

9. In the documents collection, perform a word count across both the text and title fields, and count how often each word appears. Group the words based on their presence in either text or title.

```
db.documents.aggregate([
  {
    $project: {
      titleWords: {
        $split: [{ $toLower: "$title" }, " "]
      },
      textWords: {
        $split: [{ $toLower: "$text" }, " "]
      }
    }
  },
  {
    $project: {
      wordSources: {
        $concatArrays: [
          {
            $map: {
              input: "$titleWords",
              as: "word",
              in: { word: "$$word", source: "title" }
            }
          },
          {
            $map: {
              input: "$textWords",
              as: "word",
              in: { word: "$$word", source: "text" }
            }
          }
        ]
      }
    }
  },
  { $unwind: "$wordSources" },
  {
    $group: {
      _id: {
        word: "$wordSources.word",
        source: "$wordSources.source"
      },
      count: { $sum: 1 }
    }
  },
  {
    $group: {
      _id: "$_id.word",
      sources: {
        $push: {
          source: "$_id.source",
          count: "$count"
        }
      },
      totalOccurrences: { $sum: "$count" }
    }
  },
  { $sort: { totalOccurrences: -1 } }
```

]);

```
schoolDB> db.documents.aggregate([
...   {
...     $project: {
...       titleWords: {
...         $split: [{ $toLower: "$title" }, " "]
...       },
...       textWords: {
...         $split: [{ $toLower: "$text" }, " "]
...       }
...     }
...   },
...   {
...     $project: {
...       wordSources: {
...         $concatArrays: [
...           {
...             $map: {
...               input: "$titleWords",
...               as: "word",
...               in: { word: "$$word", source: "title" }
...             }
...           ,
...           {
...             $map: {
...               input: "$textWords",
...               as: "word",
...               in: { word: "$$word", source: "text" }
...             }
...           }
...         ]
...       }
...     }
...   },
...   { $unwind: "$wordSources" },
...   {
...     $group: {
...       _id: {
...         word: "$wordSources.word",
...         source: "$wordSources.source"
...       },
...       count: { $sum: 1 }
...     }
...   },
...   {
...     $group: {
...       _id: "$_id.word",
...       sources: {
...         $push: {
...           source: "$_id.source",
...           count: "$count"
...         }
...       },
...       totalOccurrences: { $sum: "$count" }
...     }
...   },
...   { $sort: { totalOccurrences: -1 } }
... ])
```

```

...   },
...   { $sort: { totalOccurrences: -1 } }
... ]));
[
  {
    _id: 'mongodb',
    sources: [ { source: 'title', count: 1 }, { source: 'text', count: 2 } ],
    totalOccurrences: 3
  },
  {
    _id: 'mapreduce',
    sources: [ { source: 'text', count: 1 }, { source: 'title', count: 1 } ],
    totalOccurrences: 2
  },
  {
    _id: 'is',
    sources: [ { source: 'text', count: 2 } ],
    totalOccurrences: 2
  },
  {
    _id: 'frameworks',
    sources: [ { source: 'title', count: 1 }, { source: 'text', count: 1 } ],
    totalOccurrences: 2
  },
  {
    _id: 'aggregation',
    sources: [ { source: 'text', count: 1 }, { source: 'title', count: 1 } ],
    totalOccurrences: 2
  },
  {
    _id: 'powerful',
    sources: [ { source: 'text', count: 1 } ],
    totalOccurrences: 1
  },
  {
    _id: 'sets.',
    sources: [ { source: 'text', count: 1 } ],
    totalOccurrences: 1
  },
  {
    _id: 'understanding',
    sources: [ { source: 'title', count: 1 } ],
    totalOccurrences: 1
  },
  {
    _id: 'lol'
  }
]

```

```
  _id: 'understanding',
  sources: [ { source: 'title', count: 1 } ],
  totalOccurrences: 1
},
{
  _id: 'a',
  sources: [ { source: 'text', count: 1 } ],
  totalOccurrences: 1
},
{
  _id: 'and',
  sources: [ { source: 'text', count: 1 } ],
  totalOccurrences: 1
},
{
  _id: 'large',
  sources: [ { source: 'text', count: 1 } ],
  totalOccurrences: 1
},
{
  _id: 'fun',
  sources: [ { source: 'text', count: 1 } ],
  totalOccurrences: 1
},
{
  _id: 'learning',
  sources: [ { source: 'text', count: 1 } ],
  totalOccurrences: 1
},
{
  _id: 'for',
  sources: [ { source: 'text', count: 1 } ],
  totalOccurrences: 1
},
{
  _id: 'tool',
  sources: [ { source: 'text', count: 1 } ],
  totalOccurrences: 1
},
{
  _id: 'basics',
  sources: [ { source: 'title', count: 1 } ],
  totalOccurrences: 1
},
{
  _id: 'learning',
  sources: [ { source: 'text', count: 1 } ],
  totalOccurrences: 1
}
```

```

    {
      _id: 'basics',
      sources: [ { source: 'title', count: 1 } ],
      totalOccurrences: 1
    },
    {
      _id: 'engaging.',
      sources: [ { source: 'text', count: 1 } ],
      totalOccurrences: 1
    },
    {
      _id: 'in',
      sources: [ { source: 'text', count: 1 } ],
      totalOccurrences: 1
    },
    {
      _id: 'provide',
      sources: [ { source: 'text', count: 1 } ],
      totalOccurrences: 1
    },
    {
      _id: 'flexibility.',
      sources: [ { source: 'text', count: 1 } ],
      totalOccurrences: 1
    }
  ]
}

```

Type "it" for more
schoolDB> it

```

[
  {
    _id: 'data',
    sources: [ { source: 'text', count: 1 } ],
    totalOccurrences: 1
  }
]

```