3D
7279 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7280 The deprecated function was deprecated in Matplotlib
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7281     from .axes3d import Axes3D
7282 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7283 The deprecated function was deprecated in Matplotlib
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7284     from .axes3d import Axes3D
7285 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7286 The deprecated function was deprecated in Matplotlib
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7287     from .axes3d import Axes3D
7288 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7289 The deprecated function was deprecated in Matplotlib
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7290     from .axes3d import Axes3D
7291 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7292 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7293     from .axes3d import Axes3D
7294 16
7295 AFL
7296 AIG
```

```
7297 AIZ
7298 AJG
7299 ALL
7300 AON
7301 CB
7302 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
7303     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
7304 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
7305     ret = ret.dtype.type(ret / rcount)
7306 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
7307     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
7308 CINF
7309 GL
7310 HIG
7311 L
7312 LNC
7313 MET
7314 MMC
7315 PFG
7316 PGR
7317 PRU
7318 RE
7319 TRV
7320 UNM
7321 WLTW
7322 WRB
7323 --- 34.66474008560181 seconds ---
7324 (4030.0, '2018 q2') 162
7325 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

```
7326 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7327     from .axes3d import Axes3D
7328 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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7329 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7330     from .axes3d import Axes3D
7331 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
7332 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7333     from .axes3d import Axes3D
7334 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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7335 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7336     from .axes3d import Axes3D
7337 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
7338 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7339     from .axes3d import Axes3D
7340 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
7341 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7342     from .axes3d import Axes3D
7343 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
7344 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7345     from .axes3d import Axes3D
7346 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
7346 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7347 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7348     from .axes3d import Axes3D  
7349 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7350 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7351     from .axes3d import Axes3D  
7352 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7353 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7354     from .axes3d import Axes3D  
7355 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7356 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7357     from .axes3d import Axes3D  
7358 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7359 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7360     from .axes3d import Axes3D  
7361 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7362 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7363     from .axes3d import Axes3D  
7364 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7365 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
7366     from .axes3d import Axes3D
7367 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
7368 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7369     from .axes3d import Axes3D
7370 16
7371 AFL
7372 AIG
7373 AIZ
7374 AJG
7375 ALL
7376 AON
7377 CB
7378 CINF
7379 GL
7380 HIG
7381 L
7382 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
7383     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
7384 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
7385     ret = ret.dtype.type(ret / rcount)
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    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
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7387     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
7388 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
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7390 LNC
7391 MET
```

```
7392 MMC
7393 PFG
7394 PGR
7395 PRU
7396 RE
7397 TRV
7398 UNM
7399 WLTW
7400 WRB
7401 --- 33.25364685058594 seconds ---
7402 (4030.0, '2018 q3') 163
7403 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7404 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7405     from .axes3d import Axes3D
7406 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7409 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7410 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7411     from .axes3d import Axes3D
7412 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7413 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7414     from .axes3d import Axes3D
7415 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7416 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

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7417 from .axes3d import Axes3D
7418 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7419 The deprecated function was deprecated in Matplotlib
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7420     from .axes3d import Axes3D
7421 C:\ProgramData\Anaconda3\lib\site-packages\
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        MatplotlibDeprecationWarning:
7422 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7423     from .axes3d import Axes3D
7424 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7425 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7426     from .axes3d import Axes3D
7427 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7428 The deprecated function was deprecated in Matplotlib
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7430 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7431 The deprecated function was deprecated in Matplotlib
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7433 C:\ProgramData\Anaconda3\lib\site-packages\
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7437 The deprecated function was deprecated in Matplotlib
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7448 16
7449 AFL
7450 AIG
7451 AIZ
7452 AJG
7453 ALL
7454 AON
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7456 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
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7460 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
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7460 /build_shapleyvalue.py:139: RuntimeWarning: Mean of
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7461     avg_similarity = cosine_matrix[np.triu_indices(np.
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7462 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
\_methods.py:170: RuntimeWarning: invalid value
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7463     ret = ret.dtype.type(ret / rcount)
7464 CINF
7465 GL
7466 HIG
7467 L
7468 LNC
7469 MET
7470 MMC
7471 PFG
7472 PGR
7473 PRU
7474 RE
7475 TRV
7476 UNM
7477 WLTW
7478 WRB
7479 --- 33.735655784606934 seconds ---
7480 (4030.0, '2018 q4') 164
7481 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
7482 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
7483     from .axes3d import Axes3D
7484 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
7485 The deprecated function was deprecated in Matplotlib
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7486     from .axes3d import Axes3D
7487 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
```

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7490 C:\ProgramData\Anaconda3\lib\site-packages\
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7491 The deprecated function was deprecated in Matplotlib
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7493 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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7502 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
7503 The deprecated function was deprecated in Matplotlib
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7504     from .axes3d import Axes3D
7505 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
7506 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7507     from .axes3d import Axes3D
7508 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
7508 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7509 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7510     from .axes3d import Axes3D  
7511 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7512 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7513     from .axes3d import Axes3D  
7514 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7515 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7516     from .axes3d import Axes3D  
7517 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7518 The deprecated function was deprecated in Matplotlib  
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7520 C:\ProgramData\Anaconda3\lib\site-packages\  
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7523 C:\ProgramData\Anaconda3\lib\site-packages\  
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7525     from .axes3d import Axes3D  
7526 16  
7527 AFL  
7528 AIG  
7529 AIZ  
7530 AJG
```

```
7531 ALL
7532 AON
7533 CB
7534 CINF
7535 GL
7536 HIG
7537 L
7538 LNC
7539 MET
7540 MMC
7541 PFG
7542 PGR
7543 PRU
7544 RE
7545 TRV
7546 UNM
7547 WLTW
7548 WRB
7549 --- 34.47312593460083 seconds ---
7550 (4030.0, '2019 q1') 165
7551 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7552 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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7554 C:\ProgramData\Anaconda3\lib\site-packages\
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7557 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7558 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7559     from .axes3d import Axes3D
7560 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
```

```
7560 MatplotlibDeprecationWarning:  
7561 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
7562     from .axes3d import Axes3D  
7563 C:\ProgramData\Anaconda3\lib\site-packages\  
mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
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7566 C:\ProgramData\Anaconda3\lib\site-packages\  
mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7567 The deprecated function was deprecated in Matplotlib  
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7569 C:\ProgramData\Anaconda3\lib\site-packages\  
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7570 The deprecated function was deprecated in Matplotlib  
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7572 C:\ProgramData\Anaconda3\lib\site-packages\  
mpl_toolkits\mplot3d\__init__.py:1:  
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    MatplotlibDeprecationWarning:  
7576 The deprecated function was deprecated in Matplotlib  
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7578 C:\ProgramData\Anaconda3\lib\site-packages\  
mpl_toolkits\mplot3d\__init__.py:1:  
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```

```
7581 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
7582 The deprecated function was deprecated in Matplotlib  
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7596 16  
7597 AFL  
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7602 AON  
7603 CB  
7604 CINF  
7605 GL
```

```
7606 HIG
7607 L
7608 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
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7614 LNC
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7616 MMC
7617 PFG
7618 PGR
7619 PRU
7620 RE
7621 TRV
7622 UNM
7623 WLTW
7624 WRB
7625 --- 33.73186254501343 seconds ---
7626 (4030.0, '2019 q2') 166
7627 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7628 The deprecated function was deprecated in Matplotlib
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7630 C:\ProgramData\Anaconda3\lib\site-packages\
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7631 3.4 and will be removed two minor releases later.  
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7646 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7647     from .axes3d import Axes3D  
7648 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7649 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7650     from .axes3d import Axes3D  
7651 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:
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7651 MatplotlibDeprecationWarning:  
7652 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7653     from .axes3d import Axes3D  
7654 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
7655 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7656     from .axes3d import Axes3D  
7657 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
7658 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7659     from .axes3d import Axes3D  
7660 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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7661 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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7663 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
7664 The deprecated function was deprecated in Matplotlib  
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7665     from .axes3d import Axes3D  
7666 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
7667 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7668     from .axes3d import Axes3D  
7669 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
7670 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7671     from .axes3d import Axes3D
```

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7672 16
7673 AFL
7674 AIG
7675 AIZ
7676 AJG
7677 ALL
7678 AON
7679 CB
7680 CINF
7681 GL
7682 HIG
7683 L
7684 LNC
7685 MET
7686 MMC
7687 PFG
7688 PGR
7689 PRU
7690 RE
7691 TRV
7692 UNM
7693 WLTW
7694 WRB
7695 --- 33.819448709487915 seconds ---
7696 (4030.0, '2019 q3') 167
7697 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7698 The deprecated function was deprecated in Matplotlib
        3.4 and will be removed two minor releases later.
7699     from .axes3d import Axes3D
7700 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7701 The deprecated function was deprecated in Matplotlib
        3.4 and will be removed two minor releases later.
7702     from .axes3d import Axes3D
7703 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

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7704 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7705     from .axes3d import Axes3D
7706 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
7707 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7708     from .axes3d import Axes3D
7709 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
7710 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7711     from .axes3d import Axes3D
7712 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
7713 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7714     from .axes3d import Axes3D
7715 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
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7717     from .axes3d import Axes3D
7718 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
7719 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7720     from .axes3d import Axes3D
7721 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
7722 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7723     from .axes3d import Axes3D
7724 C:\ProgramData\Anaconda3\lib\site-packages\
```

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7724 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7725 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7726     from .axes3d import Axes3D  
7727 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7728 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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7730 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7731 The deprecated function was deprecated in Matplotlib  
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7733 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7734 The deprecated function was deprecated in Matplotlib  
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7736 C:\ProgramData\Anaconda3\lib\site-packages\  
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7737 The deprecated function was deprecated in Matplotlib  
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7738     from .axes3d import Axes3D  
7739 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
7740 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7741     from .axes3d import Axes3D  
7742 16  
7743 AFL  
7744 AIG  
7745 AIZ  
7746 AJG
```

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7747 ALL
7748 AON
7749 CB
7750 CINF
7751 GL
7752 HIG
7753 L
7754 LNC
7755 MET
7756 MMC
7757 PFG
7758 PGR
7759 PRU
7760 RE
7761 TRV
7762 UNM
7763 WLTW
7764 WRB
7765 --- 34.12631869316101 seconds ---
7766 (4030.0, '2019 q4') 168
7767 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7768 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7769     from .axes3d import Axes3D
7770 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7771 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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7773 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7774 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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7776 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7776 MatplotlibDeprecationWarning:  
7777 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
7778     from .axes3d import Axes3D  
7779 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
7780 The deprecated function was deprecated in Matplotlib  
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7781     from .axes3d import Axes3D  
7782 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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7783 The deprecated function was deprecated in Matplotlib  
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7784     from .axes3d import Axes3D  
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    mpl_toolkits\mplot3d\__init__.py:1:  
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7788 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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7791 C:\ProgramData\Anaconda3\lib\site-packages\  
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7794 C:\ProgramData\Anaconda3\lib\site-packages\  
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7797 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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7798 The deprecated function was deprecated in Matplotlib  
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7800 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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7801 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7802     from .axes3d import Axes3D  
7803 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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7804 The deprecated function was deprecated in Matplotlib  
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7809 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
7810 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7811     from .axes3d import Axes3D  
7812 16  
7813 AFL  
7814 AIG  
7815 AIZ  
7816 AJG  
7817 ALL  
7818 AON  
7819 CB  
7820 CINF  
7821 GL
```

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7822 HIG
7823 L
7824 LNC
7825 MET
7826 MMC
7827 PFG
7828 PGR
7829 PRU
7830 RE
7831 TRV
7832 UNM
7833 WLTW
7834 WRB
7835 --- 34.779322147369385 seconds ---
7836 (4030.0, '2020 q1') 169
7837 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
7838 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7839     from .axes3d import Axes3D
7840 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7841 The deprecated function was deprecated in Matplotlib
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7843 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7844 The deprecated function was deprecated in Matplotlib
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7845     from .axes3d import Axes3D
7846 C:\ProgramData\Anaconda3\lib\site-packages\
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    MatplotlibDeprecationWarning:
7847 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7848     from .axes3d import Axes3D
7849 C:\ProgramData\Anaconda3\lib\site-packages\
```

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7849 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7850 The deprecated function was deprecated in Matplotlib  
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7851     from .axes3d import Axes3D  
7852 C:\ProgramData\Anaconda3\lib\site-packages\  
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7853 The deprecated function was deprecated in Matplotlib  
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7855 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7856 The deprecated function was deprecated in Matplotlib  
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7858 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7859 The deprecated function was deprecated in Matplotlib  
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7860     from .axes3d import Axes3D  
7861 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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7862 The deprecated function was deprecated in Matplotlib  
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7864 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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7865 The deprecated function was deprecated in Matplotlib  
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7867 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7868 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
7869 from .axes3d import Axes3D
7870 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7871 The deprecated function was deprecated in Matplotlib
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7872     from .axes3d import Axes3D
7873 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
7874 The deprecated function was deprecated in Matplotlib
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7875     from .axes3d import Axes3D
7876 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7877 The deprecated function was deprecated in Matplotlib
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7879 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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7880 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
7881     from .axes3d import Axes3D
7882 16
7883 AFL
7884 AIG
7885 AIZ
7886 AJG
7887 ALL
7888 AON
7889 CB
7890 CINF
7891 GL
7892 HIG
7893 L
7894 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
    empty slice.
```

```
7895     data = data.append({'Analyst': k, 'InfoContribution': np.array(shapley_value).mean()}, ignore_index=True)
)
7896 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
\_methods.py:170: RuntimeWarning: invalid value
encountered in double_scalars
7897     ret = ret.dtype.type(ret / rcount)
7898 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
/build_shapleyvalue.py:139: RuntimeWarning: Mean of
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7899     avg_similarity = cosine_matrix[np.triu_indices(np.
shape(cosine_matrix)[1], k=1)].mean()
7900 LNC
7901 MET
7902 MMC
7903 PFG
7904 PGR
7905 PRU
7906 RE
7907 TRV
7908 UNM
7909 WLTW
7910 WRB
7911 --- 34.03007626533508 seconds ---
7912 (4030.0, '2020 q2') 170
7913 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
7914 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
7915     from .axes3d import Axes3D
7916 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
7917 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
7918     from .axes3d import Axes3D
7919 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
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7920 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
7921     from .axes3d import Axes3D
7922 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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7923 The deprecated function was deprecated in Matplotlib
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7924     from .axes3d import Axes3D
7925 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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7926 The deprecated function was deprecated in Matplotlib
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7928 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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7929 The deprecated function was deprecated in Matplotlib
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7931 C:\ProgramData\Anaconda3\lib\site-packages\
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7932 The deprecated function was deprecated in Matplotlib
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7934 C:\ProgramData\Anaconda3\lib\site-packages\
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7937 C:\ProgramData\Anaconda3\lib\site-packages\
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7940 C:\ProgramData\Anaconda3\lib\site-packages\
```

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7940 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7941 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7942     from .axes3d import Axes3D  
7943 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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7946 C:\ProgramData\Anaconda3\lib\site-packages\  
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7947 The deprecated function was deprecated in Matplotlib  
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7949 C:\ProgramData\Anaconda3\lib\site-packages\  
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7952 C:\ProgramData\Anaconda3\lib\site-packages\  
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7957     from .axes3d import Axes3D  
7958 16  
7959 AFL  
7960 AIG  
7961 AIZ  
7962 AJG
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7963 ALL
7964 AON
7965 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
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7966     data = data.append({'Analyst': k, 'InfoContribution':
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7968     ret = ret.dtype.type(ret / rcount)
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7971 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
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        encountered in true_divide
7972     ret = ret.dtype.type(ret / rcount)
7973 CB
7974 CINF
7975 GL
7976 HIG
7977 L
7978 LNC
7979 MET
7980 MMC
7981 PFG
7982 PGR
7983 PRU
7984 RE
7985 TRV
7986 UNM
7987 WLTW
7988 WRB
7989 --- 33.763781785964966 seconds ---
7990 (4510.0, '2018 q1') 171
7991 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
7991 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7992 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7993     from .axes3d import Axes3D  
7994 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7995 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7996     from .axes3d import Axes3D  
7997 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
7998 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
7999     from .axes3d import Axes3D  
8000 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8001 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8002     from .axes3d import Axes3D  
8003 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8004 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8005     from .axes3d import Axes3D  
8006 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8007 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8008     from .axes3d import Axes3D  
8009 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8010 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
8011 from .axes3d import Axes3D
8012 C:\ProgramData\Anaconda3\lib\site-packages\
     mpl_toolkits\mplot3d\__init__.py:1:
     MatplotlibDeprecationWarning:
8013 The deprecated function was deprecated in Matplotlib
     3.4 and will be removed two minor releases later.
8014 from .axes3d import Axes3D
8015 C:\ProgramData\Anaconda3\lib\site-packages\
     mpl_toolkits\mplot3d\__init__.py:1:
     MatplotlibDeprecationWarning:
8016 The deprecated function was deprecated in Matplotlib
     3.4 and will be removed two minor releases later.
8017 from .axes3d import Axes3D
8018 C:\ProgramData\Anaconda3\lib\site-packages\
     mpl_toolkits\mplot3d\__init__.py:1:
     MatplotlibDeprecationWarning:
8019 The deprecated function was deprecated in Matplotlib
     3.4 and will be removed two minor releases later.
8020 from .axes3d import Axes3D
8021 C:\ProgramData\Anaconda3\lib\site-packages\
     mpl_toolkits\mplot3d\__init__.py:1:
     MatplotlibDeprecationWarning:
8022 The deprecated function was deprecated in Matplotlib
     3.4 and will be removed two minor releases later.
8023 from .axes3d import Axes3D
8024 C:\ProgramData\Anaconda3\lib\site-packages\
     mpl_toolkits\mplot3d\__init__.py:1:
     MatplotlibDeprecationWarning:
8025 The deprecated function was deprecated in Matplotlib
     3.4 and will be removed two minor releases later.
8026 from .axes3d import Axes3D
8027 C:\ProgramData\Anaconda3\lib\site-packages\
     mpl_toolkits\mplot3d\__init__.py:1:
     MatplotlibDeprecationWarning:
8028 The deprecated function was deprecated in Matplotlib
     3.4 and will be removed two minor releases later.
8029 from .axes3d import Axes3D
8030 C:\ProgramData\Anaconda3\lib\site-packages\
     mpl_toolkits\mplot3d\__init__.py:1:
     MatplotlibDeprecationWarning:
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8031 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
8032     from .axes3d import Axes3D
8033 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\matplotlib\__init__.py:1:
      MatplotlibDeprecationWarning:
8034 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
8035     from .axes3d import Axes3D
8036 16
8037 ACN
8038 ADBE
8039 0
8040 1
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8046 7
8047 8
8048 9
8049 10
8050 11
8051 12
8052 13
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8054 15
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8058 ADP
8059 ADS
8060 ADSK
8061 AKAM
8062 CRM
8063 0
8064 1
8065 2
8066 3
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8067	4
8068	5
8069	6
8070	7
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8079	16
8080	17
8081	18
8082	19
8083	20
8084	21
8085	22
8086	23
8087	CTSH
8088	CTXS
8089	DXC
8090	FIS
8091	FISV
8092	FLT
8093	FTNT
8094	0
8095	1
8096	2
8097	3
8098	4
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8100	6
8101	7
8102	8
8103	9
8104	10
8105	11
8106	12

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8107 13
8108 14
8109 15
8110 16
8111 GPN
8112 IBM
8113 INTU
8114 IT
8115 JKHY
8116 MA
8117 MSFT
8118 NLOK
8119 NOW
8120 0
8121 1
8122 2
8123 3
8124 4
8125 5
8126 6
8127 7
8128 8
8129 9
8130 10
8131 11
8132 12
8133 13
8134 14
8135 15
8136 16
8137 ORCL
8138 PAYC
8139 PAYX
8140 PYPL
8141 V
8142 VRSN
8143 WU
8144 --- 10033.01960015297 seconds ---
8145 (4510.0, '2018 q2') 172
8146 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
8146 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8147 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8148     from .axes3d import Axes3D  
8149 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8150 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8151     from .axes3d import Axes3D  
8152 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8153 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8154     from .axes3d import Axes3D  
8155 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8156 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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8158 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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8159 The deprecated function was deprecated in Matplotlib  
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8160     from .axes3d import Axes3D  
8161 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8162 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8163     from .axes3d import Axes3D  
8164 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8165 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
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8166 from .axes3d import Axes3D
8167 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
8168 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
8169 from .axes3d import Axes3D
8170 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
8171 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
8172 from .axes3d import Axes3D
8173 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
8174 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
8175 from .axes3d import Axes3D
8176 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
8177 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
8178 from .axes3d import Axes3D
8179 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
8180 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
8181 from .axes3d import Axes3D
8182 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
8183 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
8184 from .axes3d import Axes3D
8185 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
```

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8186 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
8187     from .axes3d import Axes3D
8188 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\matplotlib\__init__.py:1:
      MatplotlibDeprecationWarning:
8189 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
8190     from .axes3d import Axes3D
8191 16
8192 ACN
8193 ADBE
8194 ADP
8195 ADS
8196 ADSK
8197 AKAM
8198 CRM
8199 0
8200 1
8201 2
8202 3
8203 4
8204 5
8205 6
8206 7
8207 8
8208 9
8209 10
8210 11
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8212 13
8213 14
8214 15
8215 16
8216 17
8217 18
8218 CTSH
8219 0
8220 1
8221 2
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8222	3
8223	4
8224	5
8225	6
8226	7
8227	8
8228	9
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8231	12
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8234	15
8235	16
8236	CTXS
8237	DXC
8238	FIS
8239	FISV
8240	FLT
8241	FTNT
8242	GPN
8243	IBM
8244	INTU
8245	IT
8246	JKHY
8247	MA
8248	MSFT
8249	NLOK
8250	0
8251	1
8252	2
8253	3
8254	4
8255	5
8256	6
8257	7
8258	8
8259	9
8260	10
8261	11

8262	12
8263	13
8264	14
8265	15
8266	16
8267	NOW
8268	0
8269	1
8270	2
8271	3
8272	4
8273	5
8274	6
8275	7
8276	8
8277	9
8278	10
8279	11
8280	12
8281	13
8282	14
8283	15
8284	16
8285	17
8286	18
8287	ORCL
8288	PAYC
8289	PAYX
8290	PYPL
8291	0
8292	1
8293	2
8294	3
8295	4
8296	5
8297	6
8298	7
8299	8
8300	9
8301	10

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8302 11
8303 12
8304 13
8305 14
8306 15
8307 16
8308 17
8309 SNPS
8310 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
        empty slice.
8311     data = data.append({'Analyst': k, 'InfoContribution':
        ': np.array(shapley_value).mean()}, ignore_index=True
    )
8312 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in double_scalars
8313     ret = ret.dtype.type(ret / rcount)
8314 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
    /build_shapleyvalue.py:139: RuntimeWarning: Mean of
        empty slice.
8315     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
8316 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
    \_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
8317     ret = ret.dtype.type(ret / rcount)
8318 V
8319 VRSN
8320 WU
8321 --- 9999.86241388321 seconds ---
8322 (4510.0, '2018 q3') 173
8323 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
8324 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
8325     from .axes3d import Axes3D
8326 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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8326 MatplotlibDeprecationWarning:  
8327 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
8328     from .axes3d import Axes3D  
8329 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
         MatplotlibDeprecationWarning:  
8330 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
8331     from .axes3d import Axes3D  
8332 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
         MatplotlibDeprecationWarning:  
8333 The deprecated function was deprecated in Matplotlib  
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8334     from .axes3d import Axes3D  
8335 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
         MatplotlibDeprecationWarning:  
8336 The deprecated function was deprecated in Matplotlib  
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8337     from .axes3d import Axes3D  
8338 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
         MatplotlibDeprecationWarning:  
8339 The deprecated function was deprecated in Matplotlib  
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8340     from .axes3d import Axes3D  
8341 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
         MatplotlibDeprecationWarning:  
8342 The deprecated function was deprecated in Matplotlib  
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8344 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
         MatplotlibDeprecationWarning:  
8345 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
8346     from .axes3d import Axes3D
```

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8347 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
8348 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8349     from .axes3d import Axes3D  
8350 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
8351 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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8353 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
8354 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8355     from .axes3d import Axes3D  
8356 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
8357 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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8359 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
8360 The deprecated function was deprecated in Matplotlib  
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8362 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
8363 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8364     from .axes3d import Axes3D  
8365 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
8366 The deprecated function was deprecated in Matplotlib
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8366 3.4 and will be removed two minor releases later.  
8367 from .axes3d import Axes3D  
8368 16  
8369 ACN  
8370 ADBE  
8371 0  
8372 1  
8373 2  
8374 3  
8375 4  
8376 5  
8377 6  
8378 7  
8379 8  
8380 9  
8381 10  
8382 11  
8383 12  
8384 13  
8385 14  
8386 15  
8387 16  
8388 ADP  
8389 ADS  
8390 ADSK  
8391 AKAM  
8392 BR  
8393 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
/build_shapleyvalue.py:132: RuntimeWarning: Mean of  
empty slice.  
8394     data = data.append({'Analyst': k, 'InfoContribution':  
'': np.array(shapley_value).mean()}, ignore_index=True  
)  
8395 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core  
\_methods.py:170: RuntimeWarning: invalid value  
encountered in double_scalars  
8396     ret = ret.dtype.type(ret / rcount)  
8397 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
/build_shapleyvalue.py:139: RuntimeWarning: Mean of  
empty slice.
```

```
8398     avg_similarity = cosine_matrix[np.triu_indices(np.
8399                                         shape(cosine_matrix)[1], k=1)].mean()
8400
8401 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
8402 \_methods.py:170: RuntimeWarning: invalid value
8403     encountered in true_divide
8404
8405     ret = ret.dtype.type(ret / rcount)
8406 CRM
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8424 17
8425 18
8426 CTSH
8427 CTXS
8428 DXC
8429 FIS
8430 FISV
8431 FLT
8432 DXC
8433 FTNT
8434 GPN
8435 IBM
8436 INTU
8437 IT
8438 JKHY
8439 MA
8440 0
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8435	1
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8448	14
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8450	16
8451	17
8452	MSFT
8453	NLOK
8454	NOW
8455	0
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8467	12
8468	13
8469	14
8470	15
8471	16
8472	ORCL
8473	0
8474	1

8475	2
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8488	15
8489	16
8490	PAYC
8491	PAYX
8492	PYPL
8493	0
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8502	9
8503	10
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8505	12
8506	13
8507	14
8508	15
8509	16
8510	17
8511	SNPS
8512	V
8513	0
8514	1

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8515 2
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8526 13
8527 14
8528 15
8529 16
8530 17
8531 VRSN
8532 WU
8533 --- 15291.870615959167 seconds ---
8534 (4510.0, '2018 q4') 174
8535 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
8536 The deprecated function was deprecated in Matplotlib
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8537     from .axes3d import Axes3D
8538 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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8539 The deprecated function was deprecated in Matplotlib
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8540     from .axes3d import Axes3D
8541 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
8542 The deprecated function was deprecated in Matplotlib
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8543     from .axes3d import Axes3D
8544 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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8544 MatplotlibDeprecationWarning:  
8545 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
8546     from .axes3d import Axes3D  
8547 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
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8548 The deprecated function was deprecated in Matplotlib  
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8549     from .axes3d import Axes3D  
8550 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
         MatplotlibDeprecationWarning:  
8551 The deprecated function was deprecated in Matplotlib  
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8552     from .axes3d import Axes3D  
8553 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
         MatplotlibDeprecationWarning:  
8554 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
8555     from .axes3d import Axes3D  
8556 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
         MatplotlibDeprecationWarning:  
8557 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
8558     from .axes3d import Axes3D  
8559 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
         MatplotlibDeprecationWarning:  
8560 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
8561     from .axes3d import Axes3D  
8562 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
         MatplotlibDeprecationWarning:  
8563 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
8564     from .axes3d import Axes3D
```

```
8565 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
8566 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8567     from .axes3d import Axes3D  
8568 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
8569 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8570     from .axes3d import Axes3D  
8571 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
8572 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8573     from .axes3d import Axes3D  
8574 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
8575 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8576     from .axes3d import Axes3D  
8577 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
8578 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8579     from .axes3d import Axes3D  
8580 16  
8581 ACN  
8582 ADBE  
8583 ADP  
8584 ADS  
8585 ADSK  
8586 AKAM  
8587 CDNS  
8588 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of
```

```
8588 empty slice.  
8589     data = data.append({'Analyst': k, 'InfoContribution':  
     '': np.array(shapley_value).mean()}, ignore_index=True  
 )  
8590 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core  
 \_methods.py:170: RuntimeWarning: invalid value  
 encountered in double_scalars  
8591     ret = ret.dtype.type(ret / rcount)  
8592 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
 /build_shapleyvalue.py:139: RuntimeWarning: Mean of  
 empty slice.  
8593     avg_similarity = cosine_matrix[np.triu_indices(np.  
 shape(cosine_matrix)[1], k=1)].mean()  
8594 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core  
 \_methods.py:170: RuntimeWarning: invalid value  
 encountered in true_divide  
8595     ret = ret.dtype.type(ret / rcount)  
8596 CRM  
8597 CTSH  
8598 0  
8599 1  
8600 2  
8601 3  
8602 4  
8603 5  
8604 6  
8605 7  
8606 8  
8607 9  
8608 10  
8609 11  
8610 12  
8611 13  
8612 14  
8613 15  
8614 16  
8615 17  
8616 18  
8617 CTXS  
8618 DXC
```

8619	FIS
8620	FISV
8621	FLT
8622	FTNT
8623	GPN
8624	0
8625	1
8626	2
8627	3
8628	4
8629	5
8630	6
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8632	8
8633	9
8634	10
8635	11
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8637	13
8638	14
8639	15
8640	16
8641	17
8642	18
8643	IBM
8644	INTU
8645	IT
8646	JKHY
8647	MA
8648	MSFT
8649	NLOK
8650	NOW
8651	ORCL
8652	PAYC
8653	PAYX
8654	PYPL
8655	0
8656	1
8657	2
8658	3

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8659 4
8660 5
8661 6
8662 7
8663 8
8664 9
8665 10
8666 11
8667 12
8668 13
8669 14
8670 15
8671 16
8672 17
8673 18
8674 SNPS
8675 V
8676 VRSN
8677 WU
8678 --- 1574.3635878562927 seconds ---
8679 (4510.0, '2019 q1') 175
8680 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
8681 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
8682     from .axes3d import Axes3D
8683 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
8684 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
8685     from .axes3d import Axes3D
8686 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
8687 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
8688     from .axes3d import Axes3D
8689 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
8689 mpl_toolkits\mplot3d\__init__.py:1:  
     MatplotlibDeprecationWarning:  
8690 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
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8692 C:\ProgramData\Anaconda3\lib\site-packages\  
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8693 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
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8695 C:\ProgramData\Anaconda3\lib\site-packages\  
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8696 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
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8698 C:\ProgramData\Anaconda3\lib\site-packages\  
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8699 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
8700     from .axes3d import Axes3D  
8701 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
     MatplotlibDeprecationWarning:  
8702 The deprecated function was deprecated in Matplotlib  
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8703     from .axes3d import Axes3D  
8704 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
     MatplotlibDeprecationWarning:  
8705 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.  
8706     from .axes3d import Axes3D  
8707 C:\ProgramData\Anaconda3\lib\site-packages\  
     mpl_toolkits\mplot3d\__init__.py:1:  
     MatplotlibDeprecationWarning:  
8708 The deprecated function was deprecated in Matplotlib  
     3.4 and will be removed two minor releases later.
```

```
8709     from .axes3d import Axes3D
8710 C:\ProgramData\Anaconda3\lib\site-packages\
8711     mpl_toolkits\mplot3d\__init__.py:1:
8712     MatplotlibDeprecationWarning:
8713 The deprecated function was deprecated in Matplotlib
8714     3.4 and will be removed two minor releases later.
8715     from .axes3d import Axes3D
8716 C:\ProgramData\Anaconda3\lib\site-packages\
8717     mpl_toolkits\mplot3d\__init__.py:1:
8718     MatplotlibDeprecationWarning:
8719 The deprecated function was deprecated in Matplotlib
8720     3.4 and will be removed two minor releases later.
8721     from .axes3d import Axes3D
8722 C:\ProgramData\Anaconda3\lib\site-packages\
8723     mpl_toolkits\mplot3d\__init__.py:1:
8724     MatplotlibDeprecationWarning:
8725 The deprecated function was deprecated in Matplotlib
8726     3.4 and will be removed two minor releases later.
8727     from .axes3d import Axes3D
8728 16
8729 ACN
8730 ADBE
8731 ADP
8732 ADS
8733 ADSK
8734 AKAM
8735 BR
8736 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
```

```
8733 /build_shapleyvalue.py:132: RuntimeWarning: Mean of
empty slice.
8734     data = data.append({'Analyst': k, 'InfoContribution':
8735         ': np.array(shapley_value).mean()}, ignore_index=True
8736     )
8735 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
8736 \_methods.py:170: RuntimeWarning: invalid value
8737     encountered in double_scalars
8738     ret = ret.dtype.type(ret / rcount)
8737 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
8738 /build_shapleyvalue.py:139: RuntimeWarning: Mean of
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8739     avg_similarity = cosine_matrix[np.triu_indices(np.
8740         shape(cosine_matrix)[1], k=1)].mean()
8739 CDNS
8740 CRM
8741 0
8742 1
8743 2
8744 3
8745 4
8746 5
8747 6
8748 7
8749 8
8750 9
8751 10
8752 11
8753 12
8754 13
8755 14
8756 15
8757 16
8758 CTSH
8759 CTXS
8760 DXC
8761 FIS
8762 FISV
8763 FLT
8764 FTNT
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8765 GPN
8766 0
8767 1
8768 2
8769 3
8770 4
8771 5
8772 6
8773 7
8774 8
8775 9
8776 10
8777 11
8778 12
8779 13
8780 14
8781 15
8782 16
8783 17
8784 IBM
8785 INTU
8786 IT
8787 JKHY
8788 MA
8789 MSFT
8790 NLOK
8791 NOW
8792 ORCL
8793 PAYC
8794 PAYX
8795 PYPL
8796 SNPS
8797 V
8798 VRSN
8799 WU
8800 --- 4959.030491113663 seconds ---
8801 (4510.0, '2019 q2') 176
8802 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
```

```
8803 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
8804     from .axes3d import Axes3D
8805 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
8806 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
8807     from .axes3d import Axes3D
8808 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
8809 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
8810     from .axes3d import Axes3D
8811 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
8812 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
8813     from .axes3d import Axes3D
8814 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
8815 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
8816     from .axes3d import Axes3D
8817 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
8818 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
8819     from .axes3d import Axes3D
8820 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
8821 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
8822     from .axes3d import Axes3D
8823 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
8823 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8824 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8825     from .axes3d import Axes3D  
8826 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8827 The deprecated function was deprecated in Matplotlib  
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8828     from .axes3d import Axes3D  
8829 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8830 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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8832 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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8833 The deprecated function was deprecated in Matplotlib  
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8835 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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8836 The deprecated function was deprecated in Matplotlib  
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8838 C:\ProgramData\Anaconda3\lib\site-packages\  
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8839 The deprecated function was deprecated in Matplotlib  
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8841 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
8842 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
8843     from .axes3d import Axes3D
8844 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
8845 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
8846     from .axes3d import Axes3D
8847 16
8848 ACN
8849 ADBE
8850 ADP
8851 ADS
8852 ADSK
8853 AKAM
8854 BR
8855 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
/build_shapleyvalue.py:132: RuntimeWarning: Mean of
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8856     data = data.append({'Analyst': k, 'InfoContribution':
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\_methods.py:170: RuntimeWarning: invalid value
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8858     ret = ret.dtype.type(ret / rcount)
8859 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
/build_shapleyvalue.py:139: RuntimeWarning: Mean of
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8860     avg_similarity = cosine_matrix[np.triu_indices(np.
shape(cosine_matrix)[1], k=1)].mean()
8861 CDNS
8862 CRM
8863 0
8864 1
8865 2
8866 3
8867 4
8868 5
8869 6
8870 7
```

8871	8
8872	9
8873	10
8874	11
8875	12
8876	13
8877	14
8878	15
8879	16
8880	17
8881	18
8882	CTSH
8883	0
8884	1
8885	2
8886	3
8887	4
8888	5
8889	6
8890	7
8891	8
8892	9
8893	10
8894	11
8895	12
8896	13
8897	14
8898	15
8899	16
8900	17
8901	18
8902	19
8903	CTXS
8904	DXC
8905	FIS
8906	FISV
8907	FLT
8908	FTNT
8909	GPN
8910	0

8911	1
8912	2
8913	3
8914	4
8915	5
8916	6
8917	7
8918	8
8919	9
8920	10
8921	11
8922	12
8923	13
8924	14
8925	15
8926	16
8927	17
8928	18
8929	19
8930	IBM
8931	INTU
8932	IT
8933	JKHY
8934	MA
8935	MSFT
8936	NLOK
8937	NOW
8938	0
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8941	3
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8943	5
8944	6
8945	7
8946	8
8947	9
8948	10
8949	11
8950	12

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8951 13
8952 14
8953 15
8954 16
8955 17
8956 ORCL
8957 PAYC
8958 PAYX
8959 PYPL
8960 0
8961 1
8962 2
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8967 7
8968 8
8969 9
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8971 11
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8973 13
8974 14
8975 15
8976 16
8977 17
8978 SNPS
8979 V
8980 VRSN
8981 WU
8982 --- 2894.761818408966 seconds ---
8983 (4510.0, '2019 q3') 177
8984 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
8985 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
8986     from .axes3d import Axes3D
8987 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
8987 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8988 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8989     from .axes3d import Axes3D  
8990 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8991 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8992     from .axes3d import Axes3D  
8993 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
8994 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
8995     from .axes3d import Axes3D  
8996 C:\ProgramData\Anaconda3\lib\site-packages\  
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8999 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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9000 The deprecated function was deprecated in Matplotlib  
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9002 C:\ProgramData\Anaconda3\lib\site-packages\  
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9003 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9006 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
9007 from .axes3d import Axes3D
9008 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9009 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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9011 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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9012 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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9014 C:\ProgramData\Anaconda3\lib\site-packages\
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        MatplotlibDeprecationWarning:
9015 The deprecated function was deprecated in Matplotlib
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9016     from .axes3d import Axes3D
9017 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
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9018 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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9020 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9021 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9022     from .axes3d import Axes3D
9023 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9024 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9025     from .axes3d import Axes3D
9026 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
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9027 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9028     from .axes3d import Axes3D
9029 16
9030 ACN
9031 ADBE
9032 ADP
9033 ADS
9034 ADSK
9035 AKAM
9036 BR
9037 CDNS
9038 CRM
9039 CTSH
9040 CTXS
9041 DXC
9042 FIS
9043 FISV
9044 FLT
9045 FTNT
9046 GPN
9047 IBM
9048 INTU
9049 IT
9050 JKHY
9051 MA
9052 MSFT
9053 NLOK
9054 NOW
9055 0
9056 1
9057 2
9058 3
9059 4
9060 5
9061 6
9062 7
9063 8
9064 9
9065 10
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9066 11
9067 12
9068 13
9069 14
9070 15
9071 16
9072 ORCL
9073 PAYC
9074 PAYX
9075 PYPL
9076 0
9077 1
9078 2
9079 3
9080 4
9081 5
9082 6
9083 7
9084 8
9085 9
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9095 19
9096 20
9097 SNPS
9098 V
9099 VRSN
9100 WU
9101 --- 5238.741458415985 seconds ---
9102 (4510.0, '2019 q4') 178
9103 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
```

```
9104 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9105     from .axes3d import Axes3D
9106 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9107 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9108     from .axes3d import Axes3D
9109 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9110 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9111     from .axes3d import Axes3D
9112 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9113 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9114     from .axes3d import Axes3D
9115 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9116 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9117     from .axes3d import Axes3D
9118 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9119 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9120     from .axes3d import Axes3D
9121 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9122 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9123     from .axes3d import Axes3D
9124 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
9124 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9125 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9126     from .axes3d import Axes3D  
9127 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9128 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9129     from .axes3d import Axes3D  
9130 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9131 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9132     from .axes3d import Axes3D  
9133 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9134 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9135     from .axes3d import Axes3D  
9136 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9137 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9138     from .axes3d import Axes3D  
9139 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9140 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9141     from .axes3d import Axes3D  
9142 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9143 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
9144     from .axes3d import Axes3D
9145 C:\ProgramData\Anaconda3\lib\site-packages\
9146     mpl_toolkits\matplotlib\__init__.py:1:
9147         MatplotlibDeprecationWarning:
9148 The deprecated function was deprecated in Matplotlib
9149     3.4 and will be removed two minor releases later.
9150     from .axes3d import Axes3D
9151 16
9152 ACN
9153 ADBE
9154 ADP
9155 ADS
9156 ADSK
9157 AKAM
9158 BR
9159 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
9160 /build_shapleyvalue.py:132: RuntimeWarning: Mean of
9161     empty slice.
9162     data = data.append({'Analyst': k, 'InfoContribution':
9163         ': np.array(shapley_value).mean()}, ignore_index=True
9164     )
9165 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
9166     \_methods.py:170: RuntimeWarning: invalid value
9167     encountered in double_scalars
9168     ret = ret.dtype.type(ret / rcount)
9169 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
9170 /build_shapleyvalue.py:139: RuntimeWarning: Mean of
9171     empty slice.
9172     avg_similarity = cosine_matrix[np.triu_indices(np.
9173         shape(cosine_matrix)[1], k=1)].mean()
9174 CDNS
9175 CRM
9176 0
9177 1
9178 2
9179 3
9180 4
9181 5
9182 6
9183 7
```

9172	8
9173	9
9174	10
9175	11
9176	12
9177	13
9178	14
9179	15
9180	16
9181	17
9182	CTSH
9183	0
9184	1
9185	2
9186	3
9187	4
9188	5
9189	6
9190	7
9191	8
9192	9
9193	10
9194	11
9195	12
9196	13
9197	14
9198	15
9199	16
9200	CTXS
9201	DXC
9202	FIS
9203	FISV
9204	FLT
9205	FTNT
9206	GPN
9207	IBM
9208	INTU
9209	IT
9210	JKHY
9211	MA

```
9212 MSFT
9213 NLOK
9214 NOW
9215 ORCL
9216 PAYC
9217 PAYX
9218 PYPL
9219 SNPS
9220 V
9221 VRSN
9222 WU
9223 --- 5395.2182533741 seconds ---
9224 (4510.0, '2020 q1') 179
9225 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9226 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9227     from .axes3d import Axes3D
9228 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9229 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9230     from .axes3d import Axes3D
9231 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9232 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9233     from .axes3d import Axes3D
9234 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9235 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9236     from .axes3d import Axes3D
9237 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
9238 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9239     from .axes3d import Axes3D
9240 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9241 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9242     from .axes3d import Axes3D
9243 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9244 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9245     from .axes3d import Axes3D
9246 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9247 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9248     from .axes3d import Axes3D
9249 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9250 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9251     from .axes3d import Axes3D
9252 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9253 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9254     from .axes3d import Axes3D
9255 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9256 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9257     from .axes3d import Axes3D
9258 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
9258 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9259 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9260     from .axes3d import Axes3D  
9261 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9262 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9263     from .axes3d import Axes3D  
9264 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9265 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9266     from .axes3d import Axes3D  
9267 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9268 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9269     from .axes3d import Axes3D  
9270 16  
9271 ACN  
9272 0  
9273 1  
9274 2  
9275 3  
9276 4  
9277 5  
9278 6  
9279 7  
9280 8  
9281 9  
9282 10  
9283 11  
9284 12  
9285 13  
9286 14
```

9287	15
9288	16
9289	ADBE
9290	ADP
9291	ADS
9292	ADSK
9293	AKAM
9294	BR
9295	CDNS
9296	CRM
9297	CTSH
9298	CTXS
9299	DXC
9300	FIS
9301	FISV
9302	0
9303	1
9304	2
9305	3
9306	4
9307	5
9308	6
9309	7
9310	8
9311	9
9312	10
9313	11
9314	12
9315	13
9316	14
9317	15
9318	16
9319	FLT
9320	FTNT
9321	GPN
9322	IBM
9323	INTU
9324	IT
9325	JKHY
9326	MA

9327	0
9328	1
9329	2
9330	3
9331	4
9332	5
9333	6
9334	7
9335	8
9336	9
9337	10
9338	11
9339	12
9340	13
9341	14
9342	15
9343	16
9344	17
9345	18
9346	MSFT
9347	NLOK
9348	NOW
9349	0
9350	1
9351	2
9352	3
9353	4
9354	5
9355	6
9356	7
9357	8
9358	9
9359	10
9360	11
9361	12
9362	13
9363	14
9364	15
9365	16
9366	17

```
9367 18
9368 19
9369 ORCL
9370 0
9371 1
9372 2
9373 3
9374 4
9375 5
9376 6
9377 7
9378 8
9379 9
9380 10
9381 11
9382 12
9383 13
9384 14
9385 15
9386 16
9387 PAYC
9388 PAYX
9389 PYPL
9390 SNPS
9391 V
9392 VRSN
9393 WU
9394 --- 14628.429368495941 seconds ---
9395 (4510.0, '2020 q2') 180
9396 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9397 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9398     from .axes3d import Axes3D
9399 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9400 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
9401 from .axes3d import Axes3D
9402 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9403 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9404 from .axes3d import Axes3D
9405 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9406 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9407 from .axes3d import Axes3D
9408 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9409 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9410 from .axes3d import Axes3D
9411 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9412 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9413 from .axes3d import Axes3D
9414 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9415 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9416 from .axes3d import Axes3D
9417 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9418 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9419 from .axes3d import Axes3D
9420 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
9421 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9422     from .axes3d import Axes3D
9423 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9424 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9425     from .axes3d import Axes3D
9426 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9427 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9428     from .axes3d import Axes3D
9429 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9430 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9431     from .axes3d import Axes3D
9432 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9433 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9434     from .axes3d import Axes3D
9435 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9436 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9437     from .axes3d import Axes3D
9438 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9439 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9440     from .axes3d import Axes3D
9441 16
```

9442	ACN
9443	ADBE
9444	ADP
9445	ADS
9446	ADSK
9447	AKAM
9448	BR
9449	CDNS
9450	CRM
9451	0
9452	1
9453	2
9454	3
9455	4
9456	5
9457	6
9458	7
9459	8
9460	9
9461	10
9462	11
9463	12
9464	13
9465	14
9466	15
9467	16
9468	17
9469	CTSH
9470	CTXS
9471	DXC
9472	FIS
9473	0
9474	1
9475	2
9476	3
9477	4
9478	5
9479	6
9480	7
9481	8

9482	9
9483	10
9484	11
9485	12
9486	13
9487	14
9488	15
9489	16
9490	FISV
9491	FLT
9492	FTNT
9493	GPN
9494	IBM
9495	INTU
9496	IT
9497	JKHY
9498	MA
9499	MSFT
9500	NLOK
9501	NOW
9502	ORCL
9503	PAYC
9504	PAYX
9505	PYPL
9506	0
9507	1
9508	2
9509	3
9510	4
9511	5
9512	6
9513	7
9514	8
9515	9
9516	10
9517	11
9518	12
9519	13
9520	14
9521	15

```
9522 16
9523 SNPS
9524 V
9525 VRSN
9526 WU
9527 --- 9757.664186239243 seconds ---
9528 (4520.0, '2018 q1') 181
9529 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
9530 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9531     from .axes3d import Axes3D
9532 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
9533 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9534     from .axes3d import Axes3D
9535 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
9536 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9537     from .axes3d import Axes3D
9538 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
9539 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9540     from .axes3d import Axes3D
9541 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
9542 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9543     from .axes3d import Axes3D
9544 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
```

```
9545 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9546     from .axes3d import Axes3D
9547 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9548 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9549     from .axes3d import Axes3D
9550 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9551 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9552     from .axes3d import Axes3D
9553 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9554 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9555     from .axes3d import Axes3D
9556 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9557 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9558     from .axes3d import Axes3D
9559 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9560 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9561     from .axes3d import Axes3D
9562 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9563 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9564     from .axes3d import Axes3D
9565 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
9565 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9566 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9567     from .axes3d import Axes3D  
9568 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9569 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9570     from .axes3d import Axes3D  
9571 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9572 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9573     from .axes3d import Axes3D  
9574 16  
9575 AAPL  
9576 ANET  
9577 APH  
9578 CDW  
9579 CSCO  
9580 FFIV  
9581 FLIR  
9582 GLW  
9583 HPE (1)  
9584 HPQ  
9585 IPGP  
9586 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials  
    /build_shapleyvalue.py:132: RuntimeWarning: Mean of  
    empty slice.  
9587     data = data.append({'Analyst': k, 'InfoContribution'  
        ': np.array(shapley_value).mean()}, ignore_index=True  
    )  
9588 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core  
    \_methods.py:170: RuntimeWarning: invalid value  
    encountered in double_scalars  
9589     ret = ret.dtype.type(ret / rcount)  
9590 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials
```

```
9590 /build_shapleyvalue.py:139: RuntimeWarning: Mean of
empty slice.
9591     avg_similarity = cosine_matrix[np.triu_indices(np.
shape(cosine_matrix)[1], k=1)].mean()
9592 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core
\_methods.py:170: RuntimeWarning: invalid value
encountered in true_divide
9593     ret = ret.dtype.type(ret / rcount)
9594 JNPR
9595 KEYS
9596 MSI
9597 NTAP
9598 STX
9599 TEL
9600 WDC
9601 ZBRA
9602 --- 51.6856427192688 seconds ---
9603 (4520.0, '2018 q2') 182
9604 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9605 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9606     from .axes3d import Axes3D
9607 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9608 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9609     from .axes3d import Axes3D
9610 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9611 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9612     from .axes3d import Axes3D
9613 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9614 The deprecated function was deprecated in Matplotlib
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9614 3.4 and will be removed two minor releases later.  
9615     from .axes3d import Axes3D  
9616 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9617 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9618     from .axes3d import Axes3D  
9619 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9620 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9621     from .axes3d import Axes3D  
9622 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9623 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9624     from .axes3d import Axes3D  
9625 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9626 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9627     from .axes3d import Axes3D  
9628 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9629 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9630     from .axes3d import Axes3D  
9631 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9632 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9633     from .axes3d import Axes3D  
9634 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:
```

```
9634 MatplotlibDeprecationWarning:  
9635 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
9636     from .axes3d import Axes3D  
9637 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
9638 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
9639     from .axes3d import Axes3D  
9640 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
9641 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
9642     from .axes3d import Axes3D  
9643 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
9644 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
9645     from .axes3d import Axes3D  
9646 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
9647 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
9648     from .axes3d import Axes3D  
9649 16  
9650 AAPL  
9651 0  
9652 1  
9653 2  
9654 3  
9655 4  
9656 5  
9657 6  
9658 7  
9659 8  
9660 9
```

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9661 10
9662 11
9663 12
9664 13
9665 14
9666 15
9667 16
9668 ANET
9669 APH
9670 CDW
9671 CSCO
9672 FFIV
9673 FLIR
9674 GLW
9675 HPE (1)
9676 HPQ
9677 IPGP
9678 JNPR
9679 KEYS
9680 MSI
9681 NTAP
9682 STX
9683 TEL
9684 WDC
9685 ZBRA
9686 --- 4548.875704050064 seconds ---
9687 (4520.0, '2018 q3') 183
9688 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
9689 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9690     from .axes3d import Axes3D
9691 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
9692 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9693     from .axes3d import Axes3D
9694 C:\ProgramData\Anaconda3\lib\site-packages\
```

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9694 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9695 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9696     from .axes3d import Axes3D  
9697 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9698 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9699     from .axes3d import Axes3D  
9700 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9701 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9702     from .axes3d import Axes3D  
9703 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9704 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9705     from .axes3d import Axes3D  
9706 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9707 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9708     from .axes3d import Axes3D  
9709 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9710 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9711     from .axes3d import Axes3D  
9712 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9713 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
9714     from .axes3d import Axes3D
9715 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9716 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9717     from .axes3d import Axes3D
9718 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9719 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9720     from .axes3d import Axes3D
9721 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9722 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9723     from .axes3d import Axes3D
9724 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9725 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9726     from .axes3d import Axes3D
9727 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9728 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9729     from .axes3d import Axes3D
9730 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\mplot3d\__init__.py:1:
MatplotlibDeprecationWarning:
9731 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
9732     from .axes3d import Axes3D
9733 16
9734 AAPL
9735 ANET
```

```
9736 APH
9737 CDW
9738 CSCO
9739 FFIV
9740 FLIR
9741 GLW
9742 HPE (1)
9743 HPQ
9744 IPGP
9745 JNPR
9746 KEYS
9747 MSI
9748 NTAP
9749 STX
9750 TEL
9751 WDC
9752 ZBRA
9753 --- 47.210057497024536 seconds ---
9754 (4520.0, '2018 q4') 184
9755 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
9756 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9757     from .axes3d import Axes3D
9758 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
9759 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9760     from .axes3d import Axes3D
9761 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
9762 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9763     from .axes3d import Axes3D
9764 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
```

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9765 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9766     from .axes3d import Axes3D
9767 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9768 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9769     from .axes3d import Axes3D
9770 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9771 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9772     from .axes3d import Axes3D
9773 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9774 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9775     from .axes3d import Axes3D
9776 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9777 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9778     from .axes3d import Axes3D
9779 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9780 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9781     from .axes3d import Axes3D
9782 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9783 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9784     from .axes3d import Axes3D
9785 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
9785 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9786 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9787     from .axes3d import Axes3D  
9788 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9789 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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9791 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9792 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9793     from .axes3d import Axes3D  
9794 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9795 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9796     from .axes3d import Axes3D  
9797 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9798 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9799     from .axes3d import Axes3D  
9800 16  
9801 AAPL  
9802 0  
9803 1  
9804 2  
9805 3  
9806 4  
9807 5  
9808 6  
9809 7  
9810 8
```

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9811 9
9812 10
9813 11
9814 12
9815 13
9816 14
9817 15
9818 16
9819 17
9820 ANET
9821 APH
9822 CDW
9823 CSCO
9824 FFIV
9825 FLIR
9826 GLW
9827 HPE (1)
9828 HPQ
9829 IPGP
9830 JNPR
9831 KEYS
9832 MSI
9833 NTAP
9834 STX
9835 TEL
9836 WDC
9837 ZBRA
9838 --- 642.2851343154907 seconds ---
9839 (4520.0, '2019 q1') 185
9840 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9841 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9842     from .axes3d import Axes3D
9843 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9844 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
9845 from .axes3d import Axes3D
9846 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9847 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9848     from .axes3d import Axes3D
9849 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9850 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9851     from .axes3d import Axes3D
9852 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9853 The deprecated function was deprecated in Matplotlib
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9854     from .axes3d import Axes3D
9855 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9856 The deprecated function was deprecated in Matplotlib
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9858 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9859 The deprecated function was deprecated in Matplotlib
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9861 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9862 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9863     from .axes3d import Axes3D
9864 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

```
9865 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9866     from .axes3d import Axes3D
9867 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9868 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9869     from .axes3d import Axes3D
9870 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9871 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9872     from .axes3d import Axes3D
9873 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9874 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9875     from .axes3d import Axes3D
9876 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9877 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9878     from .axes3d import Axes3D
9879 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9880 The deprecated function was deprecated in Matplotlib
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9881     from .axes3d import Axes3D
9882 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
9883 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9884     from .axes3d import Axes3D
9885 16
```

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9886 AAPL
9887 0
9888 1
9889 2
9890 3
9891 4
9892 5
9893 6
9894 7
9895 8
9896 9
9897 10
9898 11
9899 12
9900 13
9901 14
9902 15
9903 16
9904 17
9905 ANET
9906 APH
9907 CDW
9908 CSCO
9909 FFIV
9910 FLIR
9911 GLW
9912 HPE (1)
9913 HPQ
9914 IPGP
9915 JNPR
9916 KEYS
9917 MSI
9918 NTAP
9919 STX
9920 TEL
9921 WDC
9922 ZBRA
9923 --- 646.0423023700714 seconds ---
9924 (4520.0, '2019 q2') 186
9925 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
9925 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
9926 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9927     from .axes3d import Axes3D  
9928 C:\ProgramData\Anaconda3\lib\site-packages\  
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9929 The deprecated function was deprecated in Matplotlib  
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9930     from .axes3d import Axes3D  
9931 C:\ProgramData\Anaconda3\lib\site-packages\  
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9932 The deprecated function was deprecated in Matplotlib  
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9933     from .axes3d import Axes3D  
9934 C:\ProgramData\Anaconda3\lib\site-packages\  
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9935 The deprecated function was deprecated in Matplotlib  
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9937 C:\ProgramData\Anaconda3\lib\site-packages\  
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9938 The deprecated function was deprecated in Matplotlib  
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9940 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
9941 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
9942     from .axes3d import Axes3D  
9943 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
9944 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
9945 from .axes3d import Axes3D
9946 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9947 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9948     from .axes3d import Axes3D
9949 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9950 The deprecated function was deprecated in Matplotlib
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9951     from .axes3d import Axes3D
9952 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9953 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9954     from .axes3d import Axes3D
9955 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9956 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9957     from .axes3d import Axes3D
9958 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9959 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9960     from .axes3d import Axes3D
9961 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
9962 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
9963     from .axes3d import Axes3D
9964 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
```

```
9965 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9966     from .axes3d import Axes3D
9967 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mpl_toolkits\__init__.py:1:
      MatplotlibDeprecationWarning:
9968 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
9969     from .axes3d import Axes3D
9970 16
9971 AAPL
9972 0
9973 1
9974 2
9975 3
9976 4
9977 5
9978 6
9979 7
9980 8
9981 9
9982 10
9983 11
9984 12
9985 13
9986 14
9987 15
9988 16
9989 ANET
9990 APH
9991 CDW
9992 CSCO
9993 FFIV
9994 FLIR
9995 GLW
9996 HPE (1)
9997 HPQ
9998 IPGP
9999 JNPR
10000 KEYS
```

```
10001 MSI
10002 NTAP
10003 STX
10004 TEL
10005 WDC
10006 ZBRA
10007 --- 4682.77965593338 seconds ---
10008 (4520.0, '2019 q3') 187
10009 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
10010 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10011     from .axes3d import Axes3D
10012 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
10013 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10014     from .axes3d import Axes3D
10015 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
10016 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10017     from .axes3d import Axes3D
10018 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
10019 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10020     from .axes3d import Axes3D
10021 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
10022 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10023     from .axes3d import Axes3D
10024 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
```

```
10024 MatplotlibDeprecationWarning:  
10025 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10026     from .axes3d import Axes3D  
10027 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10028 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10029     from .axes3d import Axes3D  
10030 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10031 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10032     from .axes3d import Axes3D  
10033 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10034 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10035     from .axes3d import Axes3D  
10036 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10037 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10038     from .axes3d import Axes3D  
10039 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10040 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10041     from .axes3d import Axes3D  
10042 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10043 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10044     from .axes3d import Axes3D
```

```
10045 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10046 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10047     from .axes3d import Axes3D  
10048 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10049 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10050     from .axes3d import Axes3D  
10051 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10052 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10053     from .axes3d import Axes3D  
10054 16  
10055 AAPL  
10056 0  
10057 1  
10058 2  
10059 3  
10060 4  
10061 5  
10062 6  
10063 7  
10064 8  
10065 9  
10066 10  
10067 11  
10068 12  
10069 13  
10070 14  
10071 15  
10072 16  
10073 17  
10074 18  
10075 19
```

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10076 20
10077 21
10078 ANET
10079 APH
10080 CDW
10081 CSC0
10082 FFIV
10083 FLIR
10084 GLW
10085 HPE (1)
10086 HPQ
10087 IPGP
10088 JNPR
10089 KEYS
10090 MSI
10091 NTAP
10092 STX
10093 TEL
10094 WDC
10095 XRX
10096 ZBRA
10097 --- 623.7897679805756 seconds ---
10098 (4520.0, '2019 q4') 188
10099 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10100 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10101     from .axes3d import Axes3D
10102 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10103 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10104     from .axes3d import Axes3D
10105 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10106 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

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10107     from .axes3d import Axes3D
10108 C:\ProgramData\Anaconda3\lib\site-packages\
10109     mpl_toolkits\matplotlib\__init__.py:1:
10110     MatplotlibDeprecationWarning:
10111 The deprecated function was deprecated in Matplotlib
10112     3.4 and will be removed two minor releases later.
10113     from .axes3d import Axes3D
10114 C:\ProgramData\Anaconda3\lib\site-packages\
10115     mpl_toolkits\matplotlib\__init__.py:1:
10116     MatplotlibDeprecationWarning:
10117 The deprecated function was deprecated in Matplotlib
10118     3.4 and will be removed two minor releases later.
10119     from .axes3d import Axes3D
10120 C:\ProgramData\Anaconda3\lib\site-packages\
10121     mpl_toolkits\matplotlib\__init__.py:1:
10122     MatplotlibDeprecationWarning:
10123 The deprecated function was deprecated in Matplotlib
10124     3.4 and will be removed two minor releases later.
10125     from .axes3d import Axes3D
10126 C:\ProgramData\Anaconda3\lib\site-packages\
10127     mpl_toolkits\matplotlib\__init__.py:1:
10128     MatplotlibDeprecationWarning:
```

```
10127 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10128     from .axes3d import Axes3D
10129 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10130 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10131     from .axes3d import Axes3D
10132 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10133 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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10135 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10136 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10137     from .axes3d import Axes3D
10138 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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10139 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10140     from .axes3d import Axes3D
10141 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10142 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10143     from .axes3d import Axes3D
10144 16
10145 AAPL
10146 0
10147 1
10148 2
10149 3
10150 4
```

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10151 5
10152 6
10153 7
10154 8
10155 9
10156 10
10157 11
10158 12
10159 13
10160 14
10161 15
10162 16
10163 17
10164 18
10165 ANET
10166 APH
10167 CDW
10168 CSC0
10169 FFIV
10170 FLIR
10171 GLW
10172 HPE (1)
10173 HPQ
10174 IPGP
10175 JNPR
10176 KEYS
10177 MSI
10178 NTAP
10179 STX
10180 TEL
10181 WDC
10182 XRX
10183 ZBRA
10184 --- 588.5040504932404 seconds ---
10185 (4520.0, '2020 q1') 189
10186 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10187 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
10188     from .axes3d import Axes3D
10189 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10190 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
10191     from .axes3d import Axes3D
10192 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10193 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
10194     from .axes3d import Axes3D
10195 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10196 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
10197     from .axes3d import Axes3D
10198 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10199 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
10200     from .axes3d import Axes3D
10201 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10202 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
10203     from .axes3d import Axes3D
10204 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10205 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
10206     from .axes3d import Axes3D
10207 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
10208 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10209     from .axes3d import Axes3D
10210 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10211 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10212     from .axes3d import Axes3D
10213 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10214 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10215     from .axes3d import Axes3D
10216 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10217 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10218     from .axes3d import Axes3D
10219 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10220 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10221     from .axes3d import Axes3D
10222 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10223 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10224     from .axes3d import Axes3D
10225 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10226 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10227     from .axes3d import Axes3D
10228 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
10228 mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10229 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10230     from .axes3d import Axes3D  
10231 16  
10232 AAPL  
10233 0  
10234 1  
10235 2  
10236 3  
10237 4  
10238 5  
10239 6  
10240 7  
10241 8  
10242 9  
10243 10  
10244 11  
10245 12  
10246 13  
10247 14  
10248 15  
10249 16  
10250 17  
10251 18  
10252 19  
10253 20  
10254 21  
10255 ANET  
10256 APH  
10257 CDW  
10258 CSCO  
10259 FFIV  
10260 FLIR  
10261 GLW  
10262 HPE (1)  
10263 HPQ  
10264 IPGP  
10265 JNPR
```

```
10266 KEYS
10267 MSI
10268 NTAP
10269 STX
10270 TEL
10271 WDC
10272 XRX
10273 ZBRA
10274 --- 635.7130229473114 seconds ---
10275 (4520.0, '2020 q2') 190
10276 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10277 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10278     from .axes3d import Axes3D
10279 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10280 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10281     from .axes3d import Axes3D
10282 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10283 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10284     from .axes3d import Axes3D
10285 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10286 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10287     from .axes3d import Axes3D
10288 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10289 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10290     from .axes3d import Axes3D
```

```
10291 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10292 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10293     from .axes3d import Axes3D  
10294 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10295 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10296     from .axes3d import Axes3D  
10297 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10298 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10299     from .axes3d import Axes3D  
10300 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10301 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10302     from .axes3d import Axes3D  
10303 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10304 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10305     from .axes3d import Axes3D  
10306 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10307 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10308     from .axes3d import Axes3D  
10309 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10310 The deprecated function was deprecated in Matplotlib
```

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10310 3.4 and will be removed two minor releases later.  
10311     from .axes3d import Axes3D  
10312 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10313 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10314     from .axes3d import Axes3D  
10315 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10316 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10317     from .axes3d import Axes3D  
10318 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10319 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10320     from .axes3d import Axes3D  
10321 16  
10322 AAPL  
10323 ANET  
10324 APH  
10325 CDW  
10326 CSCO  
10327 FFIV  
10328 FLIR  
10329 GLW  
10330 HPE (1)  
10331 HPQ  
10332 IPGP  
10333 JNPR  
10334 KEYS  
10335 MSI  
10336 NTAP  
10337 STX  
10338 TEL  
10339 WDC  
10340 XRX
```

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10341 ZBRA
10342 --- 39.19577980041504 seconds ---
10343 (4530.0, '2018 q1') 191
10344 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
10345 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10346     from .axes3d import Axes3D
10347 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
10348 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10349     from .axes3d import Axes3D
10350 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
10351 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10352     from .axes3d import Axes3D
10353 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
10354 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10355     from .axes3d import Axes3D
10356 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
10357 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10358     from .axes3d import Axes3D
10359 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
10360 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10361     from .axes3d import Axes3D
10362 C:\ProgramData\Anaconda3\lib\site-packages\
```

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10362 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10363 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10364     from .axes3d import Axes3D  
10365 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10366 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10367     from .axes3d import Axes3D  
10368 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
10369 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10370     from .axes3d import Axes3D  
10371 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10372 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10373     from .axes3d import Axes3D  
10374 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10375 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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10377 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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10378 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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10380 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
10381 The deprecated function was deprecated in Matplotlib  
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```

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10382     from .axes3d import Axes3D
10383 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
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    3.4 and will be removed two minor releases later.
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10386 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
10387 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10388     from .axes3d import Axes3D
10389 16
10390 ADI
10391 AMAT
10392 AMD
10393 AVGO
10394 INTC
10395 KLAC
10396 LRCX
10397 MCHP
10398 MU
10399 MXIM
10400 NVDA
10401 QCOM
10402 QRVO
10403 SWKS
10404 TXN
10405 XLNX
10406 --- 43.4349684715271 seconds ---
10407 (4530.0, '2018 q2') 192
10408 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
10409 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10410     from .axes3d import Axes3D
10411 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
```

```
10411 MatplotlibDeprecationWarning:  
10412 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10413     from .axes3d import Axes3D  
10414 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10415 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10416     from .axes3d import Axes3D  
10417 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10418 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10419     from .axes3d import Axes3D  
10420 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10421 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10422     from .axes3d import Axes3D  
10423 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10424 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10425     from .axes3d import Axes3D  
10426 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10427 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10428     from .axes3d import Axes3D  
10429 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10430 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10431     from .axes3d import Axes3D
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```
10432 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10433 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10434     from .axes3d import Axes3D  
10435 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10436 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10437     from .axes3d import Axes3D  
10438 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10439 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10440     from .axes3d import Axes3D  
10441 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10442 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10443     from .axes3d import Axes3D  
10444 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10445 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10446     from .axes3d import Axes3D  
10447 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10448 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10449     from .axes3d import Axes3D  
10450 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10451 The deprecated function was deprecated in Matplotlib
```

```
10451 3.4 and will be removed two minor releases later.  
10452     from .axes3d import Axes3D  
10453 16  
10454 ADI  
10455 AMAT  
10456 AMD  
10457 AVGO  
10458 INTC  
10459 0  
10460 1  
10461 2  
10462 3  
10463 4  
10464 5  
10465 6  
10466 7  
10467 8  
10468 9  
10469 10  
10470 11  
10471 12  
10472 13  
10473 14  
10474 15  
10475 16  
10476 17  
10477 18  
10478 KLAC  
10479 LRCX  
10480 MCHP  
10481 MU  
10482 MXIM  
10483 NVDA  
10484 QCOM  
10485 QRVO  
10486 SWKS  
10487 TXN  
10488 C:/Users/admin-zoicanma/Documents/GitHub/RA-  
    materials/build_shapleyvalue.py:132: RuntimeWarning  
      : Mean of empty slice.
```

```
10489     data = data.append({'Analyst': k, 'InfoContribution': np.array(shapley_value).mean()}, ignore_index=True)
10490 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value encountered in double_scalars
10491     ret = ret.dtype.type(ret / rcount)
10492 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/build_shapleyvalue.py:139: RuntimeWarning : Mean of empty slice.
10493     avg_similarity = cosine_matrix[np.triu_indices(np.shape(cosine_matrix)[1], k=1)].mean()
10494 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value encountered in true_divide
10495     ret = ret.dtype.type(ret / rcount)
10496 XLNX
10497 --- 599.631541967392 seconds ---
10498 (4530.0, '2018 q3') 193
10499 C:\ProgramData\Anaconda3\lib\site-packages\mpl_toolkits\matplotlib3d\__init__.py:1:
MatplotlibDeprecationWarning:
10500 The deprecated function was deprecated in Matplotlib 3.4 and will be removed two minor releases later.
10501     from .axes3d import Axes3D
10502 C:\ProgramData\Anaconda3\lib\site-packages\mpl_toolkits\matplotlib3d\__init__.py:1:
MatplotlibDeprecationWarning:
10503 The deprecated function was deprecated in Matplotlib 3.4 and will be removed two minor releases later.
10504     from .axes3d import Axes3D
10505 C:\ProgramData\Anaconda3\lib\site-packages\mpl_toolkits\matplotlib3d\__init__.py:1:
MatplotlibDeprecationWarning:
10506 The deprecated function was deprecated in Matplotlib 3.4 and will be removed two minor releases later.
10507     from .axes3d import Axes3D
10508 C:\ProgramData\Anaconda3\lib\site-packages\mpl_toolkits\matplotlib3d\__init__.py:1:
MatplotlibDeprecationWarning:
```

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10509 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10510     from .axes3d import Axes3D
10511 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10512 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10513     from .axes3d import Axes3D
10514 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10515 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10516     from .axes3d import Axes3D
10517 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10518 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10519     from .axes3d import Axes3D
10520 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10521 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10522     from .axes3d import Axes3D
10523 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10524 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10525     from .axes3d import Axes3D
10526 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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10527 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10528     from .axes3d import Axes3D
10529 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
10529 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10530 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10531     from .axes3d import Axes3D  
10532 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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10533 The deprecated function was deprecated in Matplotlib  
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10538 C:\ProgramData\Anaconda3\lib\site-packages\  
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10539 The deprecated function was deprecated in Matplotlib  
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10541 C:\ProgramData\Anaconda3\lib\site-packages\  
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10542 The deprecated function was deprecated in Matplotlib  
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10544 16  
10545 ADI  
10546 AMAT  
10547 AMD  
10548 AVGO  
10549 INTC  
10550 KLAC  
10551 LRCX  
10552 MCHP  
10553 MU  
10554 MXIM
```

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10555 NVDA
10556 QCOM
10557 QRVO
10558 SWKS
10559 TXN
10560 XLNX
10561 --- 49.67137622833252 seconds ---
10562 (4530.0, '2018 q4') 194
10563 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib3d\__init__.py:1:
    MatplotlibDeprecationWarning:
10564 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10565     from .axes3d import Axes3D
10566 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib3d\__init__.py:1:
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10567 The deprecated function was deprecated in Matplotlib
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10568     from .axes3d import Axes3D
10569 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib3d\__init__.py:1:
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10570 The deprecated function was deprecated in Matplotlib
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10575 C:\ProgramData\Anaconda3\lib\site-packages\
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10576 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10577     from .axes3d import Axes3D
10578 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib3d\__init__.py:1:
```

```
10578 MatplotlibDeprecationWarning:  
10579 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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10581 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10582 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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10584 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10585 The deprecated function was deprecated in Matplotlib  
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10588 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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```

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10599 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10600 The deprecated function was deprecated in Matplotlib  
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10601     from .axes3d import Axes3D  
10602 C:\ProgramData\Anaconda3\lib\site-packages\  
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10603 The deprecated function was deprecated in Matplotlib  
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10605 C:\ProgramData\Anaconda3\lib\site-packages\  
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10606 The deprecated function was deprecated in Matplotlib  
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10607     from .axes3d import Axes3D  
10608 16  
10609 ADI  
10610 AMAT  
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10612 AVGO  
10613 INTC  
10614 KLAC  
10615 LRCX  
10616 MCHP  
10617 MU  
10618 MXIM  
10619 NVDA  
10620 QCOM  
10621 QRVO  
10622 SWKS  
10623 TXN  
10624 XLNX  
10625 --- 54.62969446182251 seconds ---  
10626 (4530.0, '2019 q1') 195  
10627 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:
```

```
10628 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10629     from .axes3d import Axes3D
10630 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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10636 C:\ProgramData\Anaconda3\lib\site-packages\
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10637 The deprecated function was deprecated in Matplotlib
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10638     from .axes3d import Axes3D
10639 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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10640 The deprecated function was deprecated in Matplotlib
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10643 The deprecated function was deprecated in Matplotlib
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10645 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10646 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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10648 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
10648 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10649 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10650     from .axes3d import Axes3D  
10651 C:\ProgramData\Anaconda3\lib\site-packages\  
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10652 The deprecated function was deprecated in Matplotlib  
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10653     from .axes3d import Axes3D  
10654 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10655 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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10657 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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10658 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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10660 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10661 The deprecated function was deprecated in Matplotlib  
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10663 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10664 The deprecated function was deprecated in Matplotlib  
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    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10667 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
10668     from .axes3d import Axes3D
10669 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10670 The deprecated function was deprecated in Matplotlib
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10671     from .axes3d import Axes3D
10672 16
10673 ADI
10674 AMAT
10675 AMD
10676 AVGO
10677 INTC
10678 KLAC
10679 LRCX
10680 MCHP
10681 MU
10682 MXIM
10683 NVDA
10684 0
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10695 11
10696 12
10697 13
10698 14
10699 15
10700 16
10701 17
10702 QCOM
10703 QRVO
10704 SWKS
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10705 TXN
10706 XLNX
10707 --- 613.4776616096497 seconds ---
10708 (4530.0, '2019 q2') 196
10709 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10710 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10711     from .axes3d import Axes3D
10712 C:\ProgramData\Anaconda3\lib\site-packages\
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10713 The deprecated function was deprecated in Matplotlib
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10715 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
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10716 The deprecated function was deprecated in Matplotlib
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10718 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
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10719 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10720     from .axes3d import Axes3D
10721 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10722 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10723     from .axes3d import Axes3D
10724 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10725 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10726     from .axes3d import Axes3D
```

```
10727 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10728 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10729     from .axes3d import Axes3D  
10730 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10731 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10732     from .axes3d import Axes3D  
10733 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10734 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10735     from .axes3d import Axes3D  
10736 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10737 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10738     from .axes3d import Axes3D  
10739 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10740 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10741     from .axes3d import Axes3D  
10742 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10743 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10744     from .axes3d import Axes3D  
10745 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10746 The deprecated function was deprecated in Matplotlib
```

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10746 3.4 and will be removed two minor releases later.  
10747     from .axes3d import Axes3D  
10748 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10749 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10750     from .axes3d import Axes3D  
10751 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10752 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10753     from .axes3d import Axes3D  
10754 16  
10755 ADI  
10756 AMAT  
10757 AMD  
10758 AVGO  
10759 INTC  
10760 KLAC  
10761 LRCX  
10762 MCHP  
10763 MU  
10764 MXIM  
10765 NVDA  
10766 QCOM  
10767 QRVO  
10768 SWKS  
10769 TXN  
10770 XLNX  
10771 --- 47.28653025627136 seconds ---  
10772 (4530.0, '2019 q3') 197  
10773 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10774 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10775     from .axes3d import Axes3D  
10776 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
10776 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10777 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10778     from .axes3d import Axes3D  
10779 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10780 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10781     from .axes3d import Axes3D  
10782 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10783 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10784     from .axes3d import Axes3D  
10785 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10786 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10787     from .axes3d import Axes3D  
10788 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10789 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10790     from .axes3d import Axes3D  
10791 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10792 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10793     from .axes3d import Axes3D  
10794 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10795 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
10796     from .axes3d import Axes3D
10797 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10798 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10799     from .axes3d import Axes3D
10800 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10801 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10802     from .axes3d import Axes3D
10803 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10804 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10805     from .axes3d import Axes3D
10806 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10807 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10808     from .axes3d import Axes3D
10809 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10810 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10811     from .axes3d import Axes3D
10812 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
10813 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
10814     from .axes3d import Axes3D
10815 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
10816 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10817     from .axes3d import Axes3D
10818 16
10819 ADI
10820 AMAT
10821 AMD
10822 AVGO
10823 INTC
10824 KLAC
10825 LRCX
10826 MCHP
10827 MU
10828 C:/Users/admin-zoicanma/Documents/GitHub/RA-
      materials/build_shapleyvalue.py:132: RuntimeWarning
          : Mean of empty slice.
10829     data = data.append({'Analyst': k,
      'InfoContribution': np.array(shapley_value).mean()},
      ignore_index=True)
10830 C:\ProgramData\Anaconda3\lib\site-packages\numpy\
      core\_methods.py:170: RuntimeWarning: invalid value
      encountered in double_scalars
10831     ret = ret.dtype.type(ret / rcount)
10832 C:/Users/admin-zoicanma/Documents/GitHub/RA-
      materials/build_shapleyvalue.py:139: RuntimeWarning
          : Mean of empty slice.
10833     avg_similarity = cosine_matrix[np.triu_indices(np.
      shape(cosine_matrix)[1], k=1)].mean()
10834 MXIM
10835 NVDA
10836 QCOM
10837 QRVO
10838 SWKS
10839 TXN
10840 XLNX
10841 --- 48.505391359329224 seconds ---
10842 (4530.0, '2019 q4') 198
10843 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\matplotlib3d\__init__.py:1:
      MatplotlibDeprecationWarning:
```

```
10844 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10845     from .axes3d import Axes3D
10846 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10847 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10848     from .axes3d import Axes3D
10849 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10850 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10851     from .axes3d import Axes3D
10852 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10853 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10854     from .axes3d import Axes3D
10855 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10856 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10857     from .axes3d import Axes3D
10858 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10859 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10860     from .axes3d import Axes3D
10861 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
10862 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
10863     from .axes3d import Axes3D
10864 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
10864 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10865 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10866     from .axes3d import Axes3D  
10867 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10868 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10869     from .axes3d import Axes3D  
10870 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10871 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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10873 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10874 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10875     from .axes3d import Axes3D  
10876 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10877 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10878     from .axes3d import Axes3D  
10879 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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10880 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10881     from .axes3d import Axes3D  
10882 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
10883 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
10884     from .axes3d import Axes3D
10885 C:\ProgramData\Anaconda3\lib\site-packages\
10886     mpl_toolkits\matplotlib\__init__.py:1:
10887         MatplotlibDeprecationWarning:
10888 The deprecated function was deprecated in Matplotlib
10889     3.4 and will be removed two minor releases later.
10890     from .axes3d import Axes3D
10891 16
10892 ADI
10893 AMAT
10894 AMD
10895 AVGO
10896 INTC
10897 KLAC
10898 LRCX
10899 MCHP
10900 MU
10901 MXIM
10902 NVDA
10903 QCOM
10904 QRVO
10905 SWKS
10906 TXN
10907 XLNX
10908 --- 54.10931754112244 seconds ---
10909 199
10910 (4530.0, '2020 q1')
10911 C:\ProgramData\Anaconda3\lib\site-packages\
10912     mpl_toolkits\matplotlib\__init__.py:1:
10913         MatplotlibDeprecationWarning:
10914 The deprecated function was deprecated in Matplotlib
10915     3.4 and will be removed two minor releases later.
10916     from .axes3d import Axes3D
10917 C:\ProgramData\Anaconda3\lib\site-packages\
10918     mpl_toolkits\matplotlib\__init__.py:1:
10919         MatplotlibDeprecationWarning:
```

```
10913 MatplotlibDeprecationWarning:  
10914 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10915     from .axes3d import Axes3D  
10916 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10917 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10918     from .axes3d import Axes3D  
10919 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10920 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10921     from .axes3d import Axes3D  
10922 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10923 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10924     from .axes3d import Axes3D  
10925 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10926 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10927     from .axes3d import Axes3D  
10928 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10929 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10930     from .axes3d import Axes3D  
10931 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
10932 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
10933     from .axes3d import Axes3D
```

```
10934 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10935 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10936     from .axes3d import Axes3D  
10937 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10938 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10939     from .axes3d import Axes3D  
10940 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10941 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10942     from .axes3d import Axes3D  
10943 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10944 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10945     from .axes3d import Axes3D  
10946 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10947 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10948     from .axes3d import Axes3D  
10949 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
10950 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
10951     from .axes3d import Axes3D  
10952 16  
10953 ADI  
10954 AMAT  
10955 AMD
```

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10956 0
10957 1
10958 2
10959 3
10960 4
10961 5
10962 6
10963 7
10964 8
10965 9
10966 10
10967 11
10968 12
10969 13
10970 14
10971 15
10972 16
10973 17
10974 18
10975 19
10976 AVGO
10977 INTC
10978 KLAC
10979 LRCX
10980 MCHP
10981 MU
10982 MXIM
10983 NVDA
10984 QCOM
10985 QRVO
10986 SWKS
10987 TXN
10988 XLNX
10989 --- 567.8488671779633 seconds ---
10990 (4530.0, '2020 q2') 200
10991 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
10992 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
10993     from .axes3d import Axes3D
10994 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
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10997 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
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11000 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11001 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
11002     from .axes3d import Axes3D
11003 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11004 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
11005     from .axes3d import Axes3D
11006 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11007 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
11008     from .axes3d import Axes3D
11009 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11010 The deprecated function was deprecated in Matplotlib
3.4 and will be removed two minor releases later.
11011     from .axes3d import Axes3D
11012 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
11013 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11014     from .axes3d import Axes3D
11015 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11016 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11017     from .axes3d import Axes3D
11018 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11019 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11020     from .axes3d import Axes3D
11021 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11022 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11023     from .axes3d import Axes3D
11024 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11025 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11026     from .axes3d import Axes3D
11027 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11028 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11029     from .axes3d import Axes3D
11030 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11031 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11032     from .axes3d import Axes3D
11033 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
11033 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11034 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11035     from .axes3d import Axes3D  
11036 16  
11037 ADI  
11038 AMAT  
11039 AMD  
11040 AVGO  
11041 INTC  
11042 KLAC  
11043 LRCX  
11044 MCHP  
11045 MU  
11046 MXIM  
11047 NVDA  
11048 QCOM  
11049 QRVO  
11050 SWKS  
11051 TXN  
11052 XLNX  
11053 --- 46.17423725128174 seconds ---  
11054 (5010.0, '2018 q1') 201  
11055 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11056 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11057     from .axes3d import Axes3D  
11058 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11059 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11060     from .axes3d import Axes3D  
11061 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11062 The deprecated function was deprecated in Matplotlib
```

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11062 3.4 and will be removed two minor releases later.  
11063     from .axes3d import Axes3D  
11064 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11065 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11066     from .axes3d import Axes3D  
11067 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11068 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11069     from .axes3d import Axes3D  
11070 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11071 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11072     from .axes3d import Axes3D  
11073 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11074 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11075     from .axes3d import Axes3D  
11076 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11077 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11078     from .axes3d import Axes3D  
11079 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11080 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11081     from .axes3d import Axes3D  
11082 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:
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11082 MatplotlibDeprecationWarning:  
11083 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11084     from .axes3d import Axes3D  
11085 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11086 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11087     from .axes3d import Axes3D  
11088 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11089 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11090     from .axes3d import Axes3D  
11091 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11092 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11093     from .axes3d import Axes3D  
11094 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11095 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11096     from .axes3d import Axes3D  
11097 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11098 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11099     from .axes3d import Axes3D  
11100 16  
11101 CTL  
11102 T  
11103 TMUS  
11104 VZ  
11105 --- 27.809954166412354 seconds ---
```

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11106 (5010.0, '2018 q2') 202
11107 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11108 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11109     from .axes3d import Axes3D
11110 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11111 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11112     from .axes3d import Axes3D
11113 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11114 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11115     from .axes3d import Axes3D
11116 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11117 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11118     from .axes3d import Axes3D
11119 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11120 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11121     from .axes3d import Axes3D
11122 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11123 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11124     from .axes3d import Axes3D
11125 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
```

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11126 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11127     from .axes3d import Axes3D
11128 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11129 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11130     from .axes3d import Axes3D
11131 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11132 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11133     from .axes3d import Axes3D
11134 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11135 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11136     from .axes3d import Axes3D
11137 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11138 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11139     from .axes3d import Axes3D
11140 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11141 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11142     from .axes3d import Axes3D
11143 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11144 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11145     from .axes3d import Axes3D
11146 C:\ProgramData\Anaconda3\lib\site-packages\
```

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11146 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11147 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11148     from .axes3d import Axes3D  
11149 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11150 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11151     from .axes3d import Axes3D  
11152 16  
11153 CTL  
11154 T  
11155 TMUS  
11156 --- 27.973626613616943 seconds ---  
11157 (5010.0, '2018 q3') 203  
11158 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11159 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11160     from .axes3d import Axes3D  
11161 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11162 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11163     from .axes3d import Axes3D  
11164 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11165 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11166     from .axes3d import Axes3D  
11167 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11168 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
11169     from .axes3d import Axes3D
11170 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11171 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11172     from .axes3d import Axes3D
11173 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11174 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11175     from .axes3d import Axes3D
11176 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11177 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11178     from .axes3d import Axes3D
11179 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11180 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11181     from .axes3d import Axes3D
11182 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11183 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11184     from .axes3d import Axes3D
11185 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11186 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11187     from .axes3d import Axes3D
11188 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
11189 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11190     from .axes3d import Axes3D
11191 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11192 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11193     from .axes3d import Axes3D
11194 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11195 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11196     from .axes3d import Axes3D
11197 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11198 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11199     from .axes3d import Axes3D
11200 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11201 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11202     from .axes3d import Axes3D
11203 16
11204 CTL
11205 T
11206 TMUS
11207 VZ
11208 --- 27.641772270202637 seconds ---
11209 (5010.0, '2018 q4') 204
11210 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11211 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11212     from .axes3d import Axes3D
```

```
11213 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11214 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11215     from .axes3d import Axes3D  
11216 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11217 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11218     from .axes3d import Axes3D  
11219 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11220 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11221     from .axes3d import Axes3D  
11222 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11223 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11224     from .axes3d import Axes3D  
11225 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11226 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11227     from .axes3d import Axes3D  
11228 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11229 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11230     from .axes3d import Axes3D  
11231 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11232 The deprecated function was deprecated in Matplotlib
```

```
11232 3.4 and will be removed two minor releases later.  
11233     from .axes3d import Axes3D  
11234 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11235 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11236     from .axes3d import Axes3D  
11237 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11238 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11239     from .axes3d import Axes3D  
11240 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11241 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11242     from .axes3d import Axes3D  
11243 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11244 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11245     from .axes3d import Axes3D  
11246 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11247 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11248     from .axes3d import Axes3D  
11249 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11250 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11251     from .axes3d import Axes3D  
11252 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:
```

```
11252 MatplotlibDeprecationWarning:  
11253 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11254     from .axes3d import Axes3D  
11255 16  
11256 CTL  
11257 T  
11258 TMUS  
11259 VZ  
11260 --- 27.500044584274292 seconds ---  
11261 (5010.0, '2019 q1') 205  
11262 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11263 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11264     from .axes3d import Axes3D  
11265 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11266 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11267     from .axes3d import Axes3D  
11268 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11269 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11270     from .axes3d import Axes3D  
11271 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11272 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11273     from .axes3d import Axes3D  
11274 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11275 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.
```

```
11276     from .axes3d import Axes3D
11277 C:\ProgramData\Anaconda3\lib\site-packages\
11278     mpl_toolkits\matplotlib\__init__.py:1:
11279         MatplotlibDeprecationWarning:
11280             The deprecated function was deprecated in Matplotlib
11281                 3.4 and will be removed two minor releases later.
11282             from .axes3d import Axes3D
11283 C:\ProgramData\Anaconda3\lib\site-packages\
11284     mpl_toolkits\matplotlib\__init__.py:1:
11285         MatplotlibDeprecationWarning:
11286             The deprecated function was deprecated in Matplotlib
11287                 3.4 and will be removed two minor releases later.
11288             from .axes3d import Axes3D
11289 C:\ProgramData\Anaconda3\lib\site-packages\
11290     mpl_toolkits\matplotlib\__init__.py:1:
11291         MatplotlibDeprecationWarning:
11292             The deprecated function was deprecated in Matplotlib
11293                 3.4 and will be removed two minor releases later.
11294             from .axes3d import Axes3D
11295 C:\ProgramData\Anaconda3\lib\site-packages\
11296     mpl_toolkits\matplotlib\__init__.py:1:
11297         MatplotlibDeprecationWarning:
```

```
11296 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11297     from .axes3d import Axes3D
11298 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11299 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11300     from .axes3d import Axes3D
11301 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11302 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11303     from .axes3d import Axes3D
11304 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11305 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11306     from .axes3d import Axes3D
11307 16
11308 CTL
11309 T
11310 TMUS
11311 VZ
11312 --- 27.156198501586914 seconds ---
11313 (5010.0, '2019 q2') 206
11314 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11315 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11316     from .axes3d import Axes3D
11317 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11318 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11319     from .axes3d import Axes3D
```

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11320 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11321 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11322     from .axes3d import Axes3D  
11323 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11324 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11325     from .axes3d import Axes3D  
11326 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11327 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11328     from .axes3d import Axes3D  
11329 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11330 The deprecated function was deprecated in Matplotlib  
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11331     from .axes3d import Axes3D  
11332 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11333 The deprecated function was deprecated in Matplotlib  
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11334     from .axes3d import Axes3D  
11335 C:\ProgramData\Anaconda3\lib\site-packages\  
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11336 The deprecated function was deprecated in Matplotlib  
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11337     from .axes3d import Axes3D  
11338 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11339 The deprecated function was deprecated in Matplotlib
```

```
11339 3.4 and will be removed two minor releases later.  
11340     from .axes3d import Axes3D  
11341 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11342 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11343     from .axes3d import Axes3D  
11344 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11345 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11346     from .axes3d import Axes3D  
11347 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11348 The deprecated function was deprecated in Matplotlib  
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11350 C:\ProgramData\Anaconda3\lib\site-packages\  
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11351 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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11353 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11354 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11355     from .axes3d import Axes3D  
11356 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11357 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11358     from .axes3d import Axes3D  
11359 16  
11360 CTL
```

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11361 T
11362 TMUS
11363 VZ
11364 C:/Users/admin-zoicanma/Documents/GitHub/RA-
    materials/build_shapleyvalue.py:132: RuntimeWarning
        : Mean of empty slice.
11365     data = data.append({'Analyst': k, 'InfoContribution': np.array(shapley_value).mean()},
    ignore_index=True)
11366 C:\ProgramData\Anaconda3\lib\site-packages\numpy\
    core\_methods.py:170: RuntimeWarning: invalid value
    encountered in double_scalars
11367     ret = ret.dtype.type(ret / rcount)
11368 C:/Users/admin-zoicanma/Documents/GitHub/RA-
    materials/build_shapleyvalue.py:139: RuntimeWarning
        : Mean of empty slice.
11369     avg_similarity = cosine_matrix[np.triu_indices(np.
    shape(cosine_matrix)[1], k=1)].mean()
11370 C:\ProgramData\Anaconda3\lib\site-packages\numpy\
    core\_methods.py:170: RuntimeWarning: invalid value
    encountered in true_divide
11371     ret = ret.dtype.type(ret / rcount)
11372 --- 26.803161144256592 seconds ---
11373 (5010.0, '2019 q3') 207
11374 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11375 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11376     from .axes3d import Axes3D
11377 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11378 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11379     from .axes3d import Axes3D
11380 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11381 The deprecated function was deprecated in Matplotlib
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11381 3.4 and will be removed two minor releases later.  
11382     from .axes3d import Axes3D  
11383 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11384 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11385     from .axes3d import Axes3D  
11386 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11387 The deprecated function was deprecated in Matplotlib  
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11388     from .axes3d import Axes3D  
11389 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11390 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11391     from .axes3d import Axes3D  
11392 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
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11393 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11394     from .axes3d import Axes3D  
11395 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11396 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11397     from .axes3d import Axes3D  
11398 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11399 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11400     from .axes3d import Axes3D  
11401 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:
```

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11401 MatplotlibDeprecationWarning:  
11402 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11403     from .axes3d import Axes3D  
11404 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11405 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11406     from .axes3d import Axes3D  
11407 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11408 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11409     from .axes3d import Axes3D  
11410 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11411 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11412     from .axes3d import Axes3D  
11413 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11414 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11415     from .axes3d import Axes3D  
11416 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11417 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11418     from .axes3d import Axes3D  
11419 16  
11420 CTL  
11421 T  
11422 TMUS  
11423 VZ  
11424 --- 27.054708003997803 seconds ---
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11425 (5010.0, '2019 q4') 208
11426 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11427 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11428     from .axes3d import Axes3D
11429 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11430 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11431     from .axes3d import Axes3D
11432 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11433 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11434     from .axes3d import Axes3D
11435 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
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11436 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11437     from .axes3d import Axes3D
11438 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
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11439 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11440     from .axes3d import Axes3D
11441 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11442 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11443     from .axes3d import Axes3D
11444 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
```

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11445 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11446     from .axes3d import Axes3D
11447 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11448 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11449     from .axes3d import Axes3D
11450 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11451 The deprecated function was deprecated in Matplotlib
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11452     from .axes3d import Axes3D
11453 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11454 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11455     from .axes3d import Axes3D
11456 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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      3.4 and will be removed two minor releases later.
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11459 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11460 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11461     from .axes3d import Axes3D
11462 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11463 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11464     from .axes3d import Axes3D
11465 C:\ProgramData\Anaconda3\lib\site-packages\
```

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11465 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11466 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11467     from .axes3d import Axes3D  
11468 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11469 The deprecated function was deprecated in Matplotlib  
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11470     from .axes3d import Axes3D  
11471 16  
11472 CTL  
11473 T  
11474 TMUS  
11475 VZ  
11476 --- 26.71842384338379 seconds ---  
11477 (5010.0, '2020 q1') 209  
11478 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11479 The deprecated function was deprecated in Matplotlib  
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11480     from .axes3d import Axes3D  
11481 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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11484 C:\ProgramData\Anaconda3\lib\site-packages\  
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11485 The deprecated function was deprecated in Matplotlib  
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11499 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11500 The deprecated function was deprecated in Matplotlib  
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11501     from .axes3d import Axes3D  
11502 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11503 The deprecated function was deprecated in Matplotlib  
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11504     from .axes3d import Axes3D  
11505 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11506 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11507     from .axes3d import Axes3D  
11508 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:
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11508 MatplotlibDeprecationWarning:  
11509 The deprecated function was deprecated in Matplotlib  
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11511 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
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11512 The deprecated function was deprecated in Matplotlib  
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11513     from .axes3d import Axes3D  
11514 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11515 The deprecated function was deprecated in Matplotlib  
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11517 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11518 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11519     from .axes3d import Axes3D  
11520 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11521 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11522     from .axes3d import Axes3D  
11523 16  
11524 CTL  
11525 T  
11526 TMUS  
11527 VZ  
11528 --- 27.51219868659973 seconds ---  
11529 (5010.0, '2020 q2') 210  
11530 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11531 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.
```

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11532     from .axes3d import Axes3D
11533 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
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11534 The deprecated function was deprecated in Matplotlib
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11536 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
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11537 The deprecated function was deprecated in Matplotlib
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11548 C:\ProgramData\Anaconda3\lib\site-packages\
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11551 C:\ProgramData\Anaconda3\lib\site-packages\
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MatplotlibDeprecationWarning:
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11558 The deprecated function was deprecated in Matplotlib
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11559     from .axes3d import Axes3D
11560 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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11561 The deprecated function was deprecated in Matplotlib
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11563 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
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      mpl_toolkits\mplplot3d\__init__.py:1:
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11569 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11570 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11571     from .axes3d import Axes3D
11572 C:\ProgramData\Anaconda3\lib\site-packages\
```

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11572 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11573 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11574     from .axes3d import Axes3D  
11575 16  
11576 CTL  
11577 T  
11578 TMUS  
11579 VZ  
11580 --- 27.653414487838745 seconds ---  
11581 (5020.0, '2018 q1') 211  
11582 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11583 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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11585 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11586 The deprecated function was deprecated in Matplotlib  
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11588 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11589 The deprecated function was deprecated in Matplotlib  
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11590     from .axes3d import Axes3D  
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11598 The deprecated function was deprecated in Matplotlib  
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11601 The deprecated function was deprecated in Matplotlib  
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11603 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
11610 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11611     from .axes3d import Axes3D  
11612 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
11613 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11614     from .axes3d import Axes3D  
11615 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:
```

```
11615 MatplotlibDeprecationWarning:  
11616 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11617     from .axes3d import Axes3D  
11618 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\mplplot3d\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11619 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11620     from .axes3d import Axes3D  
11621 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\mplplot3d\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11622 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11623     from .axes3d import Axes3D  
11624 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\mplplot3d\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11625 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11626     from .axes3d import Axes3D  
11627 16  
11628 ATVI  
11629 CHTR  
11630 CMCSA  
11631 DIS  
11632 DISCA  
11633 DISH  
11634 EA  
11635 FB  
11636 0  
11637 1  
11638 2  
11639 3  
11640 4  
11641 5  
11642 6  
11643 7  
11644 8
```

11645	9
11646	10
11647	11
11648	12
11649	13
11650	14
11651	15
11652	16
11653	17
11654	18
11655	19
11656	GOOGL
11657	0
11658	1
11659	2
11660	3
11661	4
11662	5
11663	6
11664	7
11665	8
11666	9
11667	10
11668	11
11669	12
11670	13
11671	14
11672	15
11673	16
11674	17
11675	18
11676	IPG
11677	LYV
11678	NFLX
11679	0
11680	1
11681	2
11682	3
11683	4
11684	5

```
11685 6
11686 7
11687 8
11688 9
11689 10
11690 11
11691 12
11692 13
11693 14
11694 15
11695 16
11696 17
11697 18
11698 19
11699 20
11700 21
11701 NWSA
11702 OMC
11703 TTWO
11704 TWTR
11705 VIAC
11706 --- 1654.1559484004974 seconds ---
11707 (5020.0, '2018 q2') 212
11708 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
11709 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11710     from .axes3d import Axes3D
11711 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
11712 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11713     from .axes3d import Axes3D
11714 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
11715 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
11716     from .axes3d import Axes3D
11717 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11718 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11719     from .axes3d import Axes3D
11720 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11721 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11722     from .axes3d import Axes3D
11723 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11724 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11725     from .axes3d import Axes3D
11726 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11727 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11728     from .axes3d import Axes3D
11729 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11730 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11731     from .axes3d import Axes3D
11732 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
11733 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11734     from .axes3d import Axes3D
11735 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
```

```
11736 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11737     from .axes3d import Axes3D
11738 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11739 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11740     from .axes3d import Axes3D
11741 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11742 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11743     from .axes3d import Axes3D
11744 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11745 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11746     from .axes3d import Axes3D
11747 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11748 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11749     from .axes3d import Axes3D
11750 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11751 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11752     from .axes3d import Axes3D
11753 16
11754 ATVI
11755 CHTR
11756 CMCSA
11757 DIS
11758 DISCA
11759 DISH
```

11760	EA
11761	FB
11762	0
11763	1
11764	2
11765	3
11766	4
11767	5
11768	6
11769	7
11770	8
11771	9
11772	10
11773	11
11774	12
11775	13
11776	14
11777	15
11778	16
11779	17
11780	GOOGL
11781	0
11782	1
11783	2
11784	3
11785	4
11786	5
11787	6
11788	7
11789	8
11790	9
11791	10
11792	11
11793	12
11794	13
11795	14
11796	15
11797	16
11798	17
11799	IPG

```
11800 LYV
11801 NFLX
11802 0
11803 1
11804 2
11805 3
11806 4
11807 5
11808 6
11809 7
11810 8
11811 9
11812 10
11813 11
11814 12
11815 13
11816 14
11817 15
11818 16
11819 17
11820 18
11821 19
11822 NWSA
11823 OMC
11824 TTWO
11825 TWTR
11826 VIAC
11827 --- 1769.6452639102936 seconds ---
11828 (5020.0, '2018 q3') 213
11829 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
        MatplotlibDeprecationWarning:
11830 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11831     from .axes3d import Axes3D
11832 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
        MatplotlibDeprecationWarning:
11833 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
11834     from .axes3d import Axes3D
11835 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11836 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11837     from .axes3d import Axes3D
11838 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11839 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11840     from .axes3d import Axes3D
11841 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11842 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11843     from .axes3d import Axes3D
11844 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11845 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11846     from .axes3d import Axes3D
11847 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11848 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11849     from .axes3d import Axes3D
11850 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
11851 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11852     from .axes3d import Axes3D
11853 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
11854 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11855     from .axes3d import Axes3D
11856 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11857 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11858     from .axes3d import Axes3D
11859 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11860 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11861     from .axes3d import Axes3D
11862 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11863 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11864     from .axes3d import Axes3D
11865 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11866 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11867     from .axes3d import Axes3D
11868 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11869 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11870     from .axes3d import Axes3D
11871 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
11872 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
11873     from .axes3d import Axes3D
11874 16
```

11875	ATVI
11876	CHTR
11877	CMCSA
11878	DIS
11879	DISCA
11880	DISH
11881	EA
11882	FB
11883	0
11884	1
11885	2
11886	3
11887	4
11888	5
11889	6
11890	7
11891	8
11892	9
11893	10
11894	11
11895	12
11896	13
11897	14
11898	15
11899	16
11900	17
11901	18
11902	19
11903	20
11904	21
11905	GOOGL
11906	0
11907	1
11908	2
11909	3
11910	4
11911	5
11912	6
11913	7
11914	8

11915	9
11916	10
11917	11
11918	12
11919	13
11920	14
11921	15
11922	16
11923	17
11924	18
11925	19
11926	20
11927	IPG
11928	LYV
11929	NFLX
11930	0
11931	1
11932	2
11933	3
11934	4
11935	5
11936	6
11937	7
11938	8
11939	9
11940	10
11941	11
11942	12
11943	13
11944	14
11945	15
11946	16
11947	17
11948	18
11949	19
11950	NWSA
11951	OMC
11952	TTWO
11953	TWTR
11954	VIAC

```
11955 --- 1728.0986466407776 seconds ---
11956 (5020.0, '2018 q4') 214
11957 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
11958 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11959     from .axes3d import Axes3D
11960 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
11961 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11962     from .axes3d import Axes3D
11963 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
11964 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11965     from .axes3d import Axes3D
11966 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
11967 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11968     from .axes3d import Axes3D
11969 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
11970 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11971     from .axes3d import Axes3D
11972 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
11973 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
11974     from .axes3d import Axes3D
11975 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
```

```
11975 MatplotlibDeprecationWarning:  
11976 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11977     from .axes3d import Axes3D  
11978 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11979 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11980     from .axes3d import Axes3D  
11981 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11982 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11983     from .axes3d import Axes3D  
11984 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11985 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11986     from .axes3d import Axes3D  
11987 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11988 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11989     from .axes3d import Axes3D  
11990 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11991 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11992     from .axes3d import Axes3D  
11993 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
11994 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
11995     from .axes3d import Axes3D
```

```
11996 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
11997 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
11998     from .axes3d import Axes3D  
11999 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12000 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12001     from .axes3d import Axes3D  
12002 16  
12003 ATVI  
12004 0  
12005 1  
12006 2  
12007 3  
12008 4  
12009 5  
12010 6  
12011 7  
12012 8  
12013 9  
12014 10  
12015 11  
12016 12  
12017 13  
12018 14  
12019 15  
12020 16  
12021 CHTR  
12022 CMCSA  
12023 DIS  
12024 DISCA  
12025 DISH  
12026 EA  
12027 FB  
12028 0  
12029 1
```

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12030 2
12031 3
12032 4
12033 5
12034 6
12035 7
12036 8
12037 9
12038 10
12039 11
12040 12
12041 13
12042 14
12043 15
12044 16
12045 17
12046 18
12047 19
12048 20
12049 21
12050 22
12051 GOOGL
12052 IPG
12053 LYV
12054 NFLX
12055 NWSA
12056 OMC
12057 TTWO
12058 TWTR
12059 VIAC
12060 --- 5258.0009932518005 seconds ---
12061 (5020.0, '2019 q1') 215
12062 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
        MatplotlibDeprecationWarning:
12063 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12064     from .axes3d import Axes3D
12065 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
```

```
12065 MatplotlibDeprecationWarning:  
12066 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
12067     from .axes3d import Axes3D  
12068 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
12069 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
12070     from .axes3d import Axes3D  
12071 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
12072 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
12073     from .axes3d import Axes3D  
12074 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
12075 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
12076     from .axes3d import Axes3D  
12077 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
12078 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
12079     from .axes3d import Axes3D  
12080 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
12081 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
12082     from .axes3d import Axes3D  
12083 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
12084 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
12085     from .axes3d import Axes3D
```

```
12086 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12087 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12088     from .axes3d import Axes3D  
12089 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12090 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12091     from .axes3d import Axes3D  
12092 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12093 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12094     from .axes3d import Axes3D  
12095 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12096 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12097     from .axes3d import Axes3D  
12098 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12099 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12100     from .axes3d import Axes3D  
12101 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12102 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12103     from .axes3d import Axes3D  
12104 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12105 The deprecated function was deprecated in Matplotlib
```

```
12105 3.4 and will be removed two minor releases later.  
12106 from .axes3d import Axes3D  
12107 16  
12108 ATVI  
12109 0  
12110 1  
12111 2  
12112 3  
12113 4  
12114 5  
12115 6  
12116 7  
12117 8  
12118 9  
12119 10  
12120 11  
12121 12  
12122 13  
12123 14  
12124 15  
12125 16  
12126 17  
12127 18  
12128 19  
12129 CHTR  
12130 CMCSA  
12131 DIS  
12132 DISCA  
12133 DISH  
12134 EA  
12135 0  
12136 1  
12137 2  
12138 3  
12139 4  
12140 5  
12141 6  
12142 7  
12143 8  
12144 9
```

12145	10
12146	11
12147	12
12148	13
12149	14
12150	15
12151	16
12152	17
12153	FB
12154	0
12155	1
12156	2
12157	3
12158	4
12159	5
12160	6
12161	7
12162	8
12163	9
12164	10
12165	11
12166	12
12167	13
12168	14
12169	15
12170	16
12171	17
12172	18
12173	19
12174	20
12175	FOX
12176	GOOGL
12177	IPG
12178	LYV
12179	NFLX
12180	NWSA
12181	OMC
12182	TTWO
12183	TWTR
12184	VIAC

```
12185 --- 1761.9632120132446 seconds ---
12186 (5020.0, '2019 q2') 216
12187 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12188 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12189     from .axes3d import Axes3D
12190 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12191 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12192     from .axes3d import Axes3D
12193 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12194 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12195     from .axes3d import Axes3D
12196 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12197 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12198     from .axes3d import Axes3D
12199 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12200 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12201     from .axes3d import Axes3D
12202 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12203 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12204     from .axes3d import Axes3D
12205 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
```

```
12205 MatplotlibDeprecationWarning:  
12206 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12207     from .axes3d import Axes3D  
12208 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12209 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12210     from .axes3d import Axes3D  
12211 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12212 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12213     from .axes3d import Axes3D  
12214 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12215 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12216     from .axes3d import Axes3D  
12217 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12218 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12219     from .axes3d import Axes3D  
12220 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12221 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12222     from .axes3d import Axes3D  
12223 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12224 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12225     from .axes3d import Axes3D
```

```
12226 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12227 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12228     from .axes3d import Axes3D  
12229 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12230 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12231     from .axes3d import Axes3D  
12232 16  
12233 ATVI  
12234 CHTR  
12235 CMCSA  
12236 DIS  
12237 DISCA  
12238 DISH  
12239 EA  
12240 FB  
12241 0  
12242 1  
12243 2  
12244 3  
12245 4  
12246 5  
12247 6  
12248 7  
12249 8  
12250 9  
12251 10  
12252 11  
12253 12  
12254 13  
12255 14  
12256 15  
12257 16  
12258 17  
12259 18
```

```
12260 19
12261 20
12262 21
12263 FOX
12264 GOOGL
12265 IPG
12266 LYV
12267 NFLX
12268 NWSA
12269 OMC
12270 TTWO
12271 TWTR
12272 0
12273 1
12274 2
12275 3
12276 4
12277 5
12278 6
12279 7
12280 8
12281 9
12282 10
12283 11
12284 12
12285 13
12286 14
12287 15
12288 16
12289 VIAC
12290 --- 5067.123917102814 seconds ---
12291 (5020.0, '2019 q3') 217
12292 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
        MatplotlibDeprecationWarning:
12293 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12294     from .axes3d import Axes3D
12295 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
```

```
12295 MatplotlibDeprecationWarning:  
12296 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12297     from .axes3d import Axes3D  
12298 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12299 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12300     from .axes3d import Axes3D  
12301 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12302 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12303     from .axes3d import Axes3D  
12304 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12305 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12306     from .axes3d import Axes3D  
12307 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12308 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12309     from .axes3d import Axes3D  
12310 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12311 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12312     from .axes3d import Axes3D  
12313 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12314 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12315     from .axes3d import Axes3D
```

```
12316 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12317 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12318     from .axes3d import Axes3D  
12319 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12320 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12321     from .axes3d import Axes3D  
12322 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12323 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12324     from .axes3d import Axes3D  
12325 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12326 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12327     from .axes3d import Axes3D  
12328 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12329 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12330     from .axes3d import Axes3D  
12331 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12332 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12333     from .axes3d import Axes3D  
12334 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12335 The deprecated function was deprecated in Matplotlib
```

```
12335 3.4 and will be removed two minor releases later.  
12336 from .axes3d import Axes3D  
12337 16  
12338 ATVI  
12339 0  
12340 1  
12341 2  
12342 3  
12343 4  
12344 5  
12345 6  
12346 7  
12347 8  
12348 9  
12349 10  
12350 11  
12351 12  
12352 13  
12353 14  
12354 15  
12355 16  
12356 CHTR  
12357 CMCSA  
12358 DIS  
12359 DISCA  
12360 DISH  
12361 EA  
12362 FB  
12363 0  
12364 1  
12365 2  
12366 3  
12367 4  
12368 5  
12369 6  
12370 7  
12371 8  
12372 9  
12373 10  
12374 11
```

```
12375 12
12376 13
12377 14
12378 15
12379 16
12380 17
12381 18
12382 19
12383 20
12384 21
12385 22
12386 FOX
12387 GOOGL
12388 IPG
12389 LYV
12390 NFLX
12391 NWSA
12392 OMC
12393 TTWO
12394 TWTR
12395 VIAC
12396 --- 5214.115747451782 seconds ---
12397 (5020.0, '2019 q4') 218
12398 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
12399 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12400     from .axes3d import Axes3D
12401 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
12402 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12403     from .axes3d import Axes3D
12404 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
12405 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
12406     from .axes3d import Axes3D
12407 C:\ProgramData\Anaconda3\lib\site-packages\
12408     mpl_toolkits\matplotlib\__init__.py:1:
12409         MatplotlibDeprecationWarning:
12410             The deprecated function was deprecated in Matplotlib
12411                 3.4 and will be removed two minor releases later.
12412             from .axes3d import Axes3D
12413 C:\ProgramData\Anaconda3\lib\site-packages\
12414     mpl_toolkits\matplotlib\__init__.py:1:
12415         MatplotlibDeprecationWarning:
12416             The deprecated function was deprecated in Matplotlib
12417                 3.4 and will be removed two minor releases later.
12418             from .axes3d import Axes3D
12419 C:\ProgramData\Anaconda3\lib\site-packages\
12420     mpl_toolkits\matplotlib\__init__.py:1:
12421         MatplotlibDeprecationWarning:
12422             The deprecated function was deprecated in Matplotlib
12423                 3.4 and will be removed two minor releases later.
12424             from .axes3d import Axes3D
12425 C:\ProgramData\Anaconda3\lib\site-packages\
12426     mpl_toolkits\matplotlib\__init__.py:1:
12427         MatplotlibDeprecationWarning:
```

```
12426 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12427     from .axes3d import Axes3D
12428 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
12429 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12430     from .axes3d import Axes3D
12431 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
12432 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12433     from .axes3d import Axes3D
12434 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
12435 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12436     from .axes3d import Axes3D
12437 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
12438 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12439     from .axes3d import Axes3D
12440 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
12441 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12442     from .axes3d import Axes3D
12443 16
12444 ATVI
12445 CHTR
12446 CMCSA
12447 0
12448 1
12449 2
```

12450	3
12451	4
12452	5
12453	6
12454	7
12455	8
12456	9
12457	10
12458	11
12459	12
12460	13
12461	14
12462	15
12463	16
12464	DIS
12465	DISCA
12466	DISH
12467	EA
12468	FB
12469	0
12470	1
12471	2
12472	3
12473	4
12474	5
12475	6
12476	7
12477	8
12478	9
12479	10
12480	11
12481	12
12482	13
12483	14
12484	15
12485	16
12486	17
12487	FOX
12488	GOOGL
12489	0

12490	1
12491	2
12492	3
12493	4
12494	5
12495	6
12496	7
12497	8
12498	9
12499	10
12500	11
12501	12
12502	13
12503	14
12504	15
12505	16
12506	IPG
12507	LYV
12508	NFLX
12509	NWSA
12510	OMC
12511	TTWO
12512	TWTR
12513	0
12514	1
12515	2
12516	3
12517	4
12518	5
12519	6
12520	7
12521	8
12522	9
12523	10
12524	11
12525	12
12526	13
12527	14
12528	15
12529	16

```
12530 17
12531 VIAC
12532 --- 10369.720250368118 seconds ---
12533 (5020.0, '2020 q1') 219
12534 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
12535 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12536     from .axes3d import Axes3D
12537 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
12538 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12539     from .axes3d import Axes3D
12540 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
12541 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12542     from .axes3d import Axes3D
12543 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
12544 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12545     from .axes3d import Axes3D
12546 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
12547 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12548     from .axes3d import Axes3D
12549 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
12550 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12551     from .axes3d import Axes3D
```

```
12552 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12553 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12554     from .axes3d import Axes3D  
12555 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12556 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12557     from .axes3d import Axes3D  
12558 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12559 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12560     from .axes3d import Axes3D  
12561 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12562 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12563     from .axes3d import Axes3D  
12564 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12565 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12566     from .axes3d import Axes3D  
12567 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12568 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12569     from .axes3d import Axes3D  
12570 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12571 The deprecated function was deprecated in Matplotlib
```

```
12571 3.4 and will be removed two minor releases later.  
12572     from .axes3d import Axes3D  
12573 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12574 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12575     from .axes3d import Axes3D  
12576 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
12577 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12578     from .axes3d import Axes3D  
12579 16  
12580 ATVI  
12581 0  
12582 1  
12583 2  
12584 3  
12585 4  
12586 5  
12587 6  
12588 7  
12589 8  
12590 9  
12591 10  
12592 11  
12593 12  
12594 13  
12595 14  
12596 15  
12597 16  
12598 17  
12599 CHTR  
12600 CMCSA  
12601 DIS  
12602 DISCA  
12603 DISH  
12604 EA
```

12605	FB
12606	0
12607	1
12608	2
12609	3
12610	4
12611	5
12612	6
12613	7
12614	8
12615	9
12616	10
12617	11
12618	12
12619	13
12620	14
12621	15
12622	16
12623	17
12624	18
12625	19
12626	20
12627	FOX
12628	GOOGL
12629	0
12630	1
12631	2
12632	3
12633	4
12634	5
12635	6
12636	7
12637	8
12638	9
12639	10
12640	11
12641	12
12642	13
12643	14
12644	15

```
12645 16
12646 17
12647 18
12648 IPG
12649 LYV
12650 NFLX
12651 NWSA
12652 OMC
12653 TTWO
12654 TWTR
12655 0
12656 1
12657 2
12658 3
12659 4
12660 5
12661 6
12662 7
12663 8
12664 9
12665 10
12666 11
12667 12
12668 13
12669 14
12670 15
12671 16
12672 17
12673 18
12674 19
12675 VIAC
12676 --- 2366.016002893448 seconds ---
12677 (5020.0, '2020 q2') 220
12678 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
12679 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12680     from .axes3d import Axes3D
12681 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
12681 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12682 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12683     from .axes3d import Axes3D  
12684 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12685 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12686     from .axes3d import Axes3D  
12687 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12688 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12689     from .axes3d import Axes3D  
12690 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12691 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12692     from .axes3d import Axes3D  
12693 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12694 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12695     from .axes3d import Axes3D  
12696 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12697 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12698     from .axes3d import Axes3D  
12699 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12700 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
12701 from .axes3d import Axes3D
12702 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
12703 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12704     from .axes3d import Axes3D
12705 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
12706 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12707     from .axes3d import Axes3D
12708 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
12709 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12710     from .axes3d import Axes3D
12711 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
12712 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12713     from .axes3d import Axes3D
12714 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
12715 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12716     from .axes3d import Axes3D
12717 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
12718 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12719     from .axes3d import Axes3D
12720 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
12721 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12722     from .axes3d import Axes3D
12723 16
12724 ATVI
12725 0
12726 1
12727 2
12728 3
12729 4
12730 5
12731 6
12732 7
12733 8
12734 9
12735 10
12736 11
12737 12
12738 13
12739 14
12740 15
12741 16
12742 17
12743 CHTR
12744 CMCSA
12745 DIS
12746 DISCA
12747 DISH
12748 EA
12749 FB
12750 0
12751 1
12752 2
12753 3
12754 4
12755 5
12756 6
12757 7
12758 8
12759 9
```

12760	10
12761	11
12762	12
12763	13
12764	14
12765	15
12766	16
12767	17
12768	18
12769	19
12770	20
12771	21
12772	22
12773	23
12774	FOX
12775	GOOGL
12776	0
12777	1
12778	2
12779	3
12780	4
12781	5
12782	6
12783	7
12784	8
12785	9
12786	10
12787	11
12788	12
12789	13
12790	14
12791	15
12792	16
12793	IPG
12794	LYV
12795	NFLX
12796	0
12797	1
12798	2
12799	3

12800	4
12801	5
12802	6
12803	7
12804	8
12805	9
12806	10
12807	11
12808	12
12809	13
12810	14
12811	15
12812	16
12813	17
12814	18
12815	19
12816	20
12817	21
12818	22
12819	NWSA
12820	OMC
12821	TTWO
12822	0
12823	1
12824	2
12825	3
12826	4
12827	5
12828	6
12829	7
12830	8
12831	9
12832	10
12833	11
12834	12
12835	13
12836	14
12837	15
12838	16
12839	TWTR

```
12840 VIAC
12841 --- 11164.737474918365 seconds ---
12842 (5510.0, '2018 q1') 221
12843 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12844 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12845     from .axes3d import Axes3D
12846 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12847 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12848     from .axes3d import Axes3D
12849 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12850 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12851     from .axes3d import Axes3D
12852 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12853 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12854     from .axes3d import Axes3D
12855 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12856 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12857     from .axes3d import Axes3D
12858 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12859 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12860     from .axes3d import Axes3D
12861 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
12861 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12862 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12863     from .axes3d import Axes3D  
12864 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12865 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12866     from .axes3d import Axes3D  
12867 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12868 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12869     from .axes3d import Axes3D  
12870 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12871 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12872     from .axes3d import Axes3D  
12873 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12874 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12875     from .axes3d import Axes3D  
12876 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12877 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12878     from .axes3d import Axes3D  
12879 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12880 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
12881 from .axes3d import Axes3D
12882 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12883 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12884     from .axes3d import Axes3D
12885 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
12886 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12887     from .axes3d import Axes3D
12888 16
12889 AEE
12890 AEP
12891 AES
12892 ATO
12893 CMS
12894 CNP
12895 D
12896 DTE
12897 DUK
12898 ED
12899 EIX
12900 ES
12901 ETR
12902 EVRG
12903 EXC
12904 FE
12905 LNT
12906 NEE
12907 NI
12908 NRG
12909 PEG
12910 PNW
12911 PPL
12912 WEC
12913 XEL
12914 --- 39.75838541984558 seconds ---
```

```
12915 (5510.0, '2018 q2') 222
12916 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
12917 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12918     from .axes3d import Axes3D
12919 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
12920 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12921     from .axes3d import Axes3D
12922 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
12923 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12924     from .axes3d import Axes3D
12925 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
12926 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12927     from .axes3d import Axes3D
12928 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
12929 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12930     from .axes3d import Axes3D
12931 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
12932 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
12933     from .axes3d import Axes3D
12934 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
```

```
12935 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12936     from .axes3d import Axes3D
12937 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
12938 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12939     from .axes3d import Axes3D
12940 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
12941 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12942     from .axes3d import Axes3D
12943 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
12944 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12945     from .axes3d import Axes3D
12946 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
12947 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12948     from .axes3d import Axes3D
12949 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
12950 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12951     from .axes3d import Axes3D
12952 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
12953 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
12954     from .axes3d import Axes3D
12955 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
12955 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12956 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12957     from .axes3d import Axes3D  
12958 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12959 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12960     from .axes3d import Axes3D  
12961 16  
12962 AEE  
12963 AEP  
12964 AES  
12965 ATO  
12966 CMS  
12967 CNP  
12968 D  
12969 DTE  
12970 DUK  
12971 ED  
12972 EIX  
12973 ES  
12974 ETR  
12975 EVRG  
12976 EXC  
12977 FE  
12978 LNT  
12979 NEE  
12980 NI  
12981 NRG  
12982 PEG  
12983 PNW  
12984 PPL  
12985 SRE  
12986 WEC  
12987 XEL  
12988 --- 37.880168437957764 seconds ---  
12989 (5510.0, '2018 q3') 223
```

```
12990 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12991 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12992     from .axes3d import Axes3D  
12993 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12994 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12995     from .axes3d import Axes3D  
12996 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
12997 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
12998     from .axes3d import Axes3D  
12999 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13000 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13001     from .axes3d import Axes3D  
13002 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13003 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13004     from .axes3d import Axes3D  
13005 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13006 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13007     from .axes3d import Axes3D  
13008 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13009 The deprecated function was deprecated in Matplotlib
```

```
13009 3.4 and will be removed two minor releases later.  
13010     from .axes3d import Axes3D  
13011 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13012 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13013     from .axes3d import Axes3D  
13014 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13015 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13016     from .axes3d import Axes3D  
13017 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13018 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13019     from .axes3d import Axes3D  
13020 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13021 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13022     from .axes3d import Axes3D  
13023 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13024 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13025     from .axes3d import Axes3D  
13026 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13027 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13028     from .axes3d import Axes3D  
13029 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:
```

```
13029 MatplotlibDeprecationWarning:  
13030 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
13031     from .axes3d import Axes3D  
13032 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib3d\__init__.py:1:  
      MatplotlibDeprecationWarning:  
13033 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
13034     from .axes3d import Axes3D  
13035 16  
13036 AEE  
13037 AEP  
13038 AES  
13039 ATO  
13040 CMS  
13041 CNP  
13042 D  
13043 DTE  
13044 DUK  
13045 ED  
13046 EIX  
13047 ES  
13048 ETR  
13049 EVRG  
13050 EXC  
13051 FE  
13052 LNT  
13053 NEE  
13054 NI  
13055 NRG  
13056 PEG  
13057 PNW  
13058 PPL  
13059 SRE  
13060 WEC  
13061 XEL  
13062 --- 37.101842403411865 seconds ---  
13063 (5510.0, '2018 q4') 224  
13064 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
13064 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13065 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13066     from .axes3d import Axes3D  
13067 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13068 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13069     from .axes3d import Axes3D  
13070 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13071 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13072     from .axes3d import Axes3D  
13073 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13074 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13075     from .axes3d import Axes3D  
13076 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13077 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13078     from .axes3d import Axes3D  
13079 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13080 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13081     from .axes3d import Axes3D  
13082 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13083 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
13084     from .axes3d import Axes3D
13085 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13086 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13087     from .axes3d import Axes3D
13088 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13089 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13090     from .axes3d import Axes3D
13091 C:\ProgramData\Anaconda3\lib\site-packages\
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13092 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13093     from .axes3d import Axes3D
13094 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13095 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13096     from .axes3d import Axes3D
13097 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13098 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13099     from .axes3d import Axes3D
13100 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13101 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13102     from .axes3d import Axes3D
13103 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
```

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13104 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
13105     from .axes3d import Axes3D
13106 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\matplotlib\__init__.py:1:
      MatplotlibDeprecationWarning:
13107 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
13108     from .axes3d import Axes3D
13109 C:\ProgramData\Anaconda3\lib\site-packages\gensim\
      models\ldamodel.py:821: RuntimeWarning: divide by
      zero encountered in double_scalars
13110     perwordbound = self.bound(chunk, subsample_ratio=
      subsample_ratio) / (subsample_ratio * corpus_words)
13111 16
13112 AEE
13113 AEP
13114 AES
13115 ATO
13116 AWK
13117 C:/Users/admin-zoicanma/Documents/GitHub/RA-
      materials/build_shapleyvalue.py:132: RuntimeWarning
      : Mean of empty slice.
13118     data = data.append({'Analyst': k, '
      InfoContribution': np.array(shapley_value).mean()},
      ignore_index=True)
13119 C:\ProgramData\Anaconda3\lib\site-packages\numpy\
      core\_methods.py:170: RuntimeWarning: invalid value
      encountered in double_scalars
13120     ret = ret.dtype.type(ret / rcount)
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      materials/build_shapleyvalue.py:139: RuntimeWarning
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13122     avg_similarity = cosine_matrix[np.triu_indices(np.
      shape(cosine_matrix)[1], k=1)].mean()
13123 C:\ProgramData\Anaconda3\lib\site-packages\numpy\
      core\_methods.py:170: RuntimeWarning: invalid value
      encountered in true_divide
13124     ret = ret.dtype.type(ret / rcount)
13125 CMS
```

```
13126 CNP
13127 D
13128 DTE
13129 DUK
13130 ED
13131 EIX
13132 ES
13133 ETR
13134 EVRG
13135 EXC
13136 FE
13137 LNT
13138 NEE
13139 NI
13140 NRG
13141 PEG
13142 PNW
13143 PPL
13144 SRE
13145 WEC
13146 XEL
13147 --- 37.854071378707886 seconds ---
13148 (5510.0, '2019 q1') 225
13149 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
13150 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13151     from .axes3d import Axes3D
13152 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
13153 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13154     from .axes3d import Axes3D
13155 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
13156 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
13157     from .axes3d import Axes3D
13158 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
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13159 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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13161 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
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13162 The deprecated function was deprecated in Matplotlib
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13163     from .axes3d import Axes3D
13164 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
13165 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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13167 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
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13168 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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13170 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
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13171 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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13173 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
13174 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13175     from .axes3d import Axes3D
13176 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
```

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13177 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
13178     from .axes3d import Axes3D
13179 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
13180 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
13181     from .axes3d import Axes3D
13182 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
13183 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
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13185 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
13186 The deprecated function was deprecated in Matplotlib
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13188 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
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13189 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
13190     from .axes3d import Axes3D
13191 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
13192 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
13193     from .axes3d import Axes3D
13194 16
13195 AEE
13196 AEP
13197 AES
13198 ATO
13199 AWK
13200 CMS
```

```
13201 CNP
13202 D
13203 DTE
13204 DUK
13205 ED
13206 EIX
13207 ES
13208 ETR
13209 EVRG
13210 EXC
13211 FE
13212 LNT
13213 NEE
13214 NI
13215 NRG
13216 PEG
13217 PNW
13218 PPL
13219 SRE
13220 C:/Users/admin-zoicanma/Documents/GitHub/RA-
    materials/build_shapleyvalue.py:132: RuntimeWarning
        : Mean of empty slice.
13221     data = data.append({'Analyst': k, 'InfoContribution': np.array(shapley_value).mean()},
    ignore_index=True)
13222 C:\ProgramData\Anaconda3\lib\site-packages\numpy\
    core\_methods.py:170: RuntimeWarning: invalid value
    encountered in double_scalars
13223     ret = ret.dtype.type(ret / rcount)
13224 C:/Users/admin-zoicanma/Documents/GitHub/RA-
    materials/build_shapleyvalue.py:139: RuntimeWarning
        : Mean of empty slice.
13225     avg_similarity = cosine_matrix[np.triu_indices(np.
        shape(cosine_matrix)[1], k=1)].mean()
13226 C:\ProgramData\Anaconda3\lib\site-packages\numpy\
    core\_methods.py:170: RuntimeWarning: invalid value
    encountered in true_divide
13227     ret = ret.dtype.type(ret / rcount)
13228 WEC
13229 XEL
```

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13230 --- 40.64745330810547 seconds ---
13231 (5510.0, '2019 q2') 226
13232 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13233 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13234     from .axes3d import Axes3D
13235 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13236 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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13238 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13239 The deprecated function was deprecated in Matplotlib
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13241 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
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13242 The deprecated function was deprecated in Matplotlib
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13243     from .axes3d import Axes3D
13244 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13245 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13246     from .axes3d import Axes3D
13247 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13248 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13249     from .axes3d import Axes3D
13250 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
```

```
13250 MatplotlibDeprecationWarning:  
13251 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13252     from .axes3d import Axes3D  
13253 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13254 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13255     from .axes3d import Axes3D  
13256 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13257 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13258     from .axes3d import Axes3D  
13259 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13260 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13261     from .axes3d import Axes3D  
13262 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13263 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13264     from .axes3d import Axes3D  
13265 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13266 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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13268 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13269 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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```

```
13271 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13272 The deprecated function was deprecated in Matplotlib  
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    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13275 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13276     from .axes3d import Axes3D  
13277 16  
13278 AEE  
13279 AEP  
13280 AES  
13281 ATO  
13282 AWK  
13283 CMS  
13284 CNP  
13285 D  
13286 DTE  
13287 DUK  
13288 ED  
13289 EIX  
13290 ES  
13291 ETR  
13292 EVRG  
13293 EXC  
13294 FE  
13295 LNT  
13296 NEE  
13297 NI  
13298 NRG  
13299 PEG  
13300 PNW  
13301 PPL  
13302 SO  
13303 C:/Users/admin-zoicanma/Documents/GitHub/RA-  
    materials/build_shapleyvalue.py:132: RuntimeWarning
```

```
13303 : Mean of empty slice.
13304     data = data.append({'Analyst': k, 'InfoContribution': np.array(shapley_value).mean()}, ignore_index=True)
13305 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value encountered in double_scalars
13306     ret = ret.dtype.type(ret / rcount)
13307 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/build_shapleyvalue.py:139: RuntimeWarning : Mean of empty slice.
13308     avg_similarity = cosine_matrix[np.triu_indices(np.shape(cosine_matrix)[1], k=1)].mean()
13309 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value encountered in true_divide
13310     ret = ret.dtype.type(ret / rcount)
13311 SRE
13312 WEC
13313 XEL
13314 --- 38.090916872024536 seconds ---
13315 (5510.0, '2019 q3') 227
13316 C:\ProgramData\Anaconda3\lib\site-packages\mpl_toolkits\mplot3d\__init__.py:1: MatplotlibDeprecationWarning:
13317 The deprecated function was deprecated in Matplotlib 3.4 and will be removed two minor releases later.
13318     from .axes3d import Axes3D
13319 C:\ProgramData\Anaconda3\lib\site-packages\mpl_toolkits\mplot3d\__init__.py:1: MatplotlibDeprecationWarning:
13320 The deprecated function was deprecated in Matplotlib 3.4 and will be removed two minor releases later.
13321     from .axes3d import Axes3D
13322 C:\ProgramData\Anaconda3\lib\site-packages\mpl_toolkits\mplot3d\__init__.py:1: MatplotlibDeprecationWarning:
13323 The deprecated function was deprecated in Matplotlib 3.4 and will be removed two minor releases later.
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```

```
13325 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13326 The deprecated function was deprecated in Matplotlib  
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13328 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13329 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13330     from .axes3d import Axes3D  
13331 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13332 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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13334 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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13335 The deprecated function was deprecated in Matplotlib  
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13337 C:\ProgramData\Anaconda3\lib\site-packages\  
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        MatplotlibDeprecationWarning:  
13338 The deprecated function was deprecated in Matplotlib  
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13340 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13341 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13342     from .axes3d import Axes3D  
13343 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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13344 The deprecated function was deprecated in Matplotlib
```

```
13344 3.4 and will be removed two minor releases later.  
13345     from .axes3d import Axes3D  
13346 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13347 The deprecated function was deprecated in Matplotlib  
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13348     from .axes3d import Axes3D  
13349 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
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13350 The deprecated function was deprecated in Matplotlib  
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13352 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
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13361 16  
13362 AEE  
13363 AEP  
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13365 ATO  
13366 AWK  
13367 C:/Users/admin-zoicanma/Documents/GitHub/RA-  
    materials/build_shapleyvalue.py:132: RuntimeWarning
```

```
13367 : Mean of empty slice.
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13371 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/build_shapleyvalue.py:139: RuntimeWarning : Mean of empty slice.
13372     avg_similarity = cosine_matrix[np.triu_indices(np.shape(cosine_matrix)[1], k=1)].mean()
13373 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value encountered in true_divide
13374     ret = ret.dtype.type(ret / rcount)
13375 CMS
13376 CNP
13377 D
13378 DTE
13379 DUK
13380 ED
13381 EIX
13382 ES
13383 ETR
13384 EVRG
13385 EXC
13386 FE
13387 LNT
13388 NEE
13389 NI
13390 NRG
13391 PEG
13392 PNW
13393 PPL
13394 SO
13395 SRE
13396 WEC
13397 XEL
```

```
13398 --- 38.34933018684387 seconds ---
13399 (5510.0, '2019 q4') 228
13400 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13401 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13402     from .axes3d import Axes3D
13403 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13404 The deprecated function was deprecated in Matplotlib
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13406 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
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13407 The deprecated function was deprecated in Matplotlib
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13408     from .axes3d import Axes3D
13409 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13410 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13411     from .axes3d import Axes3D
13412 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13413 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13414     from .axes3d import Axes3D
13415 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13416 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13417     from .axes3d import Axes3D
13418 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
```

```
13418 MatplotlibDeprecationWarning:  
13419 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
13420     from .axes3d import Axes3D  
13421 C:\ProgramData\Anaconda3\lib\site-packages\  
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      MatplotlibDeprecationWarning:  
13422 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
13423     from .axes3d import Axes3D  
13424 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
13425 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
13426     from .axes3d import Axes3D  
13427 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
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13428 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
13429     from .axes3d import Axes3D  
13430 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
13431 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
13432     from .axes3d import Axes3D  
13433 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
13434 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
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13436 C:\ProgramData\Anaconda3\lib\site-packages\  
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      MatplotlibDeprecationWarning:  
13437 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
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```

```
13439 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13440 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13441     from .axes3d import Axes3D  
13442 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13443 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13444     from .axes3d import Axes3D  
13445 16  
13446 AEE  
13447 AEP  
13448 AES  
13449 ATO  
13450 AWK  
13451 CMS  
13452 CNP  
13453 D  
13454 DTE  
13455 DUK  
13456 ED  
13457 EIX  
13458 ES  
13459 ETR  
13460 EVRG  
13461 EXC  
13462 FE  
13463 LNT  
13464 NEE  
13465 NI  
13466 NRG  
13467 PEG  
13468 PNW  
13469 PPL  
13470 SO  
13471 SRE  
13472 WEC
```

```
13473 XEL
13474 --- 39.41036868095398 seconds ---
13475 (5510.0, '2020 q1') 229
13476 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13477 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13478     from .axes3d import Axes3D
13479 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13480 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13481     from .axes3d import Axes3D
13482 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
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13483 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13484     from .axes3d import Axes3D
13485 C:\ProgramData\Anaconda3\lib\site-packages\
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13486 The deprecated function was deprecated in Matplotlib
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13487     from .axes3d import Axes3D
13488 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13489 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13490     from .axes3d import Axes3D
13491 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13492 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13493     from .axes3d import Axes3D
13494 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
13494 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13495 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13496     from .axes3d import Axes3D  
13497 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13498 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13499     from .axes3d import Axes3D  
13500 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13501 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13502     from .axes3d import Axes3D  
13503 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13504 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13505     from .axes3d import Axes3D  
13506 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13507 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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13509 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13510 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13511     from .axes3d import Axes3D  
13512 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13513 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
13514     from .axes3d import Axes3D
13515 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13516 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13517     from .axes3d import Axes3D
13518 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13519 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13520     from .axes3d import Axes3D
13521 16
13522 AEE
13523 AEP
13524 AES
13525 ATO
13526 AWK
13527 CMS
13528 CNP
13529 D
13530 DTE
13531 DUK
13532 ED
13533 EIX
13534 ES
13535 ETR
13536 EVRG
13537 EXC
13538 FE
13539 LNT
13540 NEE
13541 NI
13542 NRG
13543 PEG
13544 PNW
13545 PPL
13546 SO
13547 SRE
```

```
13548 WEC
13549 XEL
13550 --- 42.11693501472473 seconds ---
13551 (5510.0, '2020 q2') 230
13552 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
13553 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13554     from .axes3d import Axes3D
13555 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
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13559 The deprecated function was deprecated in Matplotlib
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13560     from .axes3d import Axes3D
13561 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
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13562 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13563     from .axes3d import Axes3D
13564 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
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13565 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13566     from .axes3d import Axes3D
13567 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
13568 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13569     from .axes3d import Axes3D
```

```
13570 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13571 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13572     from .axes3d import Axes3D  
13573 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13574 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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13576 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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13577 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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13579 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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13580 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
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13582 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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13585 C:\ProgramData\Anaconda3\lib\site-packages\  
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    3.4 and will be removed two minor releases later.  
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13588 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
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13589 The deprecated function was deprecated in Matplotlib
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13589 3.4 and will be removed two minor releases later.  
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13591 C:\ProgramData\Anaconda3\lib\site-packages\  
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13597 16  
13598 AEE  
13599 AEP  
13600 AES  
13601 ATO  
13602 AWK  
13603 CMS  
13604 CNP  
13605 D  
13606 DTE  
13607 DUK  
13608 ED  
13609 EIX  
13610 ES  
13611 ETR  
13612 EVRG  
13613 EXC  
13614 FE  
13615 LNT  
13616 NEE  
13617 NI  
13618 NRG  
13619 PEG  
13620 PNW  
13621 PPL  
13622 SO
```

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13623 SRE
13624 WEC
13625 XEL
13626 --- 40.13203144073486 seconds ---
13627 (6010.0, '2018 q1') 231
13628 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13629 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13630     from .axes3d import Axes3D
13631 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13632 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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13634 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13635 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13636     from .axes3d import Axes3D
13637 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13638 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13639     from .axes3d import Axes3D
13640 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13641 The deprecated function was deprecated in Matplotlib
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13643 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13644 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
13645     from .axes3d import Axes3D
13646 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13647 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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13649 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13650 The deprecated function was deprecated in Matplotlib
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13652 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13653 The deprecated function was deprecated in Matplotlib
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13655 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13656 The deprecated function was deprecated in Matplotlib
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13658 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13659 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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13661 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13662 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13663     from .axes3d import Axes3D
13664 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
13665 The deprecated function was deprecated in Matplotlib
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13666     from .axes3d import Axes3D
13667 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
13668 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
13669     from .axes3d import Axes3D
13670 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
13671 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
13672     from .axes3d import Axes3D
13673 16
13674 AIV
13675 AMT
13676 ARE
13677 AVB
13678 DLR
13679 DRE
13680 EQIX
13681 EQR
13682 ESS
13683 EXR
13684 FRT
13685 HST
13686 IRM
13687 KIM
13688 MAA
13689 O
13690 PEAK
13691 PLD
13692 PSA
13693 REG
13694 SBAC
13695 SLG
13696 UDR
13697 VNO
```

```
13698 VTR
13699 WELL
13700 WY
13701 --- 39.14535689353943 seconds ---
13702 (6010.0, '2018 q2') 232
13703 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13704 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13705     from .axes3d import Axes3D
13706 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13707 The deprecated function was deprecated in Matplotlib
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13709 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
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13710 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13711     from .axes3d import Axes3D
13712 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13713 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13714     from .axes3d import Axes3D
13715 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13716 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13717     from .axes3d import Axes3D
13718 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
13719 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
```

```
13720     from .axes3d import Axes3D
13721 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13722 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13723     from .axes3d import Axes3D
13724 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13725 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13726     from .axes3d import Axes3D
13727 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13728 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13729     from .axes3d import Axes3D
13730 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13731 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13732     from .axes3d import Axes3D
13733 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13734 The deprecated function was deprecated in Matplotlib
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13736 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13737 The deprecated function was deprecated in Matplotlib
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13738     from .axes3d import Axes3D
13739 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
```

```
13740 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
13741     from .axes3d import Axes3D
13742 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
13743 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
13744     from .axes3d import Axes3D
13745 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
13746 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
13747     from .axes3d import Axes3D
13748 16
13749 AIV
13750 AMT
13751 ARE
13752 AVB
13753 CCI
13754 C:/Users/admin-zoicanma/Documents/GitHub/RA-
      materials/build_shapleyvalue.py:132: RuntimeWarning
        : Mean of empty slice.
13755     data = data.append({'Analyst': k,
      'InfoContribution': np.array(shapley_value).mean()},
      ignore_index=True)
13756 C:\ProgramData\Anaconda3\lib\site-packages\numpy\
      core\_methods.py:170: RuntimeWarning: invalid value
      encountered in double_scalars
13757     ret = ret.dtype.type(ret / rcount)
13758 C:/Users/admin-zoicanma/Documents/GitHub/RA-
      materials/build_shapleyvalue.py:139: RuntimeWarning
        : Mean of empty slice.
13759     avg_similarity = cosine_matrix[np.triu_indices(np.
      shape(cosine_matrix)[1], k=1)].mean()
13760 DLR
13761 DRE
13762 EQIX
13763 EQR
```

```
13764 ESS
13765 EXR
13766 FRT
13767 HST
13768 IRM
13769 KIM
13770 MAA
13771 O
13772 PEAK
13773 PLD
13774 PSA
13775 REG
13776 SBAC
13777 SLG
13778 UDR
13779 VNO
13780 VTR
13781 WELL
13782 WY
13783 --- 39.978145360946655 seconds ---
13784 (6010.0, '2018 q3') 233
13785 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
13786 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
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13788 C:\ProgramData\Anaconda3\lib\site-packages\
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13789 The deprecated function was deprecated in Matplotlib
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13791 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
13792 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13793     from .axes3d import Axes3D
13794 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
13794 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13795 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13796     from .axes3d import Axes3D  
13797 C:\ProgramData\Anaconda3\lib\site-packages\  
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    MatplotlibDeprecationWarning:  
13798 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13799     from .axes3d import Axes3D  
13800 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13801 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13802     from .axes3d import Axes3D  
13803 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13804 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13805     from .axes3d import Axes3D  
13806 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13807 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13808     from .axes3d import Axes3D  
13809 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13810 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13811     from .axes3d import Axes3D  
13812 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13813 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
13814     from .axes3d import Axes3D
13815 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13816 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13817     from .axes3d import Axes3D
13818 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13819 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13820     from .axes3d import Axes3D
13821 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13822 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13823     from .axes3d import Axes3D
13824 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13825 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13826     from .axes3d import Axes3D
13827 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
13828 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13829     from .axes3d import Axes3D
13830 16
13831 AIV
13832 AMT
13833 ARE
13834 AVB
13835 CCI
13836 C:/Users/admin-zoicanma/Documents/GitHub/RA-
    materials/build_shapleyvalue.py:132: RuntimeWarning
        : Mean of empty slice.
```

```
13837     data = data.append({'Analyst': k, 'InfoContribution': np.array(shapley_value).mean()}, ignore_index=True)
13838 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value encountered in double_scalars
13839     ret = ret.dtype.type(ret / rcount)
13840 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/build_shapleyvalue.py:139: RuntimeWarning : Mean of empty slice.
13841     avg_similarity = cosine_matrix[np.triu_indices(np.shape(cosine_matrix)[1], k=1)].mean()
13842 DLR
13843 DRE
13844 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value encountered in true_divide
13845     ret = ret.dtype.type(ret / rcount)
13846 EQIX
13847 EQR
13848 ESS
13849 EXR
13850 FRT
13851 HST
13852 IRM
13853 KIM
13854 MAA
13855 O
13856 PEAK
13857 PLD
13858 PSA
13859 REG
13860 SBAC
13861 SLG
13862 SPG
13863 UDR
13864 VNO
13865 VTR
13866 WELL
13867 WY
```

```
13868 --- 40.48077940940857 seconds ---
13869 (6010.0, '2018 q4') 234
13870 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13871 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13872     from .axes3d import Axes3D
13873 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13874 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13875     from .axes3d import Axes3D
13876 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13877 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13878     from .axes3d import Axes3D
13879 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13880 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13881     from .axes3d import Axes3D
13882 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13883 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13884     from .axes3d import Axes3D
13885 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
        MatplotlibDeprecationWarning:
13886 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13887     from .axes3d import Axes3D
13888 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
```

```
13888 MatplotlibDeprecationWarning:  
13889 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
13890     from .axes3d import Axes3D  
13891 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13892 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
13893     from .axes3d import Axes3D  
13894 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13895 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
13896     from .axes3d import Axes3D  
13897 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13898 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
13899     from .axes3d import Axes3D  
13900 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13901 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
13902     from .axes3d import Axes3D  
13903 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13904 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
13905     from .axes3d import Axes3D  
13906 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13907 The deprecated function was deprecated in Matplotlib  
3.4 and will be removed two minor releases later.  
13908     from .axes3d import Axes3D
```

```
13909 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13910 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13911     from .axes3d import Axes3D  
13912 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13913 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13914     from .axes3d import Axes3D  
13915 16  
13916 AIV  
13917 AMT  
13918 ARE  
13919 AVB  
13920 CCI  
13921 DLR  
13922 DRE  
13923 C:/Users/admin-zoicanma/Documents/GitHub/RA-  
    materials/build_shapleyvalue.py:132: RuntimeWarning  
        : Mean of empty slice.  
13924     data = data.append({'Analyst': k, '  
        InfoContribution': np.array(shapley_value).mean()},  
        ignore_index=True)  
13925 C:\ProgramData\Anaconda3\lib\site-packages\numpy\  
    core\__methods.py:170: RuntimeWarning: invalid value  
    encountered in double_scalars  
13926     ret = ret.dtype.type(ret / rcount)  
13927 C:/Users/admin-zoicanma/Documents/GitHub/RA-  
    materials/build_shapleyvalue.py:139: RuntimeWarning  
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13928     avg_similarity = cosine_matrix[np.triu_indices(np.  
        shape(cosine_matrix)[1], k=1)].mean()  
13929 C:\ProgramData\Anaconda3\lib\site-packages\numpy\  
    core\__methods.py:170: RuntimeWarning: invalid value  
    encountered in true_divide  
13930     ret = ret.dtype.type(ret / rcount)  
13931 EQIX
```

```
13932 EQR
13933 ESS
13934 EXR
13935 FRT
13936 HST
13937 IRM
13938 KIM
13939 MAA
13940 O
13941 PEAK
13942 PLD
13943 PSA
13944 REG
13945 SBAC
13946 SLG
13947 UDR
13948 VNO
13949 VTR
13950 WELL
13951 WY
13952 --- 41.833268880844116 seconds ---
13953 (6010.0, '2019 q1') 235
13954 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
13955 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13956     from .axes3d import Axes3D
13957 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
13958 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13959     from .axes3d import Axes3D
13960 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
13961 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
13962     from .axes3d import Axes3D
```

```
13963 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13964 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13965     from .axes3d import Axes3D  
13966 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13967 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13968     from .axes3d import Axes3D  
13969 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13970 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13971     from .axes3d import Axes3D  
13972 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13973 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13974     from .axes3d import Axes3D  
13975 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13976 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13977     from .axes3d import Axes3D  
13978 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13979 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13980     from .axes3d import Axes3D  
13981 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
13982 The deprecated function was deprecated in Matplotlib
```

```
13982 3.4 and will be removed two minor releases later.  
13983     from .axes3d import Axes3D  
13984 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13985 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13986     from .axes3d import Axes3D  
13987 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13988 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13989     from .axes3d import Axes3D  
13990 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13991 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13992     from .axes3d import Axes3D  
13993 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13994 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13995     from .axes3d import Axes3D  
13996 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\matplotlib\__init__.py:1:  
    MatplotlibDeprecationWarning:  
13997 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
13998     from .axes3d import Axes3D  
13999 16  
14000 AIV  
14001 AMT  
14002 ARE  
14003 AVB  
14004 BXP  
14005 C:/Users/admin-zoicanma/Documents/GitHub/RA-  
    materials/build_shapleyvalue.py:132: RuntimeWarning
```

```
14005 : Mean of empty slice.
14006   data = data.append({'Analyst': k, 'InfoContribution': np.array(shapley_value).mean()}, ignore_index=True)
14007 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value encountered in double_scalars
14008   ret = ret.dtype.type(ret / rcount)
14009 C:/Users/admin-zoicanma/Documents/GitHub/RA-materials/build_shapleyvalue.py:139: RuntimeWarning : Mean of empty slice.
14010   avg_similarity = cosine_matrix[np.triu_indices(np.shape(cosine_matrix)[1], k=1)].mean()
14011 C:\ProgramData\Anaconda3\lib\site-packages\numpy\core\_methods.py:170: RuntimeWarning: invalid value encountered in true_divide
14012   ret = ret.dtype.type(ret / rcount)
14013 CCI
14014 DLR
14015 DRE
14016 EQIX
14017 EQR
14018 ESS
14019 EXR
14020 FRT
14021 HST
14022 IRM
14023 KIM
14024 MAA
14025 O
14026 PEAK
14027 PLD
14028 PSA
14029 REG
14030 SBAC
14031 SLG
14032 SPG
14033 UDR
14034 VNO
14035 VTR
```

```
14036 WELL
14037 WY
14038 --- 42.027170181274414 seconds ---
14039 (6010.0, '2019 q2') 236
14040 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
14041 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14042     from .axes3d import Axes3D
14043 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
14044 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14045     from .axes3d import Axes3D
14046 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
14047 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14048     from .axes3d import Axes3D
14049 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
14050 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14051     from .axes3d import Axes3D
14052 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
14053 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14054     from .axes3d import Axes3D
14055 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
    MatplotlibDeprecationWarning:
14056 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14057     from .axes3d import Axes3D
```

```
14058 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14059 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14060     from .axes3d import Axes3D  
14061 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14062 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14063     from .axes3d import Axes3D  
14064 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14065 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14066     from .axes3d import Axes3D  
14067 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14068 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14069     from .axes3d import Axes3D  
14070 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14071 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14072     from .axes3d import Axes3D  
14073 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14074 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14075     from .axes3d import Axes3D  
14076 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14077 The deprecated function was deprecated in Matplotlib
```

```
14077 3.4 and will be removed two minor releases later.  
14078     from .axes3d import Axes3D  
14079 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14080 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14081     from .axes3d import Axes3D  
14082 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14083 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14084     from .axes3d import Axes3D  
14085 16  
14086 AIV  
14087 AMT  
14088 ARE  
14089 AVB  
14090 BXP  
14091 CCI  
14092 DLR  
14093 DRE  
14094 EQIX  
14095 EQR  
14096 ESS  
14097 EXR  
14098 FRT  
14099 HST  
14100 IRM  
14101 KIM  
14102 MAA  
14103 O  
14104 PEAK  
14105 PLD  
14106 PSA  
14107 REG  
14108 SBAC  
14109 SLG  
14110 SPG
```

```
14111 UDR
14112 VNO
14113 VTR
14114 WELL
14115 WY
14116 --- 40.66861009597778 seconds ---
14117 (6010.0, '2019 q3') 237
14118 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
14119 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14120     from .axes3d import Axes3D
14121 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
14122 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14123     from .axes3d import Axes3D
14124 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
14125 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14126     from .axes3d import Axes3D
14127 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
14128 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14129     from .axes3d import Axes3D
14130 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
14131 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14132     from .axes3d import Axes3D
14133 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
```

```
14134 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
14135     from .axes3d import Axes3D
14136 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
14137 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
14138     from .axes3d import Axes3D
14139 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
14140 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
14141     from .axes3d import Axes3D
14142 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
14143 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
14144     from .axes3d import Axes3D
14145 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
14146 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
14147     from .axes3d import Axes3D
14148 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
14149 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
14150     from .axes3d import Axes3D
14151 C:\ProgramData\Anaconda3\lib\site-packages\
      mpl_toolkits\mplplot3d\__init__.py:1:
      MatplotlibDeprecationWarning:
14152 The deprecated function was deprecated in Matplotlib
      3.4 and will be removed two minor releases later.
14153     from .axes3d import Axes3D
14154 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
14154 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14155 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14156     from .axes3d import Axes3D  
14157 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14158 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14159     from .axes3d import Axes3D  
14160 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14161 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14162     from .axes3d import Axes3D  
14163 16  
14164 AIV  
14165 AMT  
14166 ARE  
14167 AVB  
14168 BXP  
14169 CCI  
14170 DLR  
14171 DRE  
14172 EQIX  
14173 EQR  
14174 ESS  
14175 EXR  
14176 FRT  
14177 HST  
14178 IRM  
14179 KIM  
14180 MAA  
14181 O  
14182 PEAK  
14183 PLD  
14184 PSA  
14185 REG
```

```
14186 SBAC
14187 SLG
14188 SPG
14189 UDR
14190 VNO
14191 VTR
14192 WELL
14193 WY
14194 --- 41.23826289176941 seconds ---
14195 (6010.0, '2019 q4') 238
14196 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
        MatplotlibDeprecationWarning:
14197 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14198     from .axes3d import Axes3D
14199 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
        MatplotlibDeprecationWarning:
14200 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14201     from .axes3d import Axes3D
14202 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
        MatplotlibDeprecationWarning:
14203 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14204     from .axes3d import Axes3D
14205 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
        MatplotlibDeprecationWarning:
14206 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14207     from .axes3d import Axes3D
14208 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
        MatplotlibDeprecationWarning:
14209 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14210     from .axes3d import Axes3D
```

```
14211 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14212 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14213     from .axes3d import Axes3D  
14214 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14215 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14216     from .axes3d import Axes3D  
14217 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14218 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14219     from .axes3d import Axes3D  
14220 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14221 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14222     from .axes3d import Axes3D  
14223 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14224 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14225     from .axes3d import Axes3D  
14226 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14227 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14228     from .axes3d import Axes3D  
14229 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
        MatplotlibDeprecationWarning:  
14230 The deprecated function was deprecated in Matplotlib
```

```
14230 3.4 and will be removed two minor releases later.
14231     from .axes3d import Axes3D
14232 C:\ProgramData\Anaconda3\lib\site-packages\
14233     mpl_toolkits\mplplot3d\__init__.py:1:
14234     MatplotlibDeprecationWarning:
14235 The deprecated function was deprecated in Matplotlib
14236     3.4 and will be removed two minor releases later.
14237     from .axes3d import Axes3D
14238 C:\ProgramData\Anaconda3\lib\site-packages\
14239     mpl_toolkits\mplplot3d\__init__.py:1:
14240     MatplotlibDeprecationWarning:
14241 The deprecated function was deprecated in Matplotlib
14242     3.4 and will be removed two minor releases later.
14243     from .axes3d import Axes3D
14244 16
14245 AIV
14246 AMT
14247 ARE
14248 AVB
14249 BXP
14250 C:/Users/admin-zoicanma/Documents/GitHub/RA-
14251     materials/build_shapleyvalue.py:132: RuntimeWarning
14252     : Mean of empty slice.
14253         data = data.append({'Analyst': k, 'InfoContribution': np.array(shapley_value).mean()},
14254     ignore_index=True)
14255 C:\ProgramData\Anaconda3\lib\site-packages\numpy\
14256     core\_methods.py:170: RuntimeWarning: invalid value
14257     encountered in double_scalars
14258     ret = ret.dtype.type(ret / rcount)
14259 C:/Users/admin-zoicanma/Documents/GitHub/RA-
14260     materials/build_shapleyvalue.py:139: RuntimeWarning
14261     : Mean of empty slice.
14262     avg_similarity = cosine_matrix[np.triu_indices(np.
```

```
14252 shape(cosine_matrix)[1], k=1]).mean()
14253 C:\ProgramData\Anaconda3\lib\site-packages\numpy\
    core\_methods.py:170: RuntimeWarning: invalid value
        encountered in true_divide
14254     ret = ret.dtype.type(ret / rcount)
14255 CCI
14256 DLR
14257 DRE
14258 EQIX
14259 EQR
14260 ESS
14261 EXR
14262 FRT
14263 HST
14264 IRM
14265 KIM
14266 MAA
14267 O
14268 PEAK
14269 PLD
14270 PSA
14271 REG
14272 SBAC
14273 SLG
14274 SPG
14275 UDR
14276 VNO
14277 VTR
14278 WELL
14279 WY
14280 --- 41.16872954368591 seconds ---
14281 (6010.0, '2020 q1') 239
14282 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
        MatplotlibDeprecationWarning:
14283 The deprecated function was deprecated in Matplotlib
        3.4 and will be removed two minor releases later.
14284     from .axes3d import Axes3D
14285 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\matplotlib\__init__.py:1:
```

```
14285 MatplotlibDeprecationWarning:  
14286 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
14287     from .axes3d import Axes3D  
14288 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
14289 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
14290     from .axes3d import Axes3D  
14291 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
14292 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
14293     from .axes3d import Axes3D  
14294 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
14295 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
14296     from .axes3d import Axes3D  
14297 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
14298 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
14299     from .axes3d import Axes3D  
14300 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
14301 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
14302     from .axes3d import Axes3D  
14303 C:\ProgramData\Anaconda3\lib\site-packages\  
      mpl_toolkits\matplotlib\__init__.py:1:  
      MatplotlibDeprecationWarning:  
14304 The deprecated function was deprecated in Matplotlib  
      3.4 and will be removed two minor releases later.  
14305     from .axes3d import Axes3D
```

```
14306 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14307 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14308     from .axes3d import Axes3D  
14309 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14310 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14311     from .axes3d import Axes3D  
14312 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14313 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14314     from .axes3d import Axes3D  
14315 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14316 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14317     from .axes3d import Axes3D  
14318 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14319 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14320     from .axes3d import Axes3D  
14321 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14322 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14323     from .axes3d import Axes3D  
14324 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14325 The deprecated function was deprecated in Matplotlib
```

```
14325 3.4 and will be removed two minor releases later.  
14326 from .axes3d import Axes3D  
14327 16  
14328 AIV  
14329 AMT  
14330 ARE  
14331 AVB  
14332 CCI  
14333 DLR  
14334 DRE  
14335 EQIX  
14336 EQR  
14337 ESS  
14338 C:/Users/admin-zoicanma/Documents/GitHub/RA-  
    materials/build_shapleyvalue.py:132: RuntimeWarning  
        : Mean of empty slice.  
14339 data = data.append({'Analyst': k, '  
    InfoContribution': np.array(shapley_value).mean()},  
    ignore_index=True)  
14340 C:\ProgramData\Anaconda3\lib\site-packages\numpy\  
    core\_methods.py:170: RuntimeWarning: invalid value  
    encountered in double_scalars  
14341 ret = ret.dtype.type(ret / rcount)  
14342 C:/Users/admin-zoicanma/Documents/GitHub/RA-  
    materials/build_shapleyvalue.py:139: RuntimeWarning  
        : Mean of empty slice.  
14343 avg_similarity = cosine_matrix[np.triu_indices(np.  
    shape(cosine_matrix)[1], k=1)].mean()  
14344 EXR  
14345 FRT  
14346 HST  
14347 IRM  
14348 KIM  
14349 MAA  
14350 O  
14351 PEAK  
14352 PLD  
14353 PSA  
14354 REG  
14355 SBAC
```

```
14356 SLG
14357 SPG
14358 UDR
14359 VNO
14360 VTR
14361 WELL
14362 WY
14363 --- 41.33152890205383 seconds ---
14364 (6010.0, '2020 q2') 240
14365 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
14366 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14367     from .axes3d import Axes3D
14368 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
14369 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14370     from .axes3d import Axes3D
14371 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
14372 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14373     from .axes3d import Axes3D
14374 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
14375 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14376     from .axes3d import Axes3D
14377 C:\ProgramData\Anaconda3\lib\site-packages\
    mpl_toolkits\mplplot3d\__init__.py:1:
    MatplotlibDeprecationWarning:
14378 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14379     from .axes3d import Axes3D
14380 C:\ProgramData\Anaconda3\lib\site-packages\
```

```
14380 mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14381 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14382     from .axes3d import Axes3D  
14383 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14384 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14385     from .axes3d import Axes3D  
14386 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14387 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14388     from .axes3d import Axes3D  
14389 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14390 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14391     from .axes3d import Axes3D  
14392 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14393 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14394     from .axes3d import Axes3D  
14395 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14396 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.  
14397     from .axes3d import Axes3D  
14398 C:\ProgramData\Anaconda3\lib\site-packages\  
    mpl_toolkits\mplot3d\__init__.py:1:  
    MatplotlibDeprecationWarning:  
14399 The deprecated function was deprecated in Matplotlib  
    3.4 and will be removed two minor releases later.
```

```
14400     from .axes3d import Axes3D
14401 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
14402 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14403     from .axes3d import Axes3D
14404 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
14405 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14406     from .axes3d import Axes3D
14407 C:\ProgramData\Anaconda3\lib\site-packages\
mpl_toolkits\matplotlib\__init__.py:1:
MatplotlibDeprecationWarning:
14408 The deprecated function was deprecated in Matplotlib
    3.4 and will be removed two minor releases later.
14409     from .axes3d import Axes3D
14410 16
14411 AIV
14412 AMT
14413 ARE
14414 AVB
14415 BXP
14416 C:/Users/admin-zoicanma/Documents/GitHub/RA-
    materials/build_shapleyvalue.py:132: RuntimeWarning
        : Mean of empty slice.
14417     data = data.append({'Analyst': k, 'InfoContribution': np.array(shapley_value).mean()},
    ignore_index=True)
14418 C:\ProgramData\Anaconda3\lib\site-packages\numpy\
    core\_methods.py:170: RuntimeWarning: invalid value
    encountered in double_scalars
14419     ret = ret.dtype.type(ret / rcount)
14420 C:/Users/admin-zoicanma/Documents/GitHub/RA-
    materials/build_shapleyvalue.py:139: RuntimeWarning
        : Mean of empty slice.
14421     avg_similarity = cosine_matrix[np.triu_indices(np.
    shape(cosine_matrix)[1], k=1)].mean()
```

```
14422 C:\ProgramData\Anaconda3\lib\site-packages\numpy\  
core\_methods.py:170: RuntimeWarning: invalid value  
encountered in true_divide  
14423     ret = ret.dtype.type(ret / rcount)  
14424 CCI  
14425 DLR  
14426 DRE  
14427 EQIX  
14428 EQR  
14429 ESS  
14430 EXR  
14431 FRT  
14432 HST  
14433 IRM  
14434 KIM  
14435 MAA  
14436 O  
14437 PEAK  
14438 PLD  
14439 PSA  
14440 REG  
14441 SBAC  
14442 SLG  
14443 SPG  
14444 UDR  
14445 VNO  
14446 VTR  
14447 WELL  
14448 WY  
14449 --- 40.37929105758667 seconds ---  
14450 Loop: --- 251151.41218614578 seconds ---  
14451
```