Analysis(MT19111)

Here we have consider p=20 percent of retrieved doc. Since number of retrieved docs are 100 therefore p=20.

Query1:]
Enter Query: Pretty good opinions on biochemistry machines
Pretty good opinions on biochemistry machines
Querylist= ['pretty', 'good', 'opinion', 'biochemistry', 'machine']

Enter number of docs you wanna retrive100
Enter which folder have to be relevant
1:comp.graphics 2:rec.sports.hockey 3:sci.med
4:sci.space 5:talk.politics.misc
3

362 : and Score= 0.04829748768908031		871 : and Score= 0.00974649938151676
2041 : and Score= 0.036645189135063566		1247 : and Score= 0.009738441460301213
436 : and Score= 0.036414258287022154		3292 : and Score= 0.009659115391158234
613 : and Score= 0.026849403823522522		297 : and Score= 0.009628182864757513
676 : and Score= 0.02416385783413432		839 : and Score= 0.009957395682539649
2754 : and Score= 0.020862779245032433		3679 : and Score= 0.009949119202656153
2478 : and Score= 0.020775094502426913		1029 : and Score= 0.009305067980523352
2761 : and Score= 0.019987258287377695		708 : and Score= 0.009213116360776114
2350 : and Score= 0.01850295749929866		717 : and Score= 0.009135666845849323
2422 : and Score= 0.0177550582083099		1264 : and Score= 0.009076935819224856
2865 : and Score= 0.01727625553758466		2405 : and Score= 0.009001751973391517
1278 : and Score= 0.0160327159597878 88		2425 : and Score= 0.008980260669335886
2164 : and Score= 0.015991947221126766		3804 : and Score= 0.008806938366563143
2176 : and Score= 0.015882395264070995		2445 : and Score= 0.008797591621419847
2479 : and Score= 0.015499961528709721		4189 : and Score= 0.008771996071219281
80 : and Score= 0.015015138934409604		4057 : and Score= 0.008766613666468304
798 : and Score= 0.014447832772314696		3418 : and Score= 0.008751173295119858
1104 : and Score= 0.014167075371430615		317 : and Score= 0.008731589389925562
377 : and Score= 0.014152275835874601		256 : and Score= 0.008704831038898143
2662 : and Score= 0.0139526693532802577		3227 : and Score= 0.008704831038898143
488 : and Score= 0.013374246179823796		2184 : and Score= 0.008699204472854286
569 : and Score= 0.013160957341679474		4790 : and Score= 0.00864315779222522
598 : and Score= 0.012627746609667619		2879 : and Score= 0.008624889854287767
890 : and Score= 0.012400915386017518		3999 : and Score= 0.008622537800261799
2963 : and Score= 0.01229340971308366		2925 : and Score= 0.008589271111905869
24 : and Score= 0.01219642267721636		2984 : and Score= 0.008423690931290908
684 : and Score= 0.011822793887330145		3085 : and Score= 0.008309638760060406
235 : and Score= 0.011812998707607351		2716 : and Score= 0.008271228342355037
3533 : and Score= 0.011698042190064706		2849 : and Score= 0.00823651043952462
277 : and Score= 0.011578030548346675		3659 : and Score= 0.008026253555463872
1703 : and Score= 0.0113710361560165		1003 : and Score= 0.00801103582917896
2669 : and Score= 0.011314560976391238		2477 : and Score= 0.00795002777520964
581 : and Score= 0.011162212343556506		1231 : and Score= 0.007809157953643669
947 : and Score= 0.011053521411306251		58 : and Score= 0.007792716030969025
1599 : and Score= 0.011007218351468931		2599 : and Score= 0.0077217781583871405
4990 : and Score= 0.0108604015574018		2421 : and Score= 0.007686101161972174
832 : and Score= 0.01081821821648917		1803 : and Score= 0.007656265619725074
2235 : and Score= 0.010665302232135966		1380 : and Score= 0.007632772643278978
747 : and Score= 0.010600154364367013		4689 : and Score= 0.0076162499938868065
2907 : and Score= 0.010581358868848615		2611 : and Score= 0.007515137721133096
508 : and Score= 0.010509381097296574		754 : and Score= 0.007511813324315536
1596 : and Score= 0.010400409825496141		1917 : and Score= 0.0074851049137121305
468 : and Score= 0.010297106535511306		1685 : and Score= 0.007443406384626119
363 : and Score= 0.010263936687310524		252 : and Score= 0.007424106445992981
1392 : and Score= 0.010261888185573107		1199 : and Score= 0.007369914665850476
804 : and Score= 0.010193649073071792		1666 : and Score= 0.007315381236145125
2594 : and Score= 0.010177142462966336		1147 : and Score= 0.007311761161014367
3940 : and Score= 0.010166963022128998		
571 : and Score= 0.010060448966091163		
281 : and Score= 0.0099191755494453842		
763 : and Score= 0.00988696370373739		
794 : and Score= 0.009809829866951685		
1016 : and Score= 0.009781115394098278		

Iteration 1

Now the relevent docs marked are [2041, 2754, 2478, 2761, 2350, 2422, 2865, 2164, 2176, 2479, 2662, 2963, 2669, 2235, 2907, 2594, 2405, 2425, 2445, 2184]

* 2479 : and Score= 0.09768558379689675
* 2478 : and Score= 0.0948761958700138
* 2041 : and Score= 0.0888268096186844
* 2761 : and Score= 0.08357287744196643
* 2176 : and Score= 0.07341762065004759
* 2754 : and Score= 0.07046921203561671
* 2350 : and Score= 0.06963187348893347
* 2422 : and Score= 0.06387553471269436
* 2425 : and Score= 0.06339575689155838
* 2164 : and Score= 0.05727849479868006
* 2405 : and Score= 0.053532619474025385
* 2184 : and Score= 0.050930727275465666
2345 : and Score= 0.04908683102453184
* 2662 : and Score= 0.04889250326207446
* 2669 : and Score= 0.046893985754407244
362 : and Score= 0.04665640597543517
* 2865 : and Score= 0.044187522520720154
* 2594 : and Score= 0.043846985589015675
436 : and Score= 0.03982502856454744
* 2907 : and Score= 0.03884503458701512
2599 : and Score= 0.03808612380368847
2460 : and Score= 0.03628278680517076
* 2963 : and Score= 0.035334779961469
2523 : and Score= 0.0324058631311039
2744 : and Score= 0.030675670292636105
* 2445 : and Score= 0.030087108097569322
* 2235 : and Score= 0.02962448189564426
2879 : and Score= 0.0247401315709036
2477 : and Score= 0.024648986528582002
613 : and Score= 0.019374859167513088
676 : and Score= 0.01926306267162513
2820 : and Score= 0.01744389151714351
2404 : and Score= 0.0172253210827801
2159 : and Score= 0.01698688887616114
2182 : and Score= 0.016882958071719755
2849 : and Score= 0.016244093533605862
2926 : and Score= 0.015583183225498311
2984 : and Score= 0.0150392216713336
2527 : and Score= 0.014534214792080013
2920 : and Score= 0.014431093695232247
2178 : and Score= 0.0143842020896709477
2016 : and Score= 0.014266533521083202
2568 : and Score= 0.01414360554133492
2474 : and Score= 0.013979656931093534
2793 : and Score= 0.013894103093149146
2319 : and Score= 0.013869039457366075
2440 : and Score= 0.013542447711751305
24 : and Score= 0.01328000549494593
1278 : and Score= 0.013242201597339319
2656 : and Score= 0.013124230243890853
2364 : and Score= 0.013117974192518655
2461 : and Score= 0.013059649752569721
2914 : and Score= 0.01261338461023871
2746 : and Score= 0.012537338315343977
2287 : and Score= 0.012498992562729159
2123 : and Score= 0.012485270179942031
798 : and Score= 0.012446785787842507
360 : and Score= 0.012374678774172745
2202 : and Score= 0.012242265937678638
2944 : and Score= 0.012037908049137118
2201 : and Score= 0.012016501227635954
377 : and Score= 0.011993323211662925
2446 : and Score= 0.011989548102726712
80 : and Score= 0.011943710042547512
488 : and Score= 0.011838940913384777
2476 : and Score= 0.011785856057149302
2025 : and Score= 0.011723356453292769
2525 : and Score= 0.011596178649928873
235 : and Score= 0.011557275721176787
2342 : and Score= 0.011553035991384183
4990 : and Score= 0.011518324334089176
2542 : and Score= 0.011472244163437473

871 : and Score= 0.011462996691298842
2890 : and Score= 0.011401888927553866
3033 : and Score= 0.0113932267275328188
1104 : and Score= 0.011364177623294301
2504 : and Score= 0.0113558520898345027
2545 : and Score= 0.011273485401866736
3679 : and Score= 0.01121271680184506
2020 : and Score= 0.0111174758941941068
2183 : and Score= 0.011140492018211116
2396 : and Score= 0.01112697653814515
2861 : and Score= 0.0111122612638983693
2598 : and Score= 0.0111120614398040891
2187 : and Score= 0.0110732273825898843
2638 : and Score= 0.0109710176780715114
2379 : and Score= 0.010906351205210397
2411 : and Score= 0.010899884760642528
3292 : and Score= 0.010811937968983961
2665 : and Score= 0.010809153920307346
2327 : and Score= 0.010705611291276914
2642 : and Score= 0.010678882017443391
569 : and Score= 0.010573502436003003
2271 : and Score= 0.01048664358740535
2943 : and Score= 0.01046177891442211
2805 : and Score= 0.010420962071238703
2602 : and Score= 0.010413135780410946
2851 : and Score= 0.010353051273394528
2831 : and Score= 0.010288408002411488
2431 : and Score= 0.010278252828557615

After Marking above document relevant we can see that marked document got more preference.

ITERATION 2]

Now the relevent docs marked are [2345, 2599, 2460, 2523, 2744, 2879, 2477, 2820, 2404, 2159, 2182, 2849, 2926, 2984, 2527, 2920, 2178, 2016, 2568, 2474]

* 2478 : and Score= 0.11720597425154083
* 2479 : and Score= 0.11275946163479585
* 2345 : and Score= 0.09568901762876969
* 2425 : and Score= 0.09065626905333955
* 2041 : and Score= 0.0844794340288351
* 2350 : and Score= 0.08428111651175718
* 2523 : and Score= 0.08396450816200621
* 2754 : and Score= 0.08384242755115452
* 2460 : and Score= 0.07907653727993308
* 2761 : and Score= 0.0776749480141067
* 2405 : and Score= 0.07433918652789501
* 2404 : and Score= 0.07289739518917039
* 2599 : and Score= 0.07187406407770085
* 2016 : and Score= 0.06808625044517787
* 2176 : and Score= 0.06454298026822265
* 2182 : and Score= 0.05876657796952998
* 2594 : and Score= 0.058537313728583056
* 2422 : and Score= 0.058453720661883306
* 2744 : and Score= 0.057960189486950475
* 2865 : and Score= 0.055664500568301188
* 2164 : and Score= 0.053722758212888085
* 2178 : and Score= 0.05238542681649834
* 2669 : and Score= 0.051200807915101634
* 2474 : and Score= 0.05090940207597994
* 2445 : and Score= 0.04932949159671319
* 2926 : and Score= 0.04832037845576802
* 2477 : and Score= 0.04773607295975026
* 2159 : and Score= 0.04718176572386544
* 2662 : and Score= 0.0447939530528189
* 2907 : and Score= 0.04346631557018617

```
* 2184 : and Score=  0.041733188785499274
362 : and Score=  0.040839137910828306
* 2920 : and Score=  0.04057729963413658
* 2879 : and Score=  0.03910875115298451
* 2820 : and Score=  0.03749043840869701
* 2963 : and Score=  0.03699301113298039
436 : and Score=  0.03633457465534278
2323 : and Score=  0.03399682999253885
* 2984 : and Score=  0.0300340088333409644
* 2235 : and Score=  0.029045174267629873
2163 : and Score=  0.028813469632431372
* 2568 : and Score=  0.02784411468615447
* 2849 : and Score=  0.027541413816441998
2342 : and Score=  0.026785258699804804
2925 : and Score=  0.025362656173598452
* 2527 : and Score=  0.02405205526515009
2287 : and Score=  0.023576161446827452
2793 : and Score=  0.02310237710718455
2882 : and Score=  0.02221388156120252
2183 : and Score=  0.021199639406828834
2343 : and Score=  0.021094691450481307
2890 : and Score=  0.01986171736680357
2731 : and Score=  0.01899606024756265
2387 : and Score=  0.01802252940191093
2637 : and Score=  0.017646940751518417
2555 : and Score=  0.017305499645671314
2910 : and Score=  0.01658735352386574
2440 : and Score=  0.01652487403258642
2851 : and Score=  0.01645306533760762
2666 : and Score=  0.016192945709222573
2684 : and Score=  0.016045919809803414
2170 : and Score=  0.015989578821085287
2303 : and Score=  0.015925016327013826
2808 : and Score=  0.015457015790609254
2989 : and Score=  0.014880688064872158
2860 : and Score=  0.01465990273340717
2914 : and Score=  0.014558506467722736
2861 : and Score=  0.014438101631164504
2981 : and Score=  0.014430607238007202
2544 : and Score=  0.014421567931882604
2319 : and Score=  0.014263632997033811
2665 : and Score=  0.014173564285838075
2542 : and Score=  0.01386396566315217
2213 : and Score=  0.01380601413949591
2335 : and Score=  0.013725389424193152
2114 : and Score=  0.013671093506257722
2010 : and Score=  0.013654049331089399
2067 : and Score=  0.013651187774741294
2694 : and Score=  0.013614364224204438
2805 : and Score=  0.013561797564143082
2586 : and Score=  0.013503304238125792
2815 : and Score=  0.013500953236796556
2756 : and Score=  0.013428272271991861
2111 : and Score=  0.013418504349941584
2493 : and Score=  0.013409645007072092
4198 : and Score=  0.013352765259557768
2831 : and Score=  0.013334652531003114
2024 : and Score=  0.013318477983144877
2495 : and Score=  0.013228510434883278
2467 : and Score=  0.013220735598489762
2832 : and Score=  0.013220567408146699
2683 : and Score=  0.013173146083480636
2364 : and Score=  0.013088018879021661
2480 : and Score=  0.013085863241174016
2702 : and Score=  0.01294655624684413
2070 : and Score=  0.012946217397441104
2123 : and Score=  0.01287956656619105
2271 : and Score=  0.01285697613836281
2522 : and Score=  0.012839704060365529
2500 : and Score=  0.012795248870040788
```

Again 20 documents were marked.

After Marking documents as relevant we can see that marked document got more preference.

Now total 40 docs are marked.

Now the relevent docs marked are [2323, 2163, 2342, 2925, 2287, 2793, 2882, 2183, 2343, 2890, 2731, 2387, 2637, 2555, 2910, 2440, 2851, 2666, 2684, 2170]

```
* 2925 : and Score=  0.15881842061893334
* 2342 : and Score=  0.1499170081045313
* 2731 : and Score=  0.14524665740385045
* 2555 : and Score=  0.1397062660806926
* 2182 : and Score=  0.13159493345373482
* 2343 : and Score=  0.1277334282463117
* 2478 : and Score=  0.11222922817847789
* 2387 : and Score=  0.10645628056067978
* 2479 : and Score=  0.10147954322428886
* 2926 : and Score=  0.10081456605047939
* 2523 : and Score=  0.09949608213636624
* 2345 : and Score=  0.09512301212090536
* 2404 : and Score=  0.09329311073889565
* 2425 : and Score=  0.08727591927965678
* 2460 : and Score=  0.08626820646472476
* 2183 : and Score=  0.08623994514709456
* 2350 : and Score=  0.08332651641217806
* 2323 : and Score=  0.08101436520470974
* 2041 : and Score=  0.07906560501204896
* 2754 : and Score=  0.07760022268089588
* 2666 : and Score=  0.07707508398095629
* 2637 : and Score=  0.07499718373000244
* 2163 : and Score=  0.0748216508352766
* 2405 : and Score=  0.07356280501703892
* 2761 : and Score=  0.07346503968035394
* 2599 : and Score=  0.07227291308125497
* 2287 : and Score=  0.06460534952717624
* 2016 : and Score=  0.06408086878198449
* 2176 : and Score=  0.06065301456156462
* 2920 : and Score=  0.06040484949493583636
* 2474 : and Score=  0.05961167584073196
* 2594 : and Score=  0.05859704371269571
* 2910 : and Score=  0.058315007169713426
* 2422 : and Score=  0.057185167689839916
* 2744 : and Score=  0.056661721010089566
* 2170 : and Score=  0.05599692514799397
* 2882 : and Score=  0.05202306471474517
* 2669 : and Score=  0.05174317412596998
* 2865 : and Score=  0.05114080484539945
* 2178 : and Score=  0.050332146856336066
* 2820 : and Score=  0.05019650014305932
* 2164 : and Score=  0.04966618767056513
* 2477 : and Score=  0.0487542836186685
* 2445 : and Score=  0.04828659735916171
* 2890 : and Score=  0.04684372754242598
* 2793 : and Score=  0.045364310768515055
* 2907 : and Score=  0.04535702309866831
2373 : and Score=  0.045199122778480476
* 2440 : and Score=  0.044295278989921655
* 2662 : and Score=  0.04332301076445892
* 2159 : and Score=  0.043187051265105386
* 2184 : and Score=  0.040256029091054156
2612 : and Score=  0.03999993220446838
362 : and Score=  0.03810602667978769
* 2963 : and Score=  0.037937078421194696
* 2879 : and Score=  0.037335035994306355
2716 : and Score=  0.035608609638471955
436 : and Score=  0.03285571767368892
```

```
* 2235 : and Score=  0.030184300721660288
* 2568 : and Score=  0.029937961140840852
* 2984 : and Score=  0.029759744846533973
* 2849 : and Score=  0.02878764985419297
2335 : and Score=  0.025629193876955506
* 2851 : and Score=  0.024922997195343945
2498 : and Score=  0.024386160323748993
2417 : and Score=  0.0241220160688131
* 2527 : and Score=  0.02387099940244105
2499 : and Score=  0.023417375001096693
2303 : and Score=  0.022957763370751637
4805 : and Score=  0.02248316443627128
2808 : and Score=  0.021067021584324584
* 2684 : and Score=  0.02074401863045732
2943 : and Score=  0.0201978486069206
2053 : and Score=  0.019877722425701565
2056 : and Score=  0.01918576221953184
2201 : and Score=  0.019090008380641534
2977 : and Score=  0.01864376360953761
2656 : and Score=  0.018533147147308943
4930 : and Score=  0.01847362474641517
2482 : and Score=  0.017860038415578202
2537 : and Score=  0.017587416236492612
2852 : and Score=  0.01754899223665883
2054 : and Score=  0.017546243672237782
2114 : and Score=  0.017422314502402583
2365 : and Score=  0.017357969870835443
2884 : and Score=  0.017254482298574188
2861 : and Score=  0.01719245040111588
2860 : and Score=  0.01715782624568339
2020 : and Score=  0.017036038274848054
2638 : and Score=  0.017027987188894183
2285 : and Score=  0.016948594635955314
201 : and Score=  0.01690008677962493
2467 : and Score=  0.01688869534266939
4198 : and Score=  0.016555412099493298
2083 : and Score=  0.016425971705729542
2964 : and Score=  0.016422262955386107
2024 : and Score=  0.01636293572561245
2871 : and Score=  0.01624402335696185
2542 : and Score=  0.016195292527506736
2475 : and Score=  0.016163901643494065
```

Again 20 documents were marked.

After Marking documents as relevant we can see that marked document got more preference.

Now total 60 docs are marked.

ITERATION 4]
 Now the relevent docs marked are [2373, 2612, 2716, 2335, 2498, 2417, 2499, 2303, 2808, 2943, 2053, 2056, 2201, 2977, 2656, 2482, 2537, 2852, 2054, 2114]
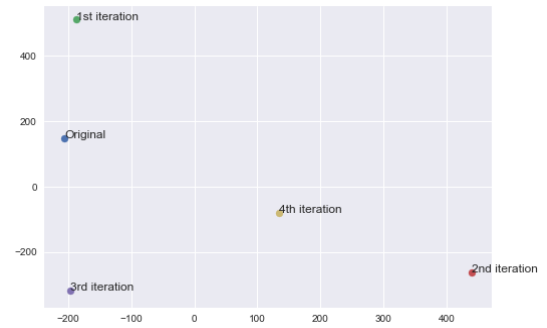
```
* 2731 : and Score=  0.16691941847568237
* 2925 : and Score=  0.15336287324967557
* 2342 : and Score=  0.1521377267236098
* 2555 : and Score=  0.1480649434826934
* 2387 : and Score=  0.13712386983004543
* 2182 : and Score=  0.13325816278961058
* 2373 : and Score=  0.12611519756094036
* 2343 : and Score=  0.1254525223884749
* 2716 : and Score=  0.12290605212762362
* 2478 : and Score=  0.10868228825837527
* 2170 : and Score=  0.10470435870446206
* 2926 : and Score=  0.10168220263436487
* 2479 : and Score=  0.09727992598638313
* 2523 : and Score=  0.09664047155236613
* 2345 : and Score=  0.09445095989428476
* 2404 : and Score=  0.09229223577210141
* 2183 : and Score=  0.09031271018513112
* 2425 : and Score=  0.08993304489693217
* 2460 : and Score=  0.0873257742713024
* 2350 : and Score=  0.08492755610089739
* 2287 : and Score=  0.0846337503516247
* 2335 : and Score=  0.08459792735476752
* 2323 : and Score=  0.0832639195898578
* 2754 : and Score=  0.0795357098171033
* 2637 : and Score=  0.07931930703210148
* 2405 : and Score=  0.07847521096267325
* 2612 : and Score=  0.07829285784396314
* 2041 : and Score=  0.07795724884396092
* 2666 : and Score=  0.07623737986355042
* 2599 : and Score=  0.07621608155298118
* 2053 : and Score=  0.07614233095497522
* 2761 : and Score=  0.07515211637445907
* 2056 : and Score=  0.07485758680691162
* 2910 : and Score=  0.07471250454871961
* 2499 : and Score=  0.07413423204655653
* 2498 : and Score=  0.07333001286690585
* 2163 : and Score=  0.07287435397974101
* 2537 : and Score=  0.06987521240508239
* 2744 : and Score=  0.06530630081663816
* 2016 : and Score=  0.06511491543727345
* 2474 : and Score=  0.06434353709060278
* 2920 : and Score=  0.06426990141004649
* 2852 : and Score=  0.0642622810720638
* 2594 : and Score=  0.0639681274034932
* 2440 : and Score=  0.06362190507405839
* 2977 : and Score=  0.06355444344736272
* 2176 : and Score=  0.06265040340562034
* 2477 : and Score=  0.06252967407014236
* 2943 : and Score=  0.0625046570031758
* 2178 : and Score=  0.06057148753025386
* 2820 : and Score=  0.06036840177575155
* 2656 : and Score=  0.06009737216549998
* 2422 : and Score=  0.05933793031901671
* 2793 : and Score=  0.05863831905010989
* 2417 : and Score=  0.05852737423055621
* 2054 : and Score=  0.057738917237013604
* 2865 : and Score=  0.055879297568839
* 2882 : and Score=  0.055544678588940674
* 2669 : and Score=  0.05538411399323691
* 2890 : and Score=  0.05424295217290705
* 2303 : and Score=  0.05239516325784528
* 2445 : and Score=  0.05183712362102342
* 2662 : and Score=  0.04932046848547722
* 2164 : and Score=  0.0492831831471872
* 2907 : and Score=  0.04803753297167042
* 2159 : and Score=  0.048019096619525435
* 2482 : and Score=  0.04687650171393754
* 2184 : and Score=  0.04648223371859276
2429 : and Score=  0.04560738710816756
2082 : and Score=  0.04487724696527832
* 2963 : and Score=  0.043380655533561095
* 2879 : and Score=  0.04285032894891088
2964 : and Score=  0.04272432610070377
* 2808 : and Score=  0.04218677118559596
```

```
2094 : and Score=  0.04212126386018241
* 2201 : and Score=  0.04169815109911534
* 2851 : and Score=  0.041513589261023096
* 2114 : and Score=  0.04134140696299071
2072 : and Score=  0.038886793948242925
2704 : and Score=  0.03862444319531423
2067 : and Score=  0.03846298872226207
* 2984 : and Score=  0.03771686144341529
2083 : and Score=  0.03731820071361745
2084 : and Score=  0.036927288325434
362 : and Score=  0.035901699360125675
* 2235 : and Score=  0.03576830808741793
2097 : and Score=  0.03566799055315727
* 2568 : and Score=  0.035594953458481626
* 2849 : and Score=  0.03550728002916418
2285 : and Score=  0.03546098554417295
2520 : and Score=  0.03538602492439194
2508 : and Score=  0.03507404355100136
2811 : and Score=  0.033395259845621375
2785 : and Score=  0.03305541357622899
2570 : and Score=  0.03189077893414642
2677 : and Score=  0.03187865415655134
2064 : and Score=  0.03167822514943904
* 2527 : and Score=  0.030564331299665064
436 : and Score=  0.030160500726259164
2665 : and Score=  0.02962719446226927
```
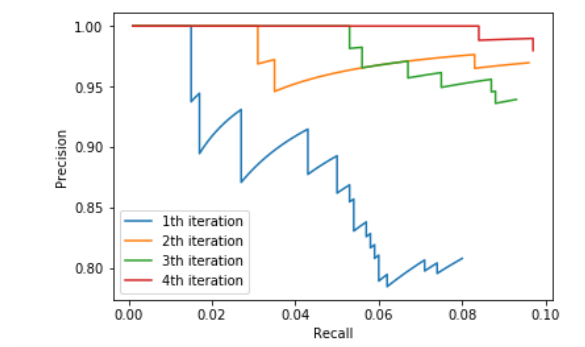
Again 20 documents were marked.

After Marking documents as relevant we
can see that marked document got more
preference.

Now total 80 docs are marked.

Here we can see that as number of marked
documents increases graph line tends to be
more at value '1' because when documents are
marked, more relevant docs comes first and this
increases precision and recall.

Here in TSNE graph we can see that position of
query vector changes after each iteration. Here
the query vector is updated using Rocchio
algorithm.

QUERY 2:]

Enter Query: Scientific tools for preserving rights
and body
Scientific tools for preserving rights and body
Querylist= ['scientific', 'tool', 'preserving',
'right', 'body']
Enter number of docs you wanna retrive100
Enter which folder have to be relevant
1:comp.graphics 2:rec.sports.hockey 3:sci.med
4:sci.space 5:talk.politics.misc
5

972 : and Score= 0.02415435323658496
3148 : and Score= 0.02041159071005303
995 : and Score= 0.020116947571239163
3159 : and Score= 0.019787350834416243
3685 : and Score= 0.019280475678101875
2795 : and Score= 0.019279579340503318
249 : and Score= 0.01762402532666797
9 : and Score= 0.0170412262747542
2012 : and Score= 0.0170412262747542
2499 : and Score= 0.016891926307513905
3735 : and Score= 0.01680895039212826
3170 : and Score= 0.01621071189490646
2733 : and Score= 0.014970986641557906
4427 : and Score= 0.014781507940684377
3495 : and Score= 0.014566942600501337
3169 : and Score= 0.014399758209736574
2360 : and Score= 0.014011002647705285
2346 : and Score= 0.013915483354330497
2634 : and Score= 0.013503231278542738
8 : and Score= 0.013498218533758289
2011 : and Score= 0.013498218533758289
603 : and Score= 0.013313166222264246
2652 : and Score= 0.013155817187535454
4931 : and Score= 0.013128644067192196
2261 : and Score= 0.01277661265419192
911 : and Score= 0.01250960618218056
3918 : and Score= 0.012484969679543257
3359 : and Score= 0.012465383456604098
2732 : and Score= 0.012298921502367829
2321 : and Score= 0.012242082651935987
2987 : and Score= 0.011901229458720693
2948 : and Score= 0.0116468366299957077
2324 : and Score= 0.011556697011338505
3097 : and Score= 0.011520755164673534
2138 : and Score= 0.01151585198260516
4990 : and Score= 0.011465417197825043
2301 : and Score= 0.011299575321450215
3429 : and Score= 0.011115287387621833
2067 : and Score= 0.011141587075435
4702 : and Score= 0.011067900240418609
2957 : and Score= 0.011029091875546177
4929 : and Score= 0.011026086154192176
3116 : and Score= 0.011001566999869894
893 : and Score= 0.010994614505322386
2230 : and Score= 0.010874438140978803
2630 : and Score= 0.010872799740309962
2072 : and Score= 0.01068523953783296
960 : and Score= 0.010593172364347802
4764 : and Score= 0.010438018153914208
2385 : and Score= 0.010348923318646697
323 : and Score= 0.010283660117374237
2707 : and Score= 0.01024667631764887
2258 : and Score= 0.01024000879109311
3962 : and Score= 0.010236031258452296
151 : and Score= 0.01009010139436905
3222 : and Score= 0.009997136367945317
751 : and Score= 0.009956003438136008
2243 : and Score= 0.009954276624244696
2263 : and Score= 0.00984911576161083
2816 : and Score= 0.009803525330321677
3806 : and Score= 0.009752543591922878
903 : and Score= 0.009665576204414587
2302 : and Score= 0.00955828939108172
112 : and Score= 0.00952822777098192
859 : and Score= 0.00945283796770315

4410 : and Score= 0.009450957609814374
4687 : and Score= 0.009372536695890818
3607 : and Score= 0.009152600832670308
448 : and Score= 0.009075997986281847
2950 : and Score= 0.00907109746707292
755 : and Score= 0.00903326454683983
63 : and Score= 0.009008946281697452
3288 : and Score= 0.008986826892918362
2852 : and Score= 0.008965854437850548
4830 : and Score= 0.008949757436237828
2120 : and Score= 0.00887408669281186
3681 : and Score= 0.00884982256131579
1157 : and Score= 0.008827994755875757
912 : and Score= 0.008813003026377601
2939 : and Score= 0.00876671622913979
2315 : and Score= 0.008688068839087319
2284 : and Score= 0.00863863218157185
1 : and Score= 0.0085986415728705
2492 : and Score= 0.008541650832208134
2842 : and Score= 0.008518657748993477
2106 : and Score= 0.008458911998229396
4433 : and Score= 0.008454525380036364
3251 : and Score= 0.008259472085265545
3799 : and Score= 0.008236614166239857
2340 : and Score= 0.008165316923298237
4177 : and Score= 0.008026033415015233
2174 : and Score= 0.008023092939998606
1286 : and Score= 0.0079661303691061
2413 : and Score= 0.007947298568887578
246 : and Score= 0.007865024921388757
289 : and Score= 0.007836542259221943
3448 : and Score= 0.007768230200924308
2600 : and Score= 0.007765125903912073
3370 : and Score= 0.007720390869089687
3623 : and Score= 0.007697127375773237

ITERATION 1:]

Now the relevent docs marked are [4427, 4931,
4990, 4702, 4929, 4764, 4410, 4687, 4830, 4433,
4177, 4006, 4239, 4637, 4417, 4227, 4040, 4014,
4502, 4169]

* 4410 : and Score= 0.11557530239189528
* 4239 : and Score= 0.07373944599772467
* 4702 : and Score= 0.07342265083832553
* 4417 : and Score= 0.07269913067522078
* 4687 : and Score= 0.06677917287418901
* 4931 : and Score= 0.0652043458091069
* 4764 : and Score= 0.06498160461387378
* 4169 : and Score= 0.0633217917758283
* 4427 : and Score= 0.061718041442662616
* 4502 : and Score= 0.058796700771740325
* 4929 : and Score= 0.05753588637357909
* 4177 : and Score= 0.051478030421942676
* 4990 : and Score= 0.049649424541176025
* 4014 : and Score= 0.0483374989257654
* 4637 : and Score= 0.04831278770901046
* 4830 : and Score= 0.04519326502899808
* 4433 : and Score= 0.04362783603695416
4488 : and Score= 0.04304846319054857
* 4227 : and Score= 0.042174203922227274
* 4006 : and Score= 0.03879340346421401
* 4040 : and Score= 0.03513098423975345
4948 : and Score= 0.03383293339687531
4584 : and Score= 0.030390431530146284
4440 : and Score= 0.030344201205773497
4581 : and Score= 0.02953846315428093
4130 : and Score= 0.02790065960244813
4607 : and Score= 0.025340152432408423
4216 : and Score= 0.024168558193360865
4228 : and Score= 0.0239469821213851

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4473 : and Score=  0.02262658582530617
4106 : and Score=  0.021654438783811084
4379 : and Score=  0.020090336135823606
4209 : and Score=  0.019985689139485983
4618 : and Score=  0.019859138167142062
4202 : and Score=  0.018725786602774096
4592 : and Score=  0.018170551401415366
4236 : and Score=  0.01785844230946703
4853 : and Score=  0.017473568096422483
4559 : and Score=  0.016348647262681145
4015 : and Score=  0.015879631426602224
4051 : and Score=  0.01574677204486738
4998 : and Score=  0.015504409280241995
4829 : and Score=  0.015493488226980584
4975 : and Score=  0.015400378297334453
4211 : and Score=  0.015185339020612565
3657 : and Score=  0.01517588845860445
3707 : and Score=  0.015149213439296727
4057 : and Score=  0.014986250173804174
972 : and Score=  0.014539605142220618
3116 : and Score=  0.014444584496664307
4955 : and Score=  0.014443327888121924
4694 : and Score=  0.014388144791732489
2634 : and Score=  0.01429034731800711
3148 : and Score=  0.014159763964893601
3097 : and Score=  0.01405179636437691
2360 : and Score=  0.01397701864045485
2261 : and Score=  0.013927879599258036
4828 : and Score=  0.013841397302088141
4640 : and Score=  0.013782121991683258
4616 : and Score=  0.013682631374308802
4050 : and Score=  0.013483799880865295
4894 : and Score=  0.013454022738522909
4831 : and Score=  0.013289316336180568
2499 : and Score=  0.013182331877806078
3685 : and Score=  0.013139598042365268
2795 : and Score=  0.013138896050558416
4925 : and Score=  0.013019045347760862
2324 : and Score=  0.01298848531089282
4175 : and Score=  0.012932845082068226
4054 : and Score=  0.012794700748834832
3735 : and Score=  0.012760638617790363
3159 : and Score=  0.012745607991443907
4746 : and Score=  0.012697279699755414
3169 : and Score=  0.012689087998712927
3669 : and Score=  0.012574969481353521
4422 : and Score=  0.012553877537903099
2904 : and Score=  0.012497826264289474
4715 : and Score=  0.012467382194870529
4899 : and Score=  0.01242682424619018
4317 : and Score=  0.012319351307688214
4129 : and Score=  0.012259183350437755
995 : and Score=  0.01216177487562702
4060 : and Score=  0.012143018488585356
4762 : and Score=  0.012112716625414353
4406 : and Score=  0.011976558624365167
4367 : and Score=  0.01196560127237607
1412 : and Score=  0.011925337740502326
9 : and Score=  0.01188212070309645
2012 : and Score=  0.01188212070309645
4533 : and Score=  0.011846496017944744
2652 : and Score=  0.011825389201551314
3628 : and Score=  0.011809682557959713
3569 : and Score=  0.011721827479650207
4455 : and Score=  0.011721496654441272
4747 : and Score=  0.011698628879025175
4191 : and Score=  0.011686741854922423
3359 : and Score=  0.011686278771645107
4991 : and Score=  0.01167243485947241
603 : and Score=  0.011621617239265454
4002 : and Score=  0.01135222295909573
```

20 documents were marked as Relevant.

After Marking documents as relevant we can see that marked document got more preference.

Now total 20 docs are marked.

ITERATION 2]

Now the relevent docs marked are [4488, 4948, 4584, 4440, 4581, 4130, 4607, 4216, 4228, 4473, 4106, 4379, 4209, 4618, 4202, 4592, 4236, 4853, 4559, 4015]

```
* 4410 : and Score=  0.11677548524149323
* 4764 : and Score=  0.10310037262311436
* 4440 : and Score=  0.09435050236162416
* 4502 : and Score=  0.08914963767054397
* 4417 : and Score=  0.0871539124530742
* 4239 : and Score=  0.08489639156707414
* 4584 : and Score=  0.08141903380352189
* 4687 : and Score=  0.08103217859370034
* 4427 : and Score=  0.08094363144226108
* 4948 : and Score=  0.07816891408748275
* 4169 : and Score=  0.07759740362860386
* 4929 : and Score=  0.07444095122448398
* 4702 : and Score=  0.07413039873007972
* 4216 : and Score=  0.0705752412257029
* 4209 : and Score=  0.06965522272560569
* 4488 : and Score=  0.06942559059236027
* 4853 : and Score=  0.06841899880700884
* 4130 : and Score=  0.06377108823419399
* 4227 : and Score=  0.06235818128809456
* 4202 : and Score=  0.061973643271864616
* 4931 : and Score=  0.06055986600886832
* 4236 : and Score=  0.060544074793866885
* 4581 : and Score=  0.06045381259392175
* 4830 : and Score=  0.057462347930777896
* 4592 : and Score=  0.05709346585136793
* 4379 : and Score=  0.05573941556203111
* 4637 : and Score=  0.05562775081798955
* 4433 : and Score=  0.05498277541230099
* 4228 : and Score=  0.052410827341789035
* 4473 : and Score=  0.050584143510317064
* 4559 : and Score=  0.05043974889002986
* 4607 : and Score=  0.04784084063087537
* 4177 : and Score=  0.04758592075188223
* 4014 : and Score=  0.04713051528250335
* 4618 : and Score=  0.04526893439260046
* 4106 : and Score=  0.043578817942245995
* 4990 : and Score=  0.04349832153047399
4715 : and Score=  0.036000145722226526
* 4006 : and Score=  0.03559985930830647
* 4040 : and Score=  0.03354792441801856
* 4015 : and Score=  0.03132149492533519
4829 : and Score=  0.030367529758540093
4211 : and Score=  0.02713758553818111
4925 : and Score=  0.025622608170624468
4126 : and Score=  0.02326690312034815
4975 : and Score=  0.023258838592994695
4955 : and Score=  0.021712582273332764
4060 : and Score=  0.020162697969665734
4564 : and Score=  0.020019292012470775
4694 : and Score=  0.019478314281295643
```

4577 : and Score= 0.018934630493316895
4894 : and Score= 0.01889834700816035
4317 : and Score= 0.0188293559264356
4234 : and Score= 0.018361565113705118
4924 : and Score= 0.017816941861701567
4640 : and Score= 0.017472517054062515
4599 : and Score= 0.017377848224191982
3116 : and Score= 0.016802846555945404
4899 : and Score= 0.016768629642667683
3097 : and Score= 0.016661457512292005
4703 : and Score= 0.016569374767717871
4203 : and Score= 0.016542279922085516
4168 : and Score= 0.016385452067552958
4301 : and Score= 0.016350363663724686
4974 : and Score= 0.016341596397706413
4175 : and Score= 0.016329477945207668
4002 : and Score= 0.016087407901926563
4251 : and Score= 0.015916787911478946
4514 : and Score= 0.015869305384190083
2634 : and Score= 0.015641595586504603
4129 : and Score= 0.015613020093500548
4950 : and Score= 0.0155240970048945
4754 : and Score= 0.015350664077302376
3806 : and Score= 0.015346162544617261
4616 : and Score= 0.015278783242721687
4639 : and Score= 0.015261586681118471
4917 : and Score= 0.015113487599399055
4828 : and Score= 0.015085442589994466
4159 : and Score= 0.015008633778120688
4661 : and Score= 0.014940772192908073
4057 : and Score= 0.014934628521159175
4415 : and Score= 0.014922389608254188
4624 : and Score= 0.014814550193944214
4351 : and Score= 0.014770930085142455
4660 : and Score= 0.01476572484319022
3657 : and Score= 0.01470475488380491
4125 : and Score= 0.014703346000386175
4976 : and Score= 0.014673554015130022
4750 : and Score= 0.014610515206131798
4623 : and Score= 0.014602479683891908
3707 : and Score= 0.014565673920288827
4487 : and Score= 0.014526592215595463
4666 : and Score= 0.014476762607892149
4984 : and Score= 0.014378442049195004
3479 : and Score= 0.014333639674654503
4367 : and Score= 0.014242219324806916
4812 : and Score= 0.014115755017483533
4176 : and Score= 0.014062124628908178
4798 : and Score= 0.014047120537403443
4470 : and Score= 0.013979182514797692

Again 20 documents were marked.

After Marking documents as relevant we can see that marked document got more preference.

Now total 40 docs are marked.

ITERATION 3]

 Now the relevent docs marked are [4715, 4829, 4211, 4925, 4126, 4975, 4955, 4060, 4564, 4694, 4577, 4894, 4317, 4234, 4924, 4640, 4599, 4899, 4703, 4203]

* 4410 : and Score= 0.11026672736625615
* 4440 : and Score= 0.10728401998891064
* 4764 : and Score= 0.1059422521607505

* 4687 : and Score= 0.09570363912144875
* 4427 : and Score= 0.09048450802765237
* 4853 : and Score= 0.08847978083289333
* 4502 : and Score= 0.08791685906186845
* 4239 : and Score= 0.08664510230503569
* 4211 : and Score= 0.08653916917683768
* 4584 : and Score= 0.08634510765984808
* 4417 : and Score= 0.0848219639323425
* 4702 : and Score= 0.08196735748593956
* 4929 : and Score= 0.07874499311491706
* 4948 : and Score= 0.07851484907551473
* 4216 : and Score= 0.07812809908717519
* 4581 : and Score= 0.07546434251080741
* 4209 : and Score= 0.0751097505020685
* 4227 : and Score= 0.07500695661030618
* 4169 : and Score= 0.07494839603845169
* 4607 : and Score= 0.07066325423013166
* 4715 : and Score= 0.0704401952343876
* 4236 : and Score= 0.06926020713225617
* 4228 : and Score= 0.06842311869061425
* 4559 : and Score= 0.06841968099744279
* 4488 : and Score= 0.06795833838071959
* 4202 : and Score= 0.06620036896401461
* 4894 : and Score= 0.06607551489931594
* 4379 : and Score= 0.06580507978189509
* 4433 : and Score= 0.06336263980160886
* 4899 : and Score= 0.06329008171600199
* 4130 : and Score= 0.06239069924502086
* 4564 : and Score= 0.06169004010232011164
* 4830 : and Score= 0.06119384464212201
* 4931 : and Score= 0.05944802121434603
* 4925 : and Score= 0.05737618512221537
* 4694 : and Score= 0.05700835968582863
* 4473 : and Score= 0.05662896042175276
* 4592 : and Score= 0.05545452891239571
* 4637 : and Score= 0.05373419405500359
* 4106 : and Score= 0.05291720266788749
* 4975 : and Score= 0.05199300868041736
* 4234 : and Score= 0.050935284496476003
* 4014 : and Score= 0.05029256984070268
* 4829 : and Score= 0.049227115910860667
* 4177 : and Score= 0.0486034736424933
* 4955 : and Score= 0.04729834714802366
* 4015 : and Score= 0.046930490390994575
* 4618 : and Score= 0.04612715143353935
* 4203 : and Score= 0.045697877599170995
* 4577 : and Score= 0.0428824307639535
* 4924 : and Score= 0.04247754732271139
* 4990 : and Score= 0.04178879051485079
* 4060 : and Score= 0.041414277365122924
* 4126 : and Score= 0.038951083511032165
* 4640 : and Score= 0.03771679477086722
* 4599 : and Score= 0.03761771822356684
* 4006 : and Score= 0.03693090437991904
* 4703 : and Score= 0.036358085959147246
* 4317 : and Score= 0.0347844306024396
* 4040 : and Score= 0.03375340455576358
4556 : and Score= 0.029038810657938022
4271 : and Score= 0.02520306307914911
4572 : and Score= 0.0240397940028271667
4984 : and Score= 0.02327894220030033
4917 : and Score= 0.02209736476834837
4693 : and Score= 0.02160991316684447
4654 : and Score= 0.0211714510115565702
4828 : and Score= 0.021033310259272183
4175 : and Score= 0.020774292834977857
4831 : and Score= 0.019955824454544014
4125 : and Score= 0.01966153194403029
4354 : and Score= 0.019617345648844785
4750 : and Score= 0.019593688823930286
4754 : and Score= 0.019581073630376134
4159 : and Score= 0.019461480490056988
4661 : and Score= 0.019459303689433567
4779 : and Score= 0.019289264868220354
4415 : and Score= 0.019119633850305563
4112 : and Score= 0.018574275707397944
3806 : and Score= 0.018559054098990252
4624 : and Score= 0.018517087807615115
4331 : and Score= 0.018339339762902033
4788 : and Score= 0.01832259554331146
4976 : and Score= 0.018314628651054717

```
2360 : and Score=  0.01828210945255763
4961 : and Score=  0.01828126916444653
4974 : and Score=  0.0182791179677475277
4950 : and Score=  0.018210321968055485
4057 : and Score=  0.0181663892967764784
4168 : and Score=  0.018152843926969656
4610 : and Score=  0.018147071901595768
4292 : and Score=  0.018106627215590525
3116 : and Score=  0.017984443535190096
3097 : and Score=  0.017976264024012794
4129 : and Score=  0.017842392344015592
4251 : and Score=  0.017775064909400298
4176 : and Score=  0.0177714005384449167
4972 : and Score=  0.017749284358540104
4301 : and Score=  0.017743612876256854
4477 : and Score=  0.017743107718856666
```

Again 20 documents were marked.

After Marking documents as relevant we can see that marked document got more preference.

Now total 60 docs are marked.

ITERATION 4:]

Now the relevent docs marked are [4556, 4271, 4572, 4984, 4917, 4693, 4654, 4828, 4175, 4831, 4125, 4354, 4750, 4754, 4159, 4661, 4779, 4415, 4112, 4624]
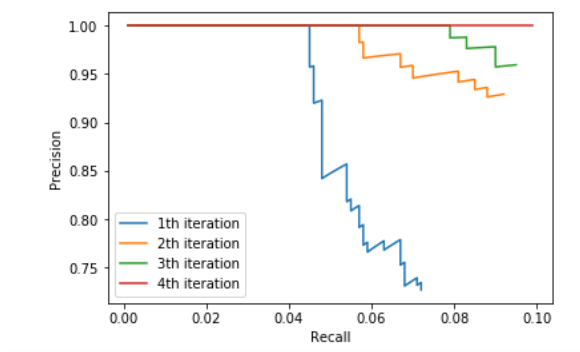
```
* 4410 : and Score=  0.1080079660510366
* 4764 : and Score=  0.10708016333230001
* 4440 : and Score=  0.1059851045623828
* 4687 : and Score=  0.09524106609492469
* 4427 : and Score=  0.09293083251993854
* 4502 : and Score=  0.09194888843956384
* 4853 : and Score=  0.09073882362311171
* 4584 : and Score=  0.09014413153179185
* 4417 : and Score=  0.08795346942409786
* 4948 : and Score=  0.08679272145637777
* 4239 : and Score=  0.08639161356440751
* 4211 : and Score=  0.0858841119006091
* 4271 : and Score=  0.08543298081903047
* 4693 : and Score=  0.0840138836878046
* 4216 : and Score=  0.08277172293598506
* 4702 : and Score=  0.0826056777219364
* 4581 : and Score=  0.08129313511946468
* 4929 : and Score=  0.08118438579084748
* 4640 : and Score=  0.07955975447891338
* 4227 : and Score=  0.0793393832249574
* 4556 : and Score=  0.07890563695126837
* 4209 : and Score=  0.078655810578641
* 4169 : and Score=  0.07779952572903075
* 4703 : and Score=  0.07703225021785001
* 4228 : and Score=  0.07496473987935294
* 4236 : and Score=  0.07312441268202173
* 4715 : and Score=  0.07281052444629778
* 4559 : and Score=  0.07214464081864927
* 4488 : and Score=  0.07193774415072066
* 4607 : and Score=  0.07132519665965138
* 4202 : and Score=  0.07126095921498782
* 4379 : and Score=  0.07124029305616565
* 4830 : and Score=  0.07029346870090854
* 4572 : and Score=  0.06866424836401935
```

```
* 4015 : and Score=  0.0682439602158193
* 4433 : and Score=  0.06821288812152561
* 4894 : and Score=  0.066994550924616832
* 4203 : and Score=  0.066613673103463961
* 4130 : and Score=  0.06551071902146384
* 4828 : and Score=  0.0652907338912479
* 4899 : and Score=  0.06412238146539635
* 4564 : and Score=  0.06402902336414978
* 4473 : and Score=  0.06341752183486904
* 4014 : and Score=  0.06301419664911254
* 4234 : and Score=  0.0623362271962166505
* 4925 : and Score=  0.0608266268726679976
* 4984 : and Score=  0.06001135339218314
* 4354 : and Score=  0.060004811257489826
* 4694 : and Score=  0.05963229090318631
* 4060 : and Score=  0.05893269613536828
* 4931 : and Score=  0.05778562634580601
* 4317 : and Score=  0.0575005488204317
* 4975 : and Score=  0.05715678528034297
* 4592 : and Score=  0.0566297394643256
* 4106 : and Score=  0.056405206313960204
* 4829 : and Score=  0.056232504278002055
* 4637 : and Score=  0.05504401796117293
* 4831 : and Score=  0.053526545366130364
* 4654 : and Score=  0.05296342334454987
* 4175 : and Score=  0.05199011357696856
* 4955 : and Score=  0.05192633519937599
* 4917 : and Score=  0.050324724733258025
* 4112 : and Score=  0.04969503581450941
* 4177 : and Score=  0.04945312770023411
* 4990 : and Score=  0.048863853679808197
* 4618 : and Score=  0.04836759353248052
* 4577 : and Score=  0.04766977507858914
* 4924 : and Score=  0.047589567019055534
* 4126 : and Score=  0.04557657869214465
* 4754 : and Score=  0.04529895973065335
4235 : and Score=  0.04483220907121586
4068 : and Score=  0.044068006671277984
* 4599 : and Score=  0.0433783778839014
* 4624 : and Score=  0.04224899470491095
* 4006 : and Score=  0.04204022385111319
4424 : and Score=  0.04186417144283882
* 4040 : and Score=  0.03777169887460101
4296 : and Score=  0.036534275211095736
* 4661 : and Score=  0.0361320860001065
* 4415 : and Score=  0.03562520468124861
4470 : and Score=  0.03503683065013347
4123 : and Score=  0.034375323304311804
* 4159 : and Score=  0.033333881570871395
* 4750 : and Score=  0.0332105879028741
4692 : and Score=  0.0330293419633857
4176 : and Score=  0.03239553942815118
4406 : and Score=  0.031801575352873895
* 4779 : and Score=  0.03173984227325463
4508 : and Score=  0.03083770488660084
* 4125 : and Score=  0.030713851658163618
4583 : and Score=  0.03070491219918112
4191 : and Score=  0.03008769929333211
4666 : and Score=  0.029700944733746678
4639 : and Score=  0.029608642633098
4367 : and Score=  0.02952954953076013
4660 : and Score=  0.029461008847065935
4074 : and Score=  0.029333578696975785
4809 : and Score=  0.029302169343252547
4756 : and Score=  0.028866557015729415
4527 : and Score=  0.028769100511672863
```
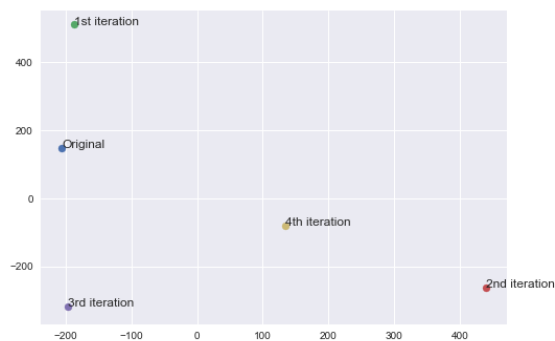
Again 20 documents were marked.

After Marking documents as relevant we can see that marked document got more preference.

Now total 80 docs are marked.

Here we can see that as number of marked documents increases graph line tends to be more at value '1' because when documents are marked, more relevant docs comes first and this increases precision and recall.

Here in TSNE graph we can see that position of query vector changes after each iteration. Here the query vector is updated using Rocchio algorithm.

Query 3:]

Enter Query: Frequently asked questions on State-of-the-art visualisation tools
Frequently asked questions on State-of-the-art visualisation tools
Querylist= ['frequently', 'asked', 'question', 'stateoftheart', 'visualisation', 'tool']
Enter number of docs you wanna retrive100
Enter which folder have to be relevant
1:comp.graphics 2:rec.sports.hockey 3:sci.med 4:sci.space 5:talk.politics.misc
3

801 : and Score= 0.03385373502871528
8 : and Score= 0.0307319697757577
2011 : and Score= 0.0307319697757577
9 : and Score= 0.025956801826255708
2012 : and Score= 0.025956801826255708
972 : and Score= 0.020406683262684522
3496 : and Score= 0.01847421799357747
4427 : and Score= 0.018395621986926486
3148 : and Score= 0.017225149658860902
656 : and Score= 0.017215940576646212
76 : and Score= 0.017004557059436286
995 : and Score= 0.016989750109182446
3159 : and Score= 0.01668497414842737
66 : and Score= 0.016200909903520275
662 : and Score= 0.016074259113240848
2685 : and Score= 0.01599755573816015
249 : and Score= 0.014913326841786144
2423 : and Score= 0.014007048529118953
666 : and Score= 0.013899797002319495
2425 : and Score= 0.013701463761427229
3170 : and Score= 0.013651944162602543
3936 : and Score= 0.013634770305675666
4338 : and Score= 0.013605331090171544
2546 : and Score= 0.013100307746447987
336 : and Score= 0.012554671818935001
531 : and Score= 0.012478692093325016
2671 : and Score= 0.01230048520059207
927 : and Score= 0.012025193876839323
661 : and Score= 0.011773234261909559
1509 : and Score= 0.0114439097082534145
4599 : and Score= 0.01140948438514525
4227 : and Score= 0.0113482692508009062
4931 : and Score= 0.0110893294499658344
4433 : and Score= 0.0110496329682672078
3169 : and Score= 0.011000421586978271
3685 : and Score= 0.0109786054011807773
2795 : and Score= 0.01097811234872304
2426 : and Score= 0.0107834812560134154
2462 : and Score= 0.010731559720289833
240 : and Score= 0.010678501234545813
273 : and Score= 0.010583009082433162
3918 : and Score= 0.0105490632297450094
2321 : and Score= 0.010331541841302637
891 : and Score= 0.0101146535880433334
112 : and Score= 0.010087170539424328
572 : and Score= 0.009972166726390194
3495 : and Score= 0.009952898754672979
329 : and Score= 0.009786848538623749
852 : and Score= 0.009348324042069405
2388 : and Score= 0.009277745205159891
893 : and Score= 0.00926465504049616
659 : and Score= 0.00889790206613481
3927 : and Score= 0.008757507356239105
3735 : and Score= 0.008726873796879002
323 : and Score= 0.008654123591058816
3962 : and Score= 0.008642220866341315
4337 : and Score= 0.0086376111036859
151 : and Score= 0.00849822073370013
3356 : and Score= 0.008489925300251904
2118 : and Score= 0.008475906599871925
3359 : and Score= 0.008475373706998518
2371 : and Score= 0.008352007005215625
663 : and Score= 0.00831093901815892

1687 : and Score= 0.008198605127980492
3806 : and Score= 0.008194228771615249
475 : and Score= 0.008189613789885173
903 : and Score= 0.008152858080169268
3429 : and Score= 0.008143725863143497
826 : and Score= 0.00804333425603054
2441 : and Score= 0.0078675362161580051
4473 : and Score= 0.007774334530405376
1648 : and Score= 0.007667510484350952
755 : and Score= 0.007619294640817826
63 : and Score= 0.0075870194536779488
4189 : and Score= 0.0075691604233043275
3942 : and Score= 0.0075222023626329858
1737 : and Score= 0.0075181490246888793
3573 : and Score= 0.007454995344926077
1157 : and Score= 0.007434460311055546
912 : and Score= 0.0074296213682010009
2939 : and Score= 0.007397268524970506
4197 : and Score= 0.0073172387510083355
2036 : and Score= 0.0073121352640930211
3309 : and Score= 0.00729541562741864
2098 : and Score= 0.0072654962966982377
2460 : and Score= 0.0072272915038494064
2842 : and Score= 0.007185251804216998
2539 : and Score= 0.0070867557939644858
4581 : and Score= 0.006978314733888067
4593 : and Score= 0.006917808727795278
3118 : and Score= 0.006803541107928956
751 : and Score= 0.0067799544485771036
2243 : and Score= 0.006775735676069363
1885 : and Score= 0.006758124873861558
1868 : and Score= 0.0067265012835647595
3838 : and Score= 0.006711174671994176
1286 : and Score= 0.0067064185886412985
867 : and Score= 0.00670538750233565
4939 : and Score= 0.00668950223181898
3747 : and Score= 0.006641651061193636

Iteration 1:]

Now the relevent docs marked are [2011, 2012, 2685, 2423, 2425, 2546, 2671, 2795, 2426, 2462, 2321, 2388, 2118, 2371, 2441, 2939, 2036, 2098, 2460, 2842]

* 2546 : and Score= 0.11374513922626758
* 2685 : and Score= 0.09567785057663263
* 2462 : and Score= 0.09194506699463532
* 2426 : and Score= 0.0896201926867717
* 2441 : and Score= 0.0787598983897558
* 2423 : and Score= 0.07559178292521357
* 2388 : and Score= 0.07478403064427455
* 2425 : and Score= 0.0721751441578272
8 : and Score= 0.06834253388754297
* 2011 : and Score= 0.06834253388754297
* 2460 : and Score= 0.06590181439225626
* 2671 : and Score= 0.06340432990119985
9 : and Score= 0.05960064697911528
* 2012 : and Score= 0.05960064697911528
* 2321 : and Score= 0.0585223392495069
* 2036 : and Score= 0.05489386419313294
* 2939 : and Score= 0.05413927101172475
2539 : and Score= 0.05318519050434334
* 2371 : and Score= 0.05199239005224239
* 2842 : and Score= 0.0488522045742488
2405 : and Score= 0.03332987323047104
801 : and Score= 0.03213247431252321
* 2118 : and Score= 0.031337866333371586
2538 : and Score= 0.0293409736644239
2599 : and Score= 0.028544307228512728
2576 : and Score= 0.024114229880388735
3496 : and Score= 0.022440804233484855

2140 : and Score= 0.02226789187595303
* 2098 : and Score= 0.022076549121884288
2158 : and Score= 0.02098747448514993
2009 : and Score= 0.019449170061359555
2042 : and Score= 0.01812502323263719
66 : and Score= 0.017922528050179003
2518 : and Score= 0.01753155573516295
* 2795 : and Score= 0.01721102804240985
4427 : and Score= 0.01720567449661014
3685 : and Score= 0.016558663715442574
656 : and Score= 0.01581834002636584
2175 : and Score= 0.01569299233108277
2922 : and Score= 0.015542828434536924
3936 : and Score= 0.015227612773259045
2017 : and Score= 0.014899040982680778
2878 : and Score= 0.014888924254187419
76 : and Score= 0.014843178530679431
2902 : and Score= 0.014384558756499839
662 : and Score= 0.014181028195367635
2065 : and Score= 0.013899716027349891
531 : and Score= 0.013747509541601649
2271 : and Score= 0.013712966942060641
2364 : and Score= 0.013651746192479974
2231 : and Score= 0.013550718177281687
4599 : and Score= 0.013534656330472359
2333 : and Score= 0.013472415406615352
2449 : and Score= 0.013384796139927838
972 : and Score= 0.01331267079744268
2029 : and Score= 0.013248623627519487
2066 : and Score= 0.012721993673094165
2427 : and Score= 0.012709539307108178
2793 : and Score= 0.01266462116493999
2972 : and Score= 0.01265951356119904
4227 : and Score= 0.012610596428193784
3159 : and Score= 0.012588207903071568
2264 : and Score= 0.012508783425858325
2899 : and Score= 0.012499942393168052
4338 : and Score= 0.012493200395748498
3148 : and Score= 0.012433302818974706
2243 : and Score= 0.01232910750827249
572 : and Score= 0.012321306646347448
661 : and Score= 0.012143443395282014
2107 : and Score= 0.012096082003490272
2361 : and Score= 0.012079473377248594
666 : and Score= 0.012028601382639646
2524 : and Score= 0.012003338434024561
995 : and Score= 0.011999635139037436
2835 : and Score= 0.0118953379246672649
4433 : and Score= 0.011829801624654452
927 : and Score= 0.01174121279957545
336 : and Score= 0.011700825687245755
2043 : and Score= 0.011694570698541098
2820 : and Score= 0.01157695741287679
2366 : and Score= 0.011562199993925902
2212 : and Score= 0.011456877804944312
2063 : and Score= 0.011361878524375129
329 : and Score= 0.011312495516224413
2380 : and Score= 0.011265093334118899
2998 : and Score= 0.01119048062747147
2792 : and Score= 0.011152641004618057
2201 : and Score= 0.01103942105000162
2238 : and Score= 0.011006135304578285
2889 : and Score= 0.010789938087436926
2989 : and Score= 0.010761657677797638
475 : and Score= 0.010759320838369897
249 : and Score= 0.010717365900442935
240 : and Score= 0.010675662221661835
2704 : and Score= 0.010672243652960215
2525 : and Score= 0.010663105947962043
3170 : and Score= 0.010646813011299031
2882 : and Score= 0.010456173040091579
273 : and Score= 0.010440615455759137
2871 : and Score= 0.010338634225393294

20 documents were marked.

After Marking documents as relevant we can see that marked document got more preference.

Now total 20 docs are marked.

Iteration 2:]

 Now the relevent docs marked are [2539, 2405, 2538, 2599, 2576, 2140, 2158, 2009, 2042, 2518, 2175, 2922, 2017, 2878, 2902, 2065, 2271, 2364, 2231, 2333]

* 2546 : and Score= 0.14074397038011535
* 2922 : and Score= 0.11453371503315335
* 2902 : and Score= 0.1145241405554941
* 2462 : and Score= 0.10732123222157874
* 2425 : and Score= 0.10649173196501141
* 2140 : and Score= 0.10643345507458304
* 2158 : and Score= 0.10605954779872537
* 2426 : and Score= 0.10595388612852912
* 2538 : and Score= 0.09395902092417428
* 2441 : and Score= 0.09169010596769345
* 2423 : and Score= 0.09118786514734288
* 2685 : and Score= 0.08476650870845646
* 2539 : and Score= 0.08221124038605092
* 2576 : and Score= 0.08108047103010495
* 2405 : and Score= 0.08076984459512598
* 2460 : and Score= 0.08023492906066264
* 2878 : and Score= 0.07861279282348597
* 2599 : and Score= 0.07186241711615626
* 2671 : and Score= 0.07126975896115718
* 2388 : and Score= 0.06896840479088742
* 2939 : and Score= 0.06482362013526295
* 2036 : and Score= 0.0612346344316546
* 2518 : and Score= 0.061043305764704583
* 2175 : and Score= 0.05800124833183001
* 2017 : and Score= 0.055951112050215086
* 2364 : and Score= 0.05436418814701268
* 2321 : and Score= 0.053704776519918934
* 2009 : and Score= 0.050018408060063135
* 2333 : and Score= 0.04898409906454106
* 2371 : and Score= 0.048586531518108086
* 2065 : and Score= 0.04781590600870487 5
* 2042 : and Score= 0.046888880632745204
* 2231 : and Score= 0.04476309492454078
* 2842 : and Score= 0.0434029399158409
* 2271 : and Score= 0.042696248112192754
8 : and Score= 0.04176669057482034
* 2011 : and Score= 0.041766690057482034
9 : and Score= 0.03787351965312762
* 2012 : and Score= 0.03787351965312762
2255 : and Score= 0.0335494765762478
2525 : and Score= 0.03241722854047533
* 2118 : and Score= 0.03028157422206821
801 : and Score= 0.029102913025864725
2542 : and Score= 0.028567201046721842
2564 : and Score= 0.02674525779773609
2427 : and Score= 0.026116015942781935
* 2098 : and Score= 0.025707643969035607
2043 : and Score= 0.0248742832596828
2560 : and Score= 0.024222523600880886
2969 : and Score= 0.023101672559396356

```
2104 : and Score=  0.022510676744729702
2063 : and Score=  0.02236143543755162
2025 : and Score=  0.02234088870167824
3496 : and Score=  0.022149414191883317
2087 : and Score=  0.022006553880647442
2083 : and Score=  0.021344399791089975
2066 : and Score=  0.02061297825054674
2054 : and Score=  0.01941132000314126
2820 : and Score=  0.018911713718872243
2989 : and Score=  0.01865609861653111
2962 : and Score=  0.01860879953901893
2530 : and Score=  0.018413385234106225
2793 : and Score=  0.018259046651052744
2458 : and Score=  0.018254378774867987
2507 : and Score=  0.018224411188215776
2914 : and Score=  0.018126286356134075
2889 : and Score=  0.01802552875343214
2136 : and Score=  0.01798492848888368
66 : and Score=  0.017916294311669197
2366 : and Score=  0.01747027447604102
2830 : and Score=  0.017295309240422545
2572 : and Score=  0.017182922120183408
2238 : and Score=  0.01703582538776357
2089 : and Score=  0.016893510570797982
2264 : and Score=  0.016855255555866931
2905 : and Score=  0.01670522056947439
2998 : and Score=  0.016514828232019583
2440 : and Score=  0.016471269402887016
2048 : and Score=  0.016352342813245713
2331 : and Score=  0.016295119480290512
2792 : and Score=  0.016123382091708466
2449 : and Score=  0.01611781331627681
2899 : and Score=  0.016100432104532783
3936 : and Score=  0.016047201102900647
2068 : and Score=  0.015930623016241725
2339 : and Score=  0.01571525437342296
2069 : and Score=  0.01569469933624595
2357 : and Score=  0.015666632181129305
2380 : and Score=  0.015551882426168021
2428 : and Score=  0.015397348977410118
2835 : and Score=  0.015373046303292302
2550 : and Score=  0.015339678502507491
2805 : and Score=  0.01533726153731713
2377 : and Score=  0.015260501354778883
2984 : and Score=  0.01502236930595029
2524 : and Score=  0.014762716815439779
3782 : and Score=  0.014705896326981464
2529 : and Score=  0.014643911935407705
2595 : and Score=  0.014587994870035292
2107 : and Score=  0.014446723042164303
```

Again 20 documents were marked.

After Marking documents as relevant we can see that marked document got more preference.

Now total 40 docs are marked.

ITERATION 3:]

 Now the relevent docs marked are [2255, 2525, 2542, 2564, 2427, 2043, 2560, 2969, 2104, 2063, 2025, 2087, 2083, 2066, 2054, 2820, 2989, 2962, 2530, 2793]

```
* 2158 : and Score=  0.1380578328595604
* 2546 : and Score=  0.13237906248445774
* 2518 : and Score=  0.1302703073983981
* 2425 : and Score=  0.11077331535619836
* 2140 : and Score=  0.11059048257599602
* 2922 : and Score=  0.10791312324199703
* 2902 : and Score=  0.10784009887659192
* 2542 : and Score=  0.10489617053964909
* 2525 : and Score=  0.10456207629379854
* 2255 : and Score=  0.102255772225639729
* 2462 : and Score=  0.10131765995013844
* 2426 : and Score=  0.100001231474603206
* 2564 : and Score=  0.096683855568287
* 2560 : and Score=  0.0937379661007127
* 2441 : and Score=  0.08976876564897193
* 2538 : and Score=  0.08961041205682946
* 2423 : and Score=  0.08402680735750778
* 2063 : and Score=  0.08365786199282738
* 2685 : and Score=  0.0806332727762298
* 2539 : and Score=  0.08042759131185363
* 2427 : and Score=  0.08017823893576821
* 2460 : and Score=  0.07955508511027987
* 2405 : and Score=  0.0788972118093199
* 2043 : and Score=  0.07827121566031854
* 2576 : and Score=  0.0777255478499822
* 2671 : and Score=  0.07729794395357198
* 2087 : and Score=  0.07727298674828899
* 2878 : and Score=  0.07723700561322441
* 2025 : and Score=  0.075071348090732
* 2104 : and Score=  0.0749146439763397
* 2083 : and Score=  0.0739216273733494
* 2017 : and Score=  0.07323311879279198
* 2969 : and Score=  0.07273421461794607
* 2599 : and Score=  0.07222235584713957
* 2333 : and Score=  0.07168690562084999
* 2364 : and Score=  0.06888819169137085
* 2054 : and Score=  0.06698888832938853
* 2962 : and Score=  0.06487710134400361
* 2065 : and Score=  0.06430919650466035
* 2388 : and Score=  0.06350968235719144
* 2939 : and Score=  0.062171370775692514
* 2036 : and Score=  0.06099197624586696
* 2231 : and Score=  0.058177768640198205
* 2175 : and Score=  0.05756575117160233
* 2530 : and Score=  0.05708564589248646
* 2066 : and Score=  0.05428557445893033
* 2321 : and Score=  0.05230189030686021
* 2009 : and Score=  0.05004340454818328
* 2271 : and Score=  0.04892520649870965
* 2371 : and Score=  0.04874678352964932
* 2793 : and Score=  0.046819699887931866
2089 : and Score=  0.046808354034408035
* 2042 : and Score=  0.04658887995117813
* 2820 : and Score=  0.04632285678336386
2136 : and Score=  0.046040688848984476
* 2842 : and Score=  0.04374125275176821
2458 : and Score=  0.04295190289860118
2331 : and Score=  0.04047367398743216
* 2098 : and Score=  0.04001467856527808
2409 : and Score=  0.03966482952328176
2038 : and Score=  0.035919421577363456
* 2989 : and Score=  0.03138049481636338
2062 : and Score=  0.03123150193170387
* 2118 : and Score=  0.0304182028311273035
2570 : and Score=  0.029726215294311253
801 : and Score=  0.029403469390446933
2592 : and Score=  0.027370300773561847
8 : and Score=  0.02715863755856295
* 2011 : and Score=  0.02715863755856295
2984 : and Score=  0.0262499309402822
2107 : and Score=  0.02621955382843636
2507 : and Score=  0.02612205306718333
9 : and Score=  0.024971579456123546
```

* 2012 : and Score= 0.024971579456123546
2830 : and Score= 0.024097587210931415
2440 : and Score= 0.024084924250411317
3496 : and Score= 0.022614922417459517
2679 : and Score= 0.02225652723454241
2756 : and Score= 0.02221180578014359
2981 : and Score= 0.022112942447540668
2238 : and Score= 0.022024941821973947
2068 : and Score= 0.02144145669233636
2527 : and Score= 0.021069857814783988
2029 : and Score= 0.020766703972718657
2254 : and Score= 0.020630593092903802
2665 : and Score= 0.020591146948846136
2693 : and Score= 0.02058799394238852
2583 : and Score= 0.020565187443501404
2550 : and Score= 0.020273635103150528
2377 : and Score= 0.020124282002260106
2253 : and Score= 0.019997191617851753
1681 : and Score= 0.01991892853768154
66 : and Score= 0.019898817258419507
2914 : and Score= 0.01988004207718647
2499 : and Score= 0.019739359246614224
2411 : and Score= 0.01968371384589503
2396 : and Score= 0.01957969134853973
2656 : and Score= 0.019563293803170765
2882 : and Score= 0.019526816779722192
2595 : and Score= 0.019374658513269947

20 documents were marked.

After Marking documents as relevant we can see that marked document got more preference.

Now total 60 docs are marked.

ITERATION 4:]

Now the relevent docs marked are [2089, 2136, 2458, 2331, 2409, 2038, 2062, 2570, 2592, 2984, 2107, 2507, 2830, 2440, 2679, 2756, 2981, 2238, 2068, 2527]

* 2158 : and Score= 0.13353563109830444
* 2518 : and Score= 0.1298607662887338
* 2546 : and Score= 0.1263723639140879
* 2063 : and Score= 0.1195552072310437
* 2089 : and Score= 0.11418032218540138
* 2542 : and Score= 0.11169193067153275
* 2104 : and Score= 0.11163203037552273
* 2525 : and Score= 0.11155137118930508
* 2136 : and Score= 0.11083907238234027
* 2425 : and Score= 0.10816192306227333
* 2087 : and Score= 0.10787476228669253
* 2140 : and Score= 0.10738495557727488
* 2564 : and Score= 0.10669106275447199
* 2043 : and Score= 0.10605942673219328
* 2458 : and Score= 0.1055898495600529
* 2922 : and Score= 0.10495988137386728
* 2902 : and Score= 0.10455790780394439
* 2331 : and Score= 0.10447486026698248
* 2083 : and Score= 0.10394227796789944
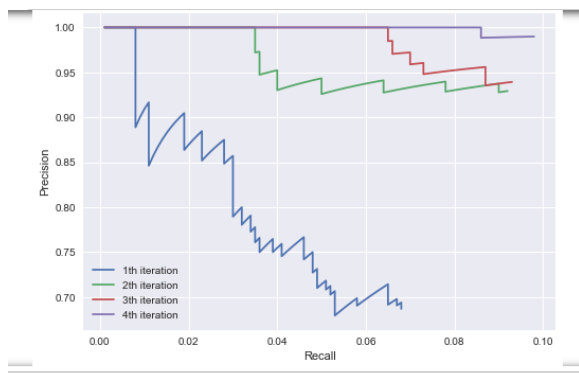* 2427 : and Score= 0.10193642354766408

* 2462 : and Score= 0.10097624609701467
* 2066 : and Score= 0.10073322087096438
* 2426 : and Score= 0.09985942900370105
* 2255 : and Score= 0.09960775301365532
* 2560 : and Score= 0.0994759330204324
* 2333 : and Score= 0.09906092622467692
* 2538 : and Score= 0.09449615875790146
* 2038 : and Score= 0.0942257377327054
* 2054 : and Score= 0.09050541973346157
* 2441 : and Score= 0.09022249275095937
* 2576 : and Score= 0.08933179487169546
* 2065 : and Score= 0.08470768410430454
* 2405 : and Score= 0.08369902811837757
* 2107 : and Score= 0.0830076317638935
* 2423 : and Score= 0.08297462209844476
* 2539 : and Score= 0.08284175344575584
* 2878 : and Score= 0.08048766013619682
* 2969 : and Score= 0.07937532866177778
* 2017 : and Score= 0.07904919754005296
* 2025 : and Score= 0.07873394405142153
* 2460 : and Score= 0.07848004071114894
* 2364 : and Score= 0.07753640700354819
* 2409 : and Score= 0.07676242144712764
* 2685 : and Score= 0.07669192353964892
* 2671 : and Score= 0.07508780997993943
* 2599 : and Score= 0.07460981366725009
* 2962 : and Score= 0.07355547571204295
* 2570 : and Score= 0.07119153907590821
* 2507 : and Score= 0.0710578722994822
* 2062 : and Score= 0.06885946981842656
* 2939 : and Score= 0.06381930789009752
* 2036 : and Score= 0.06359981149077548
* 2388 : and Score= 0.06355876443466356
* 2231 : and Score= 0.06313158332332172
* 2530 : and Score= 0.06259224664285824
* 2098 : and Score= 0.06193476503207677
* 2679 : and Score= 0.061418001459085894
* 2175 : and Score= 0.0613956739915088
* 2592 : and Score= 0.06124317471646606
* 2793 : and Score= 0.05653135245704716
* 2271 : and Score= 0.056197440945905223
* 2009 : and Score= 0.055837606419958094
* 2440 : and Score= 0.055616854516802657
* 2820 : and Score= 0.05539410184651973
* 2981 : and Score= 0.054601481323642974
* 2321 : and Score= 0.05306062928957349
* 2371 : and Score= 0.052474043302150726
* 2830 : and Score= 0.052276951779833124
* 2984 : and Score= 0.05065769363486566
* 2042 : and Score= 0.04995520206052076
* 2756 : and Score= 0.04953164976193059
* 2989 : and Score= 0.04901343732355619
* 2238 : and Score= 0.04841296912703333
2693 : and Score= 0.04823584375082149
* 2842 : and Score= 0.046001527876262334
2442 : and Score= 0.0404324852184592075
2665 : and Score= 0.0403750176189759
* 2527 : and Score= 0.03992995358688741
* 2068 : and Score= 0.0369818908312657
2529 : and Score= 0.03616992685303564
2835 : and Score= 0.035034924957662555
2417 : and Score= 0.0334081463784245
* 2118 : and Score= 0.03330534469791601
2491 : and Score= 0.03211570882721021
2396 : and Score= 0.03160666333079182
2583 : and Score= 0.031384707514357436
801 : and Score= 0.030391543808682468
2411 : and Score= 0.029863175685700554
2239 : and Score= 0.029544826029830874
2933 : and Score= 0.029445115345499196
2602 : and Score= 0.029444855198907337
2544 : and Score= 0.029197456349696546
2431 : and Score= 0.02883213212362676
2254 : and Score= 0.028305157987803566
2309 : and Score= 0.028065172357296383
2613 : and Score= 0.028034375211875094
2377 : and Score= 0.02754958102181597
2201 : and Score= 0.027107191537513748
2914 : and Score= 0.027069492343523623
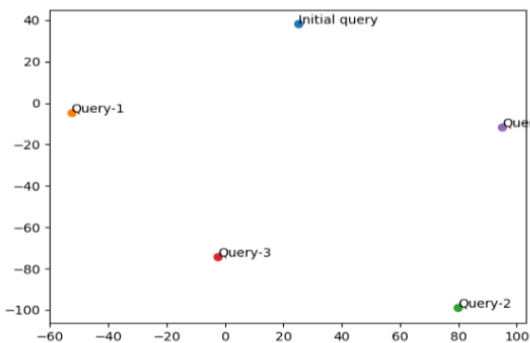2499 : and Score= 0.026957753914420617

20 documents were marked.

After Marking documents as relevant we can see that marked document got more preference.
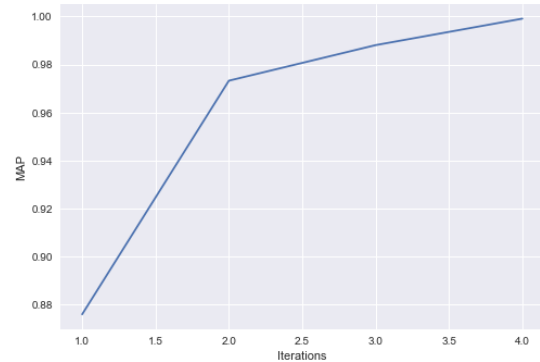
Now total 80 docs are marked.

Here we can see that as number of marked documents increases graph line tends to be more at value '1' because when documents are marked, more relevant docs comes first and this increases precision and recall.

Here in TSNE graph we can see that position of query vector changes after each iteration. Here the query vector is updated using Rocchio algorithm.

MAP]

As Iteration Increases Value of precision Increases so there will be increase in value of MAP.