```
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CMPSCI446 hw5
25939297
```

Experience:

HashTable is one of the greatest invention in data structure that saves lots of time searching. Inverted Index is great tor BM25 scores.

My time spent on it is half for HashTable (I wrote own hashtable) and half for the ranking algorithm, my hashtable supports non duplicate insert and findFi() function which makes it easier for getting BM score.

```
struct HashTableVoidEntry {
  const char * key;
  int docid;
  int tf;
  HashTableVoidEntry * _next;
};
class HashTableVoid {
 public:
  //enum { TableSize = 20000};
  HashTableVoidEntry ** buckets;
  int hash(const char * key);
 public:
  HashTableVoid();
  int insertItem( const char * key, int docid);
  int findFi( const char * key, int docid);
};
```

For BM score getting, since the R is ignored it is much more convenient. I just did the one in slide and simplified since word in query only appears at most once.

Output:

```
//Query 1
//portabl oper system
query_id 1 Q0 doc_id 3127 rank 1 BM25_score 13.154224 system_name
query_id 1 Q0 doc_id 1170 rank 2 BM25_score 12.014657 system_name
query_id 1 Q0 doc_id 1415 rank 3 BM25_score 11.290735 system_name
query_id 1 Q0 doc_id 2246 rank 4 BM25_score 9.820377 system_name
query_id 1 Q0 doc_id 2795 rank 5 BM25_score 8.984891 system_name
query_id 1 Q0 doc_id 1324 rank 6 BM25_score 8.766745 system_name
query_id 1 Q0 doc_id 2739 rank 7 BM25_score 8.603501 system_name
```

query id 1 Q0 doc id 1527 rank 8 BM25 score 8.430980 system name query id 1 Q0 doc id 3196 rank 9 BM25 score 8.307446 system name query id 1 Q0 doc id 2274 rank 10 BM25 score 8.179324 system name query id 1 Q0 doc id 2113 rank 11 BM25 score 8.024357 system name query id 1 Q0 doc id 982 rank 12 BM25 score 7.921944 system name query_id 1 Q0 doc_id 1939 rank 13 BM25_score 7.668305 system_name query_id 1 Q0 doc_id 1855 rank 14 BM25 score 7.634676 system name query id 1 Q0 doc id 2099 rank 15 BM25 score 7.570347 system name guery id 1 Q0 doc id 1930 rank 16 BM25 score 7.455905 system name query id 1 Q0 doc id 1911 rank 17 BM25 score 7.239304 system name query id 1 Q0 doc id 1885 rank 18 BM25 score 6.909466 system name query id 1 Q0 doc id 1074 rank 19 BM25 score 6.848792 system name query id 1 Q0 doc id 1582 rank 20 BM25 score 6.745162 system name guery id 1 Q0 doc id 2600 rank 21 BM25 score 6.508797 system name query_id 1 Q0 doc_id 2615 rank 22 BM25_score 6.452271 system_name query id 1 Q0 doc id 1768 rank 23 BM25 score 6.358197 system name query id 1 Q0 doc id 2054 rank 24 BM25 score 6.111183 system name guery id 1 Q0 doc id 2593 rank 25 BM25 score 6.073800 system name guery id 1 Q0 doc id 1591 rank 26 BM25 score 6.027525 system name query id 1 Q0 doc id 1680 rank 27 BM25 score 6.020065 system name query id 1 Q0 doc id 3068 rank 28 BM25 score 5.872802 system name query id 1 Q0 doc id 3194 rank 29 BM25 score 5.828039 system name guery id 1 Q0 doc id 1487 rank 30 BM25 score 5.827545 system name query id 1 Q0 doc id 1236 rank 31 BM25 score 5.749638 system name guery id 1 Q0 doc id 2740 rank 32 BM25 score 5.733688 system name query id 1 Q0 doc id 1033 rank 33 BM25 score 5.700525 system name query id 1 Q0 doc id 1534 rank 34 BM25 score 5.599770 system name query id 1 Q0 doc id 1750 rank 35 BM25 score 5.585480 system name query id 1 Q0 doc id 2424 rank 36 BM25 score 5.557508 system name query id 1 Q0 doc id 3094 rank 37 BM25 score 5.484194 system name query_id 1 Q0 doc_id 2379 rank 38 BM25_score 5.466785 system_name query id 1 Q0 doc id 2357 rank 39 BM25 score 5.426161 system name query id 1 Q0 doc id 2920 rank 40 BM25 score 5.392058 system name query id 1 Q0 doc id 2319 rank 41 BM25 score 5.382886 system name guery id 1 Q0 doc id 2064 rank 42 BM25 score 5.365968 system name query_id 1 Q0 doc_id 585 rank 43 BM25_score 5.362688 system_name query id 1 Q0 doc id 1519 rank 44 BM25 score 5.349035 system name query id 1 Q0 doc id 1012 rank 45 BM25 score 5.341325 system name query id 1 Q0 doc id 2629 rank 46 BM25 score 5.324899 system name query id 1 Q0 doc id 1472 rank 47 BM25 score 5.270352 system name query id 1 Q0 doc id 2153 rank 48 BM25 score 5.262328 system name query id 1 Q0 doc id 2541 rank 49 BM25 score 5.260609 system name query id 1 Q0 doc id 322 rank 50 BM25 score 5.232785 system name query_id 1 Q0 doc_id 972 rank 51 BM25_score 5.226476 system name

query id 1 Q0 doc id 2798 rank 52 BM25 score 5.224167 system name query id 1 Q0 doc id 2092 rank 53 BM25 score 5.212125 system name query id 1 Q0 doc id 2735 rank 54 BM25 score 5.184894 system name query id 1 Q0 doc id 3025 rank 55 BM25 score 5.161374 system name query id 1 Q0 doc id 2372 rank 56 BM25 score 5.151081 system name query_id 1 Q0 doc_id 1462 rank 57 BM25_score 5.141877 system_name query_id 1 Q0 doc_id 2878 rank 58 BM25 score 5.140806 system name query id 1 Q0 doc id 1264 rank 59 BM25 score 5.110389 system name guery id 1 Q0 doc id 1247 rank 60 BM25 score 5.103876 system name query id 1 Q0 doc id 1108 rank 61 BM25 score 5.077177 system name query id 1 Q0 doc id 2378 rank 62 BM25 score 5.054163 system name query id 1 Q0 doc id 1461 rank 63 BM25 score 5.049029 system name query id 1 Q0 doc id 2632 rank 64 BM25 score 5.019212 system name guery id 1 Q0 doc id 2482 rank 65 BM25 score 5.016488 system name query_id 1 Q0 doc_id 1989 rank 66 BM25_score 5.009051 system_name query id 1 Q0 doc id 2219 rank 67 BM25 score 5.004355 system name query id 1 Q0 doc id 1766 rank 68 BM25 score 5.004082 system name guery id 1 Q0 doc id 2597 rank 69 BM25 score 4.981703 system name guery id 1 Q0 doc id 329 rank 70 BM25 score 4.981403 system name query id 1 Q0 doc id 2399 rank 71 BM25 score 4.950922 system name query id 1 Q0 doc id 2868 rank 72 BM25 score 4.950335 system name query id 1 Q0 doc id 1652 rank 73 BM25 score 4.930490 system name guery id 1 Q0 doc id 1755 rank 74 BM25 score 4.927893 system name query id 1 Q0 doc id 2950 rank 75 BM25 score 4.926885 system name guery id 1 Q0 doc id 2065 rank 76 BM25 score 4.924819 system name query id 1 Q0 doc id 1752 rank 77 BM25 score 4.921463 system name query id 1 Q0 doc id 1902 rank 78 BM25 score 4.915608 system name guery id 1 Q0 doc id 1168 rank 79 BM25 score 4.906014 system name query id 1 Q0 doc id 1912 rank 80 BM25 score 4.873558 system name query id 1 Q0 doc id 1657 rank 81 BM25 score 4.865592 system name query_id 1 Q0 doc_id 2320 rank 82 BM25_score 4.863508 system_name query id 1 Q0 doc id 3089 rank 83 BM25 score 4.835361 system name query id 1 Q0 doc id 2697 rank 84 BM25 score 4.819720 system name query id 1 Q0 doc id 2622 rank 85 BM25 score 4.818848 system name guery id 1 Q0 doc id 1071 rank 86 BM25 score 4.815531 system name query_id 1 Q0 doc_id 1853 rank 87 BM25_score 4.811603 system_name query id 1 Q0 doc id 1878 rank 88 BM25 score 4.802990 system name query id 1 Q0 doc id 1334 rank 89 BM25 score 4.795838 system name query id 1 Q0 doc id 3137 rank 90 BM25 score 4.795361 system name query id 1 Q0 doc id 1350 rank 91 BM25 score 4.790474 system name query id 1 Q0 doc id 2796 rank 92 BM25 score 4.784409 system name query id 1 Q0 doc id 252 rank 93 BM25 score 4.782493 system name query id 1 Q0 doc id 1034 rank 94 BM25 score 4.782373 system name query id 1 Q0 doc id 1747 rank 95 BM25 score 4.773780 system name query_id 1 Q0 doc_id 2703 rank 96 BM25_score 4.768270 system_name query_id 1 Q0 doc_id 3087 rank 97 BM25_score 4.757589 system_name query_id 1 Q0 doc_id 1163 rank 98 BM25_score 4.753823 system_name query_id 1 Q0 doc_id 1938 rank 99 BM25_score 4.753050 system_name query_id 1 Q0 doc_id 1951 rank 100 BM25_score 4.739844 system_name

//Query 2 //code optim for space effici

guery id 2 Q0 doc id 2748 rank 1 BM25 score 13.119007 system name query id 2 Q0 doc id 2491 rank 2 BM25 score 12.398265 system name query id 2 Q0 doc id 2033 rank 3 BM25 score 11.701756 system name query id 2 Q0 doc id 2701 rank 4 BM25 score 11.178633 system name query id 2 Q0 doc id 2530 rank 5 BM25 score 10.859291 system name guery id 2 Q0 doc id 2559 rank 6 BM25 score 10.822928 system name query_id 2 Q0 doc_id 1947 rank 7 BM25_score 10.798839 system_name query id 2 Q0 doc id 1886 rank 8 BM25 score 10.634766 system name query id 2 Q0 doc id 3005 rank 9 BM25 score 10.618326 system name guery id 2 Q0 doc id 2897 rank 10 BM25 score 10.395610 system name guery id 2 Q0 doc id 2680 rank 11 BM25 score 10.218328 system name query id 2 Q0 doc id 2716 rank 12 BM25 score 10.015381 system name query id 2 Q0 doc id 2801 rank 13 BM25 score 9.989742 system name query id 2 Q0 doc id 1807 rank 14 BM25 score 9.657499 system name guery id 2 Q0 doc id 2495 rank 15 BM25 score 9.487220 system name query id 2 Q0 doc id 1795 rank 16 BM25 score 9.395294 system name guery id 2 Q0 doc id 2944 rank 17 BM25 score 9.387975 system name query id 2 Q0 doc id 3033 rank 18 BM25 score 9.386192 system name query id 2 Q0 doc id 2856 rank 19 BM25 score 9.277089 system name query id 2 Q0 doc id 3103 rank 20 BM25 score 9.219550 system name query id 2 Q0 doc id 3129 rank 21 BM25 score 9.209904 system name guery id 2 Q0 doc id 2537 rank 22 BM25 score 8.926276 system name query_id 2 Q0 doc_id 2651 rank 23 BM25_score 8.801431 system_name query id 2 Q0 doc id 1195 rank 24 BM25 score 8.543998 system name query id 2 Q0 doc id 3080 rank 25 BM25 score 8.530074 system name query id 2 Q0 doc id 2598 rank 26 BM25 score 8.424122 system name guery id 2 Q0 doc id 2648 rank 27 BM25 score 8.387468 system name query_id 2 Q0 doc_id 2834 rank 28 BM25_score 8.324715 system_name query id 2 Q0 doc id 679 rank 29 BM25 score 8.240774 system name query id 2 Q0 doc id 2863 rank 30 BM25 score 8.205748 system name query id 2 Q0 doc id 2490 rank 31 BM25 score 8.202684 system name query id 2 Q0 doc id 2816 rank 32 BM25 score 8.171040 system name query id 2 Q0 doc id 3106 rank 33 BM25 score 8.143534 system name query id 2 Q0 doc id 3099 rank 34 BM25 score 8.082008 system name query id 2 Q0 doc id 3171 rank 35 BM25 score 8.040723 system name query id 2 Q0 doc id 1235 rank 36 BM25 score 8.007225 system name

query id 2 Q0 doc id 1389 rank 37 BM25 score 7.982240 system name query id 2 Q0 doc id 1542 rank 38 BM25 score 7.973049 system name query id 2 Q0 doc id 3113 rank 39 BM25 score 7.938050 system name guery id 2 Q0 doc id 2586 rank 40 BM25 score 7.927580 system name query id 2 Q0 doc id 2819 rank 41 BM25 score 7.880109 system name query_id 2 Q0 doc_id 2722 rank 42 BM25_score 7.871905 system_name query_id 2 Q0 doc_id 2855 rank 43 BM25 score 7.798629 system name query id 2 Q0 doc id 3057 rank 44 BM25 score 7.797745 system name guery id 2 Q0 doc id 867 rank 45 BM25 score 7.786162 system name query id 2 Q0 doc id 2885 rank 46 BM25 score 7.770924 system name query id 2 Q0 doc id 2904 rank 47 BM25 score 7.756635 system name query id 2 Q0 doc id 1694 rank 48 BM25 score 7.750978 system name query id 2 Q0 doc id 2623 rank 49 BM25 score 7.715846 system name guery id 2 Q0 doc id 1901 rank 50 BM25 score 7.662870 system name query_id 2 Q0 doc_id 2253 rank 51 BM25_score 7.596556 system_name query id 2 Q0 doc id 2929 rank 52 BM25 score 7.526406 system name query id 2 Q0 doc id 940 rank 53 BM25 score 7.513215 system name guery id 2 Q0 doc id 164 rank 54 BM25 score 7.366916 system name guery id 2 Q0 doc id 1066 rank 55 BM25 score 7.149005 system name query id 2 Q0 doc id 3072 rank 56 BM25 score 7.130055 system name query id 2 Q0 doc id 2787 rank 57 BM25 score 6.972239 system name query id 2 Q0 doc id 759 rank 58 BM25 score 6.949231 system name guery id 2 Q0 doc id 124 rank 59 BM25 score 6.922710 system name query id 2 Q0 doc id 2858 rank 60 BM25 score 6.866144 system name query_id 2 Q0 doc_id 1651 rank 61 BM25_score 6.858859 system name query id 2 Q0 doc id 2437 rank 62 BM25 score 6.802810 system name query id 2 Q0 doc id 1564 rank 63 BM25 score 6.791589 system name query id 2 Q0 doc id 2423 rank 64 BM25 score 6.774312 system name query id 2 Q0 doc id 2753 rank 65 BM25 score 6.769044 system name guery id 2 Q0 doc id 3074 rank 66 BM25 score 6.723006 system name query_id 2 Q0 doc_id 1552 rank 67 BM25_score 6.669783 system_name query id 2 Q0 doc id 405 rank 68 BM25 score 6.633238 system name query id 2 Q0 doc id 1223 rank 69 BM25 score 6.600254 system name query id 2 Q0 doc id 2276 rank 70 BM25 score 6.596179 system name guery id 2 Q0 doc id 3110 rank 71 BM25 score 6.494114 system name query_id 2 Q0 doc_id 2711 rank 72 BM25_score 6.491844 system_name query id 2 Q0 doc_id 1612 rank 73 BM25_score 6.482882 system_name query id 2 Q0 doc id 2081 rank 74 BM25 score 6.399023 system name query id 2 Q0 doc id 3054 rank 75 BM25 score 6.376712 system name query id 2 Q0 doc id 2185 rank 76 BM25 score 6.358939 system name query id 2 Q0 doc id 1677 rank 77 BM25 score 6.345057 system name query id 2 Q0 doc id 2314 rank 78 BM25 score 6.318010 system name query id 2 Q0 doc id 1088 rank 79 BM25 score 6.310052 system name query id 2 Q0 doc id 2078 rank 80 BM25 score 6.300751 system name query id 2 Q0 doc id 2812 rank 81 BM25 score 6.268664 system name query id 2 Q0 doc id 2389 rank 82 BM25 score 6.186466 system name query id 2 Q0 doc id 2857 rank 83 BM25 score 6.119489 system name query id 2 Q0 doc id 3114 rank 84 BM25 score 6.115454 system name query id 2 Q0 doc id 3064 rank 85 BM25 score 6.112003 system name query_id 2 Q0 doc_id 3001 rank 86 BM25_score 6.074972 system_name query id 2 Q0 doc id 2500 rank 87 BM25 score 6.066176 system name query id 2 Q0 doc id 2745 rank 88 BM25 score 6.053951 system name guery id 2 Q0 doc id 322 rank 89 BM25 score 6.027628 system name query id 2 Q0 doc id 1134 rank 90 BM25 score 6.027253 system name query id 2 Q0 doc id 2064 rank 91 BM25 score 5.870593 system name query id 2 Q0 doc id 2720 rank 92 BM25 score 5.862725 system name query_id 2 Q0 doc_id 1928 rank 93 BM25_score 5.860111 system_name guery id 2 Q0 doc id 1408 rank 94 BM25 score 5.767914 system name query_id 2 Q0 doc_id 1738 rank 95 BM25_score 5.755005 system_name query id 2 Q0 doc id 3027 rank 96 BM25 score 5.742996 system name query id 2 Q0 doc id 2524 rank 97 BM25 score 5.732645 system name query id 2 Q0 doc id 2903 rank 98 BM25 score 5.727878 system name query id 2 Q0 doc id 2625 rank 99 BM25 score 5.725275 system name query id 2 Q0 doc id 2035 rank 100 BM25 score 5.724157 system name

//Query 3 //parallel algorithm

guery id 3 Q0 doc id 2714 rank 1 BM25 score 7.406644 system name query id 3 Q0 doc id 2973 rank 2 BM25 score 7.179773 system name query id 3 Q0 doc id 2433 rank 3 BM25 score 7.089023 system name query id 3 Q0 doc id 950 rank 4 BM25 score 7.083961 system name query id 3 Q0 doc id 2785 rank 5 BM25 score 6.953148 system name query id 3 Q0 doc id 2266 rank 6 BM25 score 6.893309 system name query_id 3 Q0 doc_id 2664 rank 7 BM25_score 6.779595 system_name query id 3 Q0 doc id 2429 rank 8 BM25 score 6.755157 system name query id 3 Q0 doc id 1262 rank 9 BM25 score 6.681851 system name query id 3 Q0 doc id 1811 rank 10 BM25 score 6.678413 system name guery id 3 Q0 doc id 3156 rank 11 BM25 score 6.643013 system name query_id 3 Q0 doc_id 2700 rank 12 BM25_score 6.586886 system_name query id 3 Q0 doc id 2685 rank 13 BM25 score 6.492055 system name query id 3 Q0 doc id 3075 rank 14 BM25 score 6.482773 system name query id 3 Q0 doc id 2401 rank 15 BM25 score 6.453612 system name query id 3 Q0 doc id 2851 rank 16 BM25 score 6.243468 system name query id 3 Q0 doc id 1158 rank 17 BM25 score 6.236062 system name query id 3 Q0 doc id 1828 rank 18 BM25 score 6.144769 system name query id 3 Q0 doc id 2289 rank 19 BM25 score 6.120787 system name query id 3 Q0 doc id 2195 rank 20 BM25 score 5.993499 system name query id 3 Q0 doc id 2557 rank 21 BM25 score 5.955463 system name query id 3 Q0 doc id 3059 rank 22 BM25 score 5.874853 system name query id 3 Q0 doc id 1601 rank 23 BM25 score 5.848193 system name guery id 3 Q0 doc id 2896 rank 24 BM25 score 5.825623 system name query id 3 Q0 doc id 2570 rank 25 BM25 score 5.776015 system name query_id 3 Q0 doc_id 2342 rank 26 BM25_score 5.768422 system_name query id 3 Q0 doc id 141 rank 27 BM25 score 5.644311 system name query id 3 Q0 doc id 2175 rank 28 BM25 score 5.625281 system name guery id 3 Q0 doc id 2895 rank 29 BM25 score 5.612980 system name query id 3 Q0 doc id 382 rank 30 BM25 score 5.610149 system name query id 3 Q0 doc id 392 rank 31 BM25 score 5.610149 system name query id 3 Q0 doc id 1302 rank 32 BM25 score 5.610149 system name query_id 3 Q0 doc_id 46 rank 33 BM25_score 5.545815 system_name guery id 3 Q0 doc id 1795 rank 34 BM25 score 5.429412 system name query_id 3 Q0 doc_id 2660 rank 35 BM25_score 5.397795 system_name query id 3 Q0 doc id 2865 rank 36 BM25 score 5.323734 system name query id 3 Q0 doc id 1367 rank 37 BM25 score 5.305114 system name guery id 3 Q0 doc id 1846 rank 38 BM25 score 5.293332 system name guery id 3 Q0 doc id 1747 rank 39 BM25 score 5.218825 system name query id 3 Q0 doc id 1569 rank 40 BM25 score 5.128983 system name query id 3 Q0 doc id 1468 rank 41 BM25 score 5.066955 system name query id 3 Q0 doc id 2182 rank 42 BM25 score 4.847351 system name guery id 3 Q0 doc id 3194 rank 43 BM25 score 4.847351 system name query id 3 Q0 doc id 2838 rank 44 BM25 score 4.824609 system name guery id 3 Q0 doc id 2311 rank 45 BM25 score 4.735902 system name query id 3 Q0 doc id 3175 rank 46 BM25 score 4.727988 system name query id 3 Q0 doc id 2952 rank 47 BM25 score 4.652700 system name query id 3 Q0 doc id 2080 rank 48 BM25 score 4.642990 system name query id 3 Q0 doc id 1613 rank 49 BM25 score 4.628406 system name guery id 3 Q0 doc id 1008 rank 50 BM25 score 4.617930 system name query_id 3 Q0 doc_id 2514 rank 51 BM25_score 4.561122 system_name query id 3 Q0 doc id 3044 rank 52 BM25 score 4.561122 system name query id 3 Q0 doc id 2727 rank 53 BM25 score 4.549927 system name query id 3 Q0 doc id 2114 rank 54 BM25 score 4.526772 system name guery id 3 Q0 doc id 1341 rank 55 BM25 score 4.505693 system name query_id 3 Q0 doc_id 2740 rank 56 BM25_score 4.458734 system_name query id 3 Q0 doc id 1554 rank 57 BM25 score 4.451596 system name query id 3 Q0 doc id 2515 rank 58 BM25 score 4.323406 system name query id 3 Q0 doc id 1536 rank 59 BM25 score 4.228227 system name query id 3 Q0 doc id 320 rank 60 BM25 score 4.152460 system name query id 3 Q0 doc id 1959 rank 61 BM25 score 4.120654 system name query id 3 Q0 doc id 2776 rank 62 BM25 score 4.106469 system name query id 3 Q0 doc id 1854 rank 63 BM25 score 4.103439 system name query id 3 Q0 doc id 3073 rank 64 BM25 score 4.103439 system name query id 3 Q0 doc id 3120 rank 65 BM25 score 4.034966 system name query id 3 Q0 doc id 1325 rank 66 BM25 score 4.026203 system name query id 3 Q0 doc id 1957 rank 67 BM25 score 3.928416 system name guery id 3 Q0 doc id 1603 rank 68 BM25 score 3.907397 system name query id 3 Q0 doc id 2898 rank 69 BM25 score 3.882844 system name query_id 3 Q0 doc_id 1200 rank 70 BM25_score 3.811006 system_name query id 3 Q0 doc id 2967 rank 71 BM25 score 3.803187 system name query id 3 Q0 doc id 1409 rank 72 BM25 score 3.764572 system name guery id 3 Q0 doc id 1928 rank 73 BM25 score 3.528142 system name query id 3 Q0 doc id 2692 rank 74 BM25 score 3.492999 system name query id 3 Q0 doc id 2060 rank 75 BM25 score 3.467792 system name query id 3 Q0 doc id 2497 rank 76 BM25 score 3.290196 system name query id 3 Q0 doc id 1960 rank 77 BM25 score 3.278558 system name guery id 3 Q0 doc id 2376 rank 78 BM25 score 3.215995 system name query_id 3 Q0 doc_id 1471 rank 79 BM25_score 2.903687 system_name query_id 3 Q0 doc_id 1380 rank 80 BM25_score 2.441051 system name query id 3 Q0 doc id 2723 rank 81 BM25 score 2.346004 system name guery id 3 Q0 doc id 2283 rank 82 BM25 score 0.646389 system name guery id 3 Q0 doc id 2146 rank 83 BM25 score 0.644353 system name query id 3 Q0 doc id 2259 rank 84 BM25 score 0.643485 system name query id 3 Q0 doc id 2884 rank 85 BM25 score 0.640721 system name query id 3 Q0 doc id 2030 rank 86 BM25 score 0.640505 system name guery id 3 Q0 doc id 2430 rank 87 BM25 score 0.637958 system name query id 3 Q0 doc id 2767 rank 88 BM25 score 0.634566 system name guery id 3 Q0 doc id 2090 rank 89 BM25 score 0.634325 system name query id 3 Q0 doc id 2490 rank 90 BM25 score 0.633791 system name query id 3 Q0 doc id 1961 rank 91 BM25 score 0.633224 system name query 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//Query 4 //distribut comput structur and algorith

query_id 4 Q0 doc_id 2926 rank 1 BM25_score 8.980210 system_name query_id 4 Q0 doc_id 2406 rank 2 BM25_score 8.030120 system_name query_id 4 Q0 doc_id 2914 rank 3 BM25_score 7.940295 system_name query_id 4 Q0 doc_id 3135 rank 4 BM25_score 7.658372 system_name query_id 4 Q0 doc_id 2032 rank 5 BM25_score 7.595968 system_name

query id 4 Q0 doc id 2949 rank 6 BM25 score 7.488205 system name query id 4 Q0 doc id 2849 rank 7 BM25 score 7.415703 system name query id 4 Q0 doc id 1726 rank 8 BM25 score 7.411638 system name query id 4 Q0 doc id 1951 rank 9 BM25 score 7.380115 system name query id 4 Q0 doc id 2276 rank 10 BM25 score 7.361421 system name query_id 4 Q0 doc_id 2454 rank 11 BM25_score 7.268711 system_name query_id 4 Q0 doc_id 3137 rank 12 BM25 score 7.026028 system name query id 4 Q0 doc id 241 rank 13 BM25 score 6.980756 system name guery id 4 Q0 doc id 2261 rank 14 BM25 score 6.921339 system name query id 4 Q0 doc id 2816 rank 15 BM25 score 6.858646 system name query id 4 Q0 doc id 3084 rank 16 BM25 score 6.853687 system name query id 4 Q0 doc id 3148 rank 17 BM25 score 6.836433 system name query id 4 Q0 doc id 2798 rank 18 BM25 score 6.704256 system name guery id 4 Q0 doc id 3082 rank 19 BM25 score 6.700938 system name query_id 4 Q0 doc_id 653 rank 20 BM25_score 6.645645 system_name query id 4 Q0 doc id 3072 rank 21 BM25 score 6.587612 system name query id 4 Q0 doc id 2481 rank 22 BM25 score 6.487691 system name guery id 4 Q0 doc id 2649 rank 23 BM25 score 6.453610 system name guery id 4 Q0 doc id 2216 rank 24 BM25 score 6.390528 system name query id 4 Q0 doc id 2549 rank 25 BM25 score 6.340874 system name query id 4 Q0 doc id 1003 rank 26 BM25 score 6.313109 system name query id 4 Q0 doc id 2212 rank 27 BM25 score 6.224801 system name guery id 4 Q0 doc id 2250 rank 28 BM25 score 6.215547 system name query id 4 Q0 doc id 1733 rank 29 BM25 score 6.185977 system name query id 4 Q0 doc id 1941 rank 30 BM25 score 6.185977 system name query id 4 Q0 doc id 1778 rank 31 BM25 score 6.132430 system name query id 4 Q0 doc id 2667 rank 32 BM25 score 6.089363 system name query id 4 Q0 doc id 2090 rank 33 BM25 score 6.028069 system name query id 4 Q0 doc id 1604 rank 34 BM25 score 5.944623 system name guery id 4 Q0 doc id 1894 rank 35 BM25 score 5.843391 system name query_id 4 Q0 doc_id 2249 rank 36 BM25_score 5.828639 system_name query id 4 Q0 doc id 1716 rank 37 BM25 score 5.815979 system name query id 4 Q0 doc id 1944 rank 38 BM25 score 5.795588 system name query id 4 Q0 doc id 2259 rank 39 BM25 score 5.734159 system name guery id 4 Q0 doc id 2123 rank 40 BM25 score 5.714336 system name query_id 4 Q0 doc_id 3043 rank 41 BM25_score 5.708745 system_name query id 4 Q0 doc id 2098 rank 42 BM25 score 5.694651 system name query id 4 Q0 doc id 2578 rank 43 BM25 score 5.684858 system name query id 4 Q0 doc id 2686 rank 44 BM25 score 5.682687 system name query id 4 Q0 doc id 1714 rank 45 BM25 score 5.675100 system name query id 4 Q0 doc id 2427 rank 46 BM25 score 5.675100 system name query id 4 Q0 doc id 2371 rank 47 BM25 score 5.634916 system name query id 4 Q0 doc id 2565 rank 48 BM25 score 5.598222 system name query id 4 Q0 doc id 2936 rank 49 BM25 score 5.557708 system name query id 4 Q0 doc id 2969 rank 50 BM25 score 5.506147 system name query id 4 Q0 doc id 2176 rank 51 BM25 score 5.497706 system name query id 4 Q0 doc id 1663 rank 52 BM25 score 5.495853 system name guery id 4 Q0 doc id 2057 rank 53 BM25 score 5.397161 system name query id 4 Q0 doc id 2631 rank 54 BM25 score 5.312994 system name query_id 4 Q0 doc_id 1514 rank 55 BM25_score 5.297441 system_name query id 4 Q0 doc id 2113 rank 56 BM25 score 5.296255 system name query id 4 Q0 doc id 2402 rank 57 BM25 score 5.292854 system name guery id 4 Q0 doc id 1745 rank 58 BM25 score 5.277672 system name query id 4 Q0 doc id 1410 rank 59 BM25 score 5.275192 system name query id 4 Q0 doc id 1153 rank 60 BM25 score 5.259806 system name query id 4 Q0 doc id 2313 rank 61 BM25 score 5.219234 system name query id 4 Q0 doc id 2349 rank 62 BM25 score 5.177405 system name guery id 4 Q0 doc id 3131 rank 63 BM25 score 5.170171 system name query_id 4 Q0 doc_id 3119 rank 64 BM25_score 5.148098 system_name query id 4 Q0 doc id 1987 rank 65 BM25 score 5.113344 system name query id 4 Q0 doc id 2767 rank 66 BM25 score 5.068326 system name guery id 4 Q0 doc id 711 rank 67 BM25 score 5.048278 system name guery id 4 Q0 doc id 3010 rank 68 BM25 score 5.034170 system name query id 4 Q0 doc id 2802 rank 69 BM25 score 5.001188 system name query id 4 Q0 doc id 2275 rank 70 BM25 score 4.996597 system name query id 4 Q0 doc id 2900 rank 71 BM25 score 4.985609 system name guery id 4 Q0 doc id 1918 rank 72 BM25 score 4.972351 system name query id 4 Q0 doc id 1305 rank 73 BM25 score 4.955557 system name guery id 4 Q0 doc id 2078 rank 74 BM25 score 4.952550 system name query id 4 Q0 doc id 298 rank 75 BM25 score 4.947825 system name query id 4 Q0 doc id 2988 rank 76 BM25 score 4.940217 system name guery id 4 Q0 doc id 1584 rank 77 BM25 score 4.927882 system name query id 4 Q0 doc id 2547 rank 78 BM25 score 4.909831 system name guery id 4 Q0 doc id 2734 rank 79 BM25 score 4.903540 system name query_id 4 Q0 doc_id 954 rank 80 BM25_score 4.898674 system_name query id 4 Q0 doc id 2065 rank 81 BM25 score 4.869715 system name query id 4 Q0 doc id 52 rank 82 BM25 score 4.855507 system name query id 4 Q0 doc id 2847 rank 83 BM25 score 4.847626 system name guery id 4 Q0 doc id 1997 rank 84 BM25 score 4.814666 system name query_id 4 Q0 doc_id 1081 rank 85 BM25_score 4.813094 system_name query id 4 Q0 doc id 2978 rank 86 BM25 score 4.805480 system name query id 4 Q0 doc id 2893 rank 87 BM25 score 4.795781 system name query id 4 Q0 doc id 2718 rank 88 BM25 score 4.790011 system name query id 4 Q0 doc id 2081 rank 89 BM25 score 4.789938 system name query id 4 Q0 doc id 1780 rank 90 BM25 score 4.771416 system name query id 4 Q0 doc id 2187 rank 91 BM25 score 4.759781 system name query id 4 Q0 doc id 2334 rank 92 BM25 score 4.730453 system name query id 4 Q0 doc id 2566 rank 93 BM25 score 4.730453 system name query_id 4 Q0 doc_id 2998 rank 94 BM25_score 4.708457 system_name query_id 4 Q0 doc_id 2846 rank 95 BM25_score 4.700656 system_name query_id 4 Q0 doc_id 3165 rank 96 BM25_score 4.687400 system_name query_id 4 Q0 doc_id 1845 rank 97 BM25_score 4.676181 system_name query_id 4 Q0 doc_id 1936 rank 98 BM25_score 4.666476 system_name query_id 4 Q0 doc_id 3098 rank 99 BM25_score 4.661827 system_name query_id 4 Q0 doc_id 1583 rank 100 BM25_score 4.637555 system_name

//Query 5 //appli stochast process

query id 5 Q0 doc id 1696 rank 1 BM25 score 9.607553 system name query id 5 Q0 doc id 1410 rank 2 BM25 score 8.343157 system name guery id 5 Q0 doc id 2535 rank 3 BM25 score 8.121770 system name query_id 5 Q0 doc_id 268 rank 4 BM25_score 8.008449 system_name query id 5 Q0 doc id 2841 rank 5 BM25 score 7.327315 system name query id 5 Q0 doc id 1194 rank 6 BM25 score 7.122213 system name guery id 5 Q0 doc id 2628 rank 7 BM25 score 7.047083 system name query id 5 Q0 doc id 2882 rank 8 BM25 score 6.868673 system name query id 5 Q0 doc id 2777 rank 9 BM25 score 6.264778 system name query id 5 Q0 doc id 1540 rank 10 BM25 score 6.234849 system name query id 5 Q0 doc id 1013 rank 11 BM25 score 6.203954 system name guery id 5 Q0 doc id 174 rank 12 BM25 score 6.163922 system name query id 5 Q0 doc id 2643 rank 13 BM25 score 6.081786 system name guery id 5 Q0 doc id 3020 rank 14 BM25 score 6.016224 system name query id 5 Q0 doc id 1435 rank 15 BM25 score 5.994746 system name query id 5 Q0 doc id 1233 rank 16 BM25 score 5.986512 system name query id 5 Q0 doc id 2198 rank 17 BM25 score 5.975967 system name query id 5 Q0 doc id 3137 rank 18 BM25 score 5.974883 system name guery id 5 Q0 doc id 2065 rank 19 BM25 score 5.953215 system name query_id 5 Q0 doc_id 3120 rank 20 BM25_score 5.872651 system_name query id 5 Q0 doc id 618 rank 21 BM25 score 5.820953 system name query id 5 Q0 doc id 2858 rank 22 BM25 score 5.778292 system name query id 5 Q0 doc id 1359 rank 23 BM25 score 5.724668 system name query id 5 Q0 doc id 20 rank 24 BM25 score 5.709758 system name query_id 5 Q0 doc_id 2137 rank 25 BM25_score 5.679908 system_name query id 5 Q0 doc id 1196 rank 26 BM25 score 5.677505 system name query_id 5 Q0 doc_id 1892 rank 27 BM25_score 5.530860 system name query id 5 Q0 doc id 2050 rank 28 BM25 score 5.526433 system name query id 5 Q0 doc id 1235 rank 29 BM25 score 5.473943 system name query id 5 Q0 doc id 2742 rank 30 BM25 score 5.473943 system name query id 5 Q0 doc id 1926 rank 31 BM25 score 5.471988 system name query id 5 Q0 doc id 2800 rank 32 BM25 score 5.417909 system name query id 5 Q0 doc id 2827 rank 33 BM25 score 5.363009 system name query id 5 Q0 doc id 3059 rank 34 BM25 score 5.333171 system name query id 5 Q0 doc id 2523 rank 35 BM25 score 5.330217 system name query id 5 Q0 doc id 2093 rank 36 BM25 score 5.287994 system name guery id 5 Q0 doc id 2162 rank 37 BM25 score 5.262163 system name query id 5 Q0 doc id 2570 rank 38 BM25 score 5.262163 system name query_id 5 Q0 doc_id 278 rank 39 BM25_score 5.261561 system_name query id 5 Q0 doc id 1216 rank 40 BM25 score 5.214651 system name query id 5 Q0 doc id 2051 rank 41 BM25 score 5.199671 system name guery id 5 Q0 doc id 1169 rank 42 BM25 score 5.185709 system name query id 5 Q0 doc id 3151 rank 43 BM25 score 5.097667 system name query id 5 Q0 doc id 2878 rank 44 BM25 score 4.998465 system name query id 5 Q0 doc id 2396 rank 45 BM25 score 4.928983 system name query id 5 Q0 doc id 3039 rank 46 BM25 score 4.922111 system name guery id 5 Q0 doc id 2883 rank 47 BM25 score 4.858900 system name query_id 5 Q0 doc_id 3095 rank 48 BM25_score 4.849545 system_name query id 5 Q0 doc id 3057 rank 49 BM25 score 4.844044 system name query id 5 Q0 doc id 3153 rank 50 BM25 score 4.829281 system name guery id 5 Q0 doc id 2767 rank 51 BM25 score 4.781595 system name guery id 5 Q0 doc id 1637 rank 52 BM25 score 4.761260 system name query id 5 Q0 doc id 78 rank 53 BM25 score 4.728976 system name query id 5 Q0 doc id 1180 rank 54 BM25 score 4.707695 system name query id 5 Q0 doc id 942 rank 55 BM25 score 4.665704 system name guery id 5 Q0 doc id 1924 rank 56 BM25 score 4.645477 system name query id 5 Q0 doc id 861 rank 57 BM25 score 4.624665 system name query_id 5 Q0 doc_id 1925 rank 58 BM25_score 4.553998 system name query id 5 Q0 doc id 3013 rank 59 BM25 score 4.553998 system name query id 5 Q0 doc id 3036 rank 60 BM25 score 4.553998 system name guery id 5 Q0 doc id 2874 rank 61 BM25 score 4.485656 system name query id 5 Q0 doc id 1326 rank 62 BM25 score 4.476059 system name query id 5 Q0 doc id 185 rank 63 BM25 score 4.391507 system name query_id 5 Q0 doc_id 1172 rank 64 BM25_score 4.377151 system_name query id 5 Q0 doc id 2067 rank 65 BM25 score 4.367322 system name query id 5 Q0 doc id 3165 rank 66 BM25 score 4.327920 system name query id 5 Q0 doc id 2627 rank 67 BM25 score 4.255141 system name guery id 5 Q0 doc id 2515 rank 68 BM25 score 4.218456 system name query_id 5 Q0 doc_id 1264 rank 69 BM25_score 4.189273 system_name query id 5 Q0 doc id 2468 rank 70 BM25 score 4.130904 system name query id 5 Q0 doc id 2472 rank 71 BM25 score 4.130904 system name query id 5 Q0 doc id 2014 rank 72 BM25 score 4.116424 system name query id 5 Q0 doc id 1468 rank 73 BM25 score 4.090027 system name query id 5 Q0 doc id 1849 rank 74 BM25 score 4.087766 system name query id 5 Q0 doc id 2363 rank 75 BM25 score 4.066533 system name query id 5 Q0 doc id 1511 rank 76 BM25 score 4.059504 system name query id 5 Q0 doc id 2111 rank 77 BM25 score 4.056388 system name query id 5 Q0 doc id 2125 rank 78 BM25 score 4.053665 system name query id 5 Q0 doc id 1956 rank 79 BM25 score 4.044126 system name query id 5 Q0 doc id 2931 rank 80 BM25 score 4.040770 system name guery id 5 Q0 doc id 1886 rank 81 BM25 score 4.038563 system name query id 5 Q0 doc id 2641 rank 82 BM25 score 4.024722 system name query_id 5 Q0 doc_id 3030 rank 83 BM25_score 4.012526 system_name query id 5 Q0 doc id 3138 rank 84 BM25 score 3.989573 system name query id 5 Q0 doc id 2175 rank 85 BM25 score 3.974416 system name guery id 5 Q0 doc id 1671 rank 86 BM25 score 3.937023 system name query id 5 Q0 doc id 2118 rank 87 BM25 score 3.930427 system name query id 5 Q0 doc id 3092 rank 88 BM25 score 3.915139 system name query id 5 Q0 doc id 1307 rank 89 BM25 score 3.900328 system name query_id 5 Q0 doc_id 616 rank 90 BM25_score 3.888066 system_name guery id 5 Q0 doc id 1980 rank 91 BM25 score 3.827931 system name query_id 5 Q0 doc_id 536 rank 92 BM25_score 3.814117 system_name query id 5 Q0 doc id 2127 rank 93 BM25 score 3.807596 system name query id 5 Q0 doc id 2496 rank 94 BM25 score 3.769229 system name guery id 5 Q0 doc id 111 rank 95 BM25 score 3.742535 system name query id 5 Q0 doc id 2498 rank 96 BM25 score 3.741210 system name query id 5 Q0 doc id 1383 rank 97 BM25 score 3.724729 system name query id 5 Q0 doc id 1003 rank 98 BM25 score 3.720028 system name query_id 5 Q0 doc_id 1717 rank 99 BM25_score 3.712952 system_name guery id 5 Q0 doc id 2483 rank 100 BM25 score 3.710997 system name

//Query 6

//perform evalu and model of comput system

query_id 6 Q0 doc_id 2318 rank 1 BM25_score 12.593847 system_name query id 6 Q0 doc id 3048 rank 2 BM25 score 11.308772 system name query id 6 Q0 doc id 1938 rank 3 BM25 score 10.815298 system name guery id 6 Q0 doc id 2859 rank 4 BM25 score 10.627941 system name query_id 6 Q0 doc_id 3136 rank 5 BM25_score 10.567149 system_name query id 6 Q0 doc id 1908 rank 6 BM25 score 10.553554 system name query id 6 Q0 doc id 1827 rank 7 BM25 score 10.227650 system name query id 6 Q0 doc id 2988 rank 8 BM25 score 9.828380 system name guery id 6 Q0 doc id 2522 rank 9 BM25 score 9.362644 system name query_id 6 Q0 doc_id 3089 rank 10 BM25_score 9.353250 system_name query id 6 Q0 doc id 3070 rank 11 BM25 score 9.203707 system name query id 6 Q0 doc id 2542 rank 12 BM25 score 9.058381 system name query id 6 Q0 doc id 2894 rank 13 BM25 score 8.951283 system name query id 6 Q0 doc id 2319 rank 14 BM25 score 8.785882 system name query id 6 Q0 doc id 2882 rank 15 BM25 score 8.758957 system name query id 6 Q0 doc id 2535 rank 16 BM25 score 8.751079 system name query id 6 Q0 doc id 2951 rank 17 BM25 score 8.746509 system name query id 6 Q0 doc id 1653 rank 18 BM25 score 8.544116 system name query id 6 Q0 doc id 3119 rank 19 BM25 score 8.373964 system name query id 6 Q0 doc id 1792 rank 20 BM25 score 8.344739 system name query id 6 Q0 doc id 2984 rank 21 BM25 score 8.273785 system name guery id 6 Q0 doc id 1526 rank 22 BM25 score 8.168707 system name query id 6 Q0 doc id 2452 rank 23 BM25 score 7.991814 system name query_id 6 Q0 doc_id 1518 rank 24 BM25_score 7.938796 system_name query_id 6 Q0 doc_id 2892 rank 25 BM25 score 7.790059 system name query id 6 Q0 doc id 2741 rank 26 BM25 score 7.736156 system name guery id 6 Q0 doc id 2344 rank 27 BM25 score 7.647743 system name query id 6 Q0 doc id 2571 rank 28 BM25 score 7.596301 system name query id 6 Q0 doc id 2862 rank 29 BM25 score 7.539751 system name query id 6 Q0 doc id 1572 rank 30 BM25 score 7.414519 system name query id 6 Q0 doc id 1680 rank 31 BM25 score 7.375439 system name guery id 6 Q0 doc id 1516 rank 32 BM25 score 7.368085 system name query_id 6 Q0 doc_id 1533 rank 33 BM25_score 7.317123 system_name query id 6 Q0 doc id 2151 rank 34 BM25 score 7.297146 system name query id 6 Q0 doc id 891 rank 35 BM25 score 7.275311 system name guery id 6 Q0 doc id 2711 rank 36 BM25 score 7.184112 system name guery id 6 Q0 doc id 1032 rank 37 BM25 score 7.028667 system name query id 6 Q0 doc id 2372 rank 38 BM25 score 6.963185 system name query id 6 Q0 doc id 2812 rank 39 BM25 score 6.955273 system name query id 6 Q0 doc id 2245 rank 40 BM25 score 6.952846 system name guery id 6 Q0 doc id 3072 rank 41 BM25 score 6.920359 system name query id 6 Q0 doc id 2188 rank 42 BM25 score 6.875804 system name guery id 6 Q0 doc id 2624 rank 43 BM25 score 6.869730 system name query id 6 Q0 doc id 2375 rank 44 BM25 score 6.800053 system name query id 6 Q0 doc id 1341 rank 45 BM25 score 6.767251 system name guery id 6 Q0 doc id 3059 rank 46 BM25 score 6.717425 system name query id 6 Q0 doc id 1695 rank 47 BM25 score 6.697656 system name guery id 6 Q0 doc id 2798 rank 48 BM25 score 6.667049 system name query_id 6 Q0 doc_id 1699 rank 49 BM25_score 6.662941 system_name query id 6 Q0 doc id 1199 rank 50 BM25 score 6.660266 system name query id 6 Q0 doc id 1308 rank 51 BM25 score 6.581994 system name query id 6 Q0 doc id 1698 rank 52 BM25 score 6.472797 system name guery id 6 Q0 doc id 2681 rank 53 BM25 score 6.440467 system name query_id 6 Q0 doc_id 2560 rank 54 BM25_score 6.431045 system_name query id 6 Q0 doc id 2692 rank 55 BM25 score 6.393867 system name query id 6 Q0 doc id 2268 rank 56 BM25 score 6.369501 system name query id 6 Q0 doc id 2069 rank 57 BM25 score 6.368450 system name query id 6 Q0 doc id 2669 rank 58 BM25 score 6.218559 system name query id 6 Q0 doc id 78 rank 59 BM25 score 6.203807 system name query id 6 Q0 doc id 2153 rank 60 BM25 score 6.195554 system name query id 6 Q0 doc id 2092 rank 61 BM25 score 6.181754 system name query id 6 Q0 doc id 3028 rank 62 BM25 score 6.135462 system name query id 6 Q0 doc id 2383 rank 63 BM25 score 6.133511 system name query id 6 Q0 doc id 1805 rank 64 BM25 score 6.128043 system name query id 6 Q0 doc id 2849 rank 65 BM25 score 6.117215 system name query id 6 Q0 doc id 1719 rank 66 BM25 score 6.095849 system name query id 6 Q0 doc id 2105 rank 67 BM25 score 6.026216 system name query_id 6 Q0 doc_id 585 rank 68 BM25_score 5.976493 system_name query_id 6 Q0 doc_id 2947 rank 69 BM25 score 5.960813 system name query id 6 Q0 doc id 1750 rank 70 BM25 score 5.891948 system name guery id 6 Q0 doc id 1344 rank 71 BM25 score 5.890400 system name query id 6 Q0 doc id 1605 rank 72 BM25 score 5.844231 system name query id 6 Q0 doc id 2634 rank 73 BM25 score 5.828545 system name query id 6 Q0 doc id 1347 rank 74 BM25 score 5.789871 system name query id 6 Q0 doc id 2593 rank 75 BM25 score 5.787818 system name guery id 6 Q0 doc id 1066 rank 76 BM25 score 5.787746 system name query_id 6 Q0 doc_id 1410 rank 77 BM25_score 5.724616 system_name query id 6 Q0 doc id 1169 rank 78 BM25 score 5.712481 system_name query id 6 Q0 doc id 2371 rank 79 BM25 score 5.679592 system name guery id 6 Q0 doc id 2380 rank 80 BM25 score 5.646214 system name guery id 6 Q0 doc id 1892 rank 81 BM25 score 5.621998 system name query id 6 Q0 doc id 3002 rank 82 BM25 score 5.571077 system name query id 6 Q0 doc id 1978 rank 83 BM25 score 5.569416 system name query id 6 Q0 doc id 2036 rank 84 BM25 score 5.556849 system name guery id 6 Q0 doc id 3016 rank 85 BM25 score 5.540076 system name query id 6 Q0 doc id 3088 rank 86 BM25 score 5.532202 system name guery id 6 Q0 doc id 1542 rank 87 BM25 score 5.523884 system name query id 6 Q0 doc id 1506 rank 88 BM25 score 5.491185 system name query id 6 Q0 doc id 1071 rank 89 BM25 score 5.488844 system name query id 6 Q0 doc id 1752 rank 90 BM25 score 5.483273 system name query id 6 Q0 doc id 1544 rank 91 BM25 score 5.482934 system name guery id 6 Q0 doc id 2054 rank 92 BM25 score 5.468255 system name query_id 6 Q0 doc_id 1170 rank 93 BM25_score 5.314961 system_name query id 6 Q0 doc id 2990 rank 94 BM25 score 5.300834 system name query id 6 Q0 doc id 2918 rank 95 BM25 score 5.192194 system name query id 6 Q0 doc id 1844 rank 96 BM25 score 5.154246 system name guery id 6 Q0 doc id 3017 rank 97 BM25 score 5.113062 system name query_id 6 Q0 doc_id 3147 rank 98 BM25_score 5.020916 system_name query id 6 Q0 doc id 3039 rank 99 BM25 score 5.006655 system name query id 6 Q0 doc id 2948 rank 100 BM25 score 5.004136 system name

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//Query 7
//parallel processor in inform retriev
query_id 7 Q0 doc_id 2973 rank 1 BM25_score 14.142749 system_name
query_id 7 Q0 doc_id 3156 rank 2 BM25_score 13.786306 system_name
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query id 7 Q0 doc id 1811 rank 3 BM25 score 13.077751 system name query id 7 Q0 doc id 2967 rank 4 BM25 score 12.328601 system name query id 7 Q0 doc id 2714 rank 5 BM25 score 11.765036 system name query id 7 Q0 doc id 2570 rank 6 BM25 score 11.357775 system name query id 7 Q0 doc id 3075 rank 7 BM25 score 11.104881 system name query_id 7 Q0 doc_id 2664 rank 8 BM25_score 10.763927 system_name query id 7 Q0 doc id 2401 rank 9 BM25 score 10.107647 system name query id 7 Q0 doc id 2114 rank 10 BM25 score 9.993379 system name guery id 7 Q0 doc id 2175 rank 11 BM25 score 9.834029 system name query id 7 Q0 doc id 2838 rank 12 BM25 score 9.205228 system name query id 7 Q0 doc id 3090 rank 13 BM25 score 9.203003 system name query id 7 Q0 doc id 1262 rank 14 BM25 score 9.153779 system name query_id 7 Q0 doc_id 2479 rank 15 BM25_score 8.953117 system_name guery id 7 Q0 doc id 1613 rank 16 BM25 score 8.789452 system name query_id 7 Q0 doc_id 2497 rank 17 BM25_score 8.747901 system_name query id 7 Q0 doc id 1680 rank 18 BM25 score 8.565958 system name query id 7 Q0 doc id 1795 rank 19 BM25 score 8.459381 system name guery id 7 Q0 doc id 1846 rank 20 BM25 score 8.014650 system name guery id 7 Q0 doc id 3134 rank 21 BM25 score 7.798653 system name query id 7 Q0 doc id 891 rank 22 BM25 score 7.775384 system name query id 7 Q0 doc id 2852 rank 23 BM25 score 7.767863 system name query_id 7 Q0 doc_id 1457 rank 24 BM25_score 7.711015 system_name guery id 7 Q0 doc id 2288 rank 25 BM25 score 7.673396 system name query id 7 Q0 doc id 1699 rank 26 BM25 score 7.661929 system name guery id 7 Q0 doc id 2278 rank 27 BM25 score 7.642466 system name query id 7 Q0 doc id 1032 rank 28 BM25 score 7.558421 system name query id 7 Q0 doc id 1747 rank 29 BM25 score 7.517483 system name query id 7 Q0 doc id 2163 rank 30 BM25 score 7.507329 system name query id 7 Q0 doc id 2723 rank 31 BM25 score 7.423692 system name guery id 7 Q0 doc id 1681 rank 32 BM25 score 7.355605 system name query_id 7 Q0 doc_id 2711 rank 33 BM25_score 7.217036 system_name query id 7 Q0 doc id 2311 rank 34 BM25 score 7.214900 system name query id 7 Q0 doc id 3120 rank 35 BM25 score 7.193559 system name query id 7 Q0 doc id 2514 rank 36 BM25 score 7.143522 system name guery id 7 Q0 doc id 2342 rank 37 BM25 score 7.084702 system name query_id 7 Q0 doc_id 1625 rank 38 BM25_score 7.010107 system_name query id 7 Q0 doc id 2516 rank 39 BM25 score 7.007522 system name query id 7 Q0 doc id 1601 rank 40 BM25 score 6.970644 system name query id 7 Q0 doc id 1830 rank 41 BM25 score 6.919665 system name query id 7 Q0 doc id 2865 rank 42 BM25 score 6.878431 system name query id 7 Q0 doc id 2990 rank 43 BM25 score 6.868663 system name query id 7 Q0 doc id 2631 rank 44 BM25 score 6.863735 system name query id 7 Q0 doc id 2181 rank 45 BM25 score 6.807789 system name query id 7 Q0 doc id 1959 rank 46 BM25 score 6.803895 system name query id 7 Q0 doc id 3012 rank 47 BM25 score 6.758429 system name query id 7 Q0 doc id 3135 rank 48 BM25 score 6.725917 system name query id 7 Q0 doc id 2307 rank 49 BM25 score 6.706566 system name guery id 7 Q0 doc id 1927 rank 50 BM25 score 6.643737 system name query id 7 Q0 doc id 2584 rank 51 BM25 score 6.640969 system name query_id 7 Q0 doc_id 303 rank 52 BM25_score 6.599184 system_name query_id 7 Q0 doc_id 1505 rank 53 BM25 score 6.592793 system name query id 7 Q0 doc id 275 rank 54 BM25 score 6.535012 system name guery id 7 Q0 doc id 651 rank 55 BM25 score 6.535012 system name query id 7 Q0 doc id 2070 rank 56 BM25 score 6.515354 system name query id 7 Q0 doc id 2645 rank 57 BM25 score 6.504117 system name query id 7 Q0 doc id 2700 rank 58 BM25 score 6.438483 system name query_id 7 Q0 doc_id 2785 rank 59 BM25_score 6.422000 system_name guery id 7 Q0 doc id 1935 rank 60 BM25 score 6.421455 system name query_id 7 Q0 doc_id 239 rank 61 BM25_score 6.418815 system_name query id 7 Q0 doc id 2433 rank 62 BM25 score 6.411557 system name query id 7 Q0 doc id 1514 rank 63 BM25 score 6.368555 system name guery id 7 Q0 doc id 950 rank 64 BM25 score 6.366085 system name guery id 7 Q0 doc id 292 rank 65 BM25 score 6.362252 system name query id 7 Q0 doc id 2429 rank 66 BM25 score 6.288949 system name query id 7 Q0 doc id 2140 rank 67 BM25 score 6.288533 system name query id 7 Q0 doc id 2685 rank 68 BM25 score 6.286874 system name guery id 7 Q0 doc id 1325 rank 69 BM25 score 6.274788 system name query id 7 Q0 doc id 2402 rank 70 BM25 score 6.268803 system name guery id 7 Q0 doc id 2519 rank 71 BM25 score 6.183864 system name query id 7 Q0 doc id 2776 rank 72 BM25 score 6.147061 system name query id 7 Q0 doc id 2266 rank 73 BM25 score 6.097003 system name query id 7 Q0 doc id 1108 rank 74 BM25 score 6.032659 system name query id 7 Q0 doc id 1359 rank 75 BM25 score 6.023541 system name query id 7 Q0 doc id 1158 rank 76 BM25 score 6.020183 system name query_id 7 Q0 doc_id 1627 rank 77 BM25_score 6.017220 system_name query id 7 Q0 doc id 2916 rank 78 BM25 score 6.008368 system name query id 7 Q0 doc id 2054 rank 79 BM25 score 5.963462 system name query id 7 Q0 doc id 1200 rank 80 BM25 score 5.958044 system name guery id 7 Q0 doc id 1684 rank 81 BM25 score 5.949294 system name query_id 7 Q0 doc_id 1828 rank 82 BM25_score 5.947439 system_name query id 7 Q0 doc id 2532 rank 83 BM25 score 5.927011 system name query id 7 Q0 doc id 1937 rank 84 BM25 score 5.914499 system name query id 7 Q0 doc id 2882 rank 85 BM25 score 5.905471 system name query id 7 Q0 doc id 2232 rank 86 BM25 score 5.893472 system name query id 7 Q0 doc id 1742 rank 87 BM25 score 5.891113 system name query id 7 Q0 doc id 1236 rank 88 BM25 score 5.883060 system name query id 7 Q0 doc id 1527 rank 89 BM25 score 5.877432 system name query id 7 Q0 doc id 2811 rank 90 BM25 score 5.873376 system name query_id 7 Q0 doc_id 3169 rank 91 BM25_score 5.868161 system_name query_id 7 Q0 doc_id 3169 rank 92 BM25_score 5.847405 system_name query_id 7 Q0 doc_id 1831 rank 93 BM25_score 5.847013 system_name query_id 7 Q0 doc_id 1655 rank 94 BM25_score 5.836799 system_name query_id 7 Q0 doc_id 634 rank 95 BM25_score 5.815049 system_name query_id 7 Q0 doc_id 657 rank 96 BM25_score 5.807564 system_name query_id 7 Q0 doc_id 2746 rank 97 BM25_score 5.800539 system_name query_id 7 Q0 doc_id 2851 rank 98 BM25_score 5.782204 system_name query_id 7 Q0 doc_id 3168 rank 99 BM25_score 5.767181 system_name query_id 7 Q0 doc_id 1652 rank 100 BM25_score 5.753782 system_name