

The background is a stylized representation of the underwater world from the animated series 'SpongeBob SquarePants'. It features a blue sky-like background with three large, simple flowers in red, white, and yellow. Below the sky is a greenish-yellow ground with small brown and orange specks. In the bottom left corner, there is a green plant with a white flower. In the bottom right corner, there is a brown, branching coral-like structure. The signature 'Matt's' and a small black spider-like icon are visible in the bottom right corner.

Mongo DB SpongeBob Project

Using MongoDB Queries to Find the episode featuring the most characters

Stage 1 ☒

```
1 {
2   title: 1,
3   numberOfCharacters: {
4     $size: "$characters"
5   }
6 }
```

Output after [\\$project](#) stage (Sample of 10 documents)

_id: ObjectId('67123c65bf394c417e76d313')

title: "Help Wanted"

numberOfCharacters: 12

_id: ObjectId('67123c65bf394c417e76d314')

title: "Reef Blower"

numberOfCharacters: 8

Stage 1 – Specifies the character field to be passed into the next stage of the pipeline

Stage 2 ☒

```
1 {
2   numberOfCharacters: -1
3 }
```

Output after [\\$sort](#) stage (Sample of 10 documents)

_id: ObjectId('67123c65bf394c417e76d51f')

title: "Say Awww!"

numberOfCharacters: 176

_id: ObjectId('67123c65bf394c417e76d402')

title: "Truth or Square"

numberOfCharacters: 149

Stage 2 – Sorts the entities in the pipeline by the number of characters present

Stage 3 ☒

```
1 1
```

Output after [\\$limit](#) stage (Sample of 1 document)

_id: ObjectId('67123c65bf394c417e76d51f')

title: "Say Awww!"

numberOfCharacters: 176

Stage 3 – Limits the entities returned to 1 after sorting, yielding the episode with the highest number of characters

Using MongoDB Queries to Find the episode with the highest U.S viewership

Stage 1

\$addFields

```
1 {
2   viewers: {
3     $toDouble: "$info.U.S. viewers (milli
4   }
5 }
```

Output after \$addFields stage (Sample of 10 documents)

```
{
  "_id": ObjectId('67123c65bf394c417e76d313'),
  "title": "Help Wanted",
  "info": Object,
  "characters": Array (12),
  "url": "https://spongebob.fandom.com/wiki/Help_Wa...",
  "viewers": null
}
```

```
{
  "_id": ObjectId('67123c65bf394c417e76d314'),
  "title": "Reef Blower",
  "info": Object,
  "characters": Array (8),
  "url": "https://spongebob.fandom.com/wiki/Reef_Bl...",
  "viewers": null
}
```

Stage 1 – Specifies the U.S. Viewers field to be passed into the next stage of the pipeline

Stage 2

\$sort

```
1 {
2   viewers: -1
3 }
```

Output after \$sort stage (Sample of 10 documents)

```
{
  "_id": ObjectId('67123c65bf394c417e76d31b'),
  "title": "Boating School",
  "info": Object,
  "characters": Array (12),
  "url": "https://spongebob.fandom.com/wiki/Boating...",
  "viewers": null
}
```

```
{
  "_id": ObjectId('67123c65bf394c417e76d31c'),
  "title": "Pizza Delivery",
  "info": Object,
  "characters": Array (7),
  "url": "https://spongebob.fandom.com/wiki/Pizza_D...",
  "viewers": null
}
```

Stage 2 – Sorts the entities by U.S. Viewers

Stage 3

\$limit


```
1 1
```

Output after \$limit stage (Sample of 1 document)

```
{
  "_id": ObjectId('67123c65bf394c417e76d313'),
  "title": "Help Wanted",
  "info": Object,
  "characters": Array (12),
  "url": "https://spongebob.fandom.com/wiki/Help_Wa...",
  "viewers": null
}
```

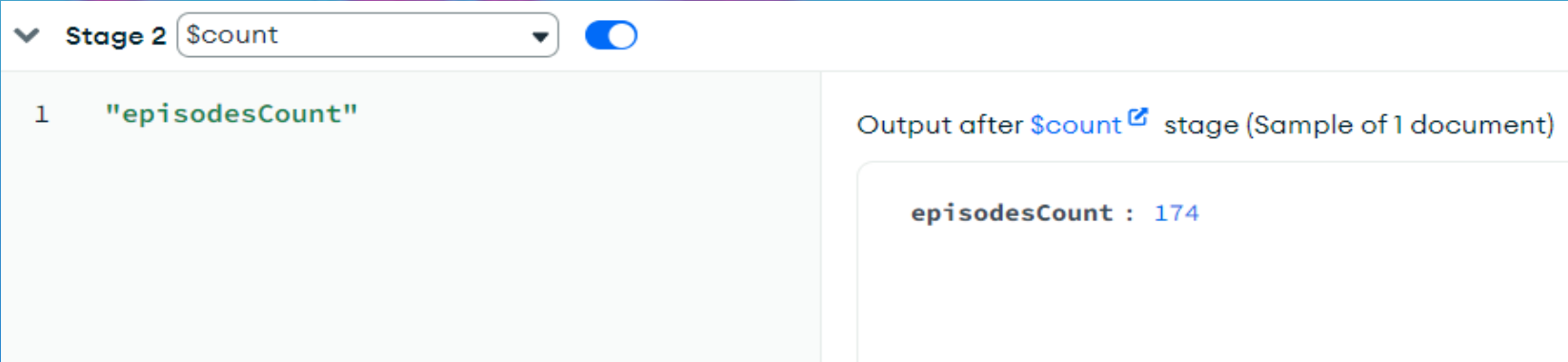
Stage 3 – Limits the entities to be returned to the top result after sorting, yielding the episode with highest U.S. viewership

Using MongoDB Queries to Count the number of episodes featuring Plankton



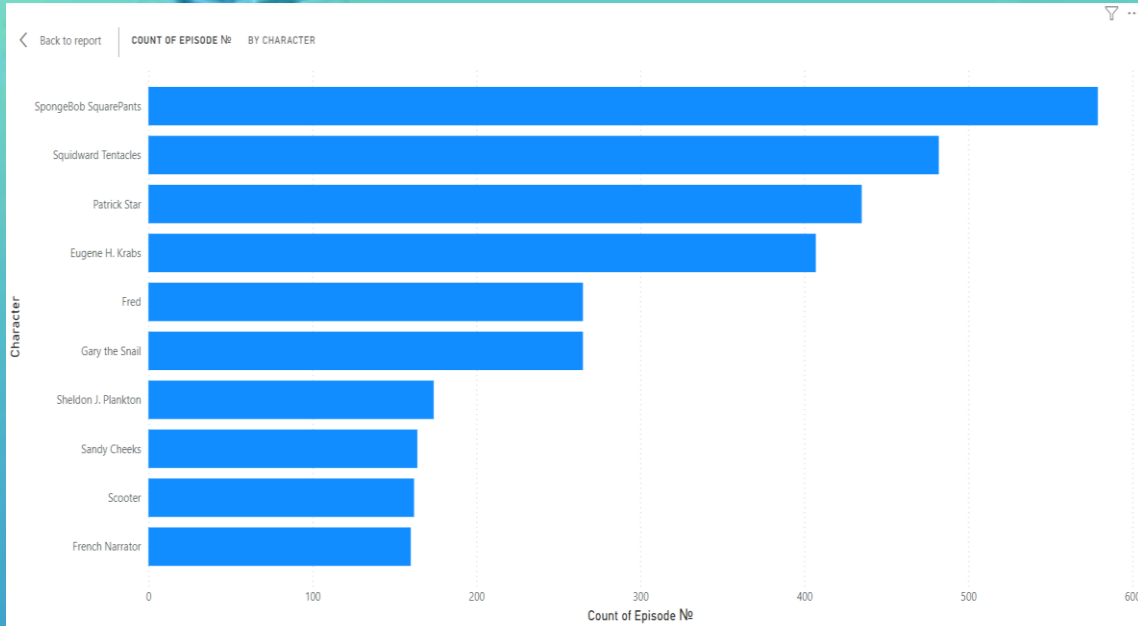
Stage 1 – Filters entities to those featuring plankton, and then passes it to the next stage of the pipeline

↓

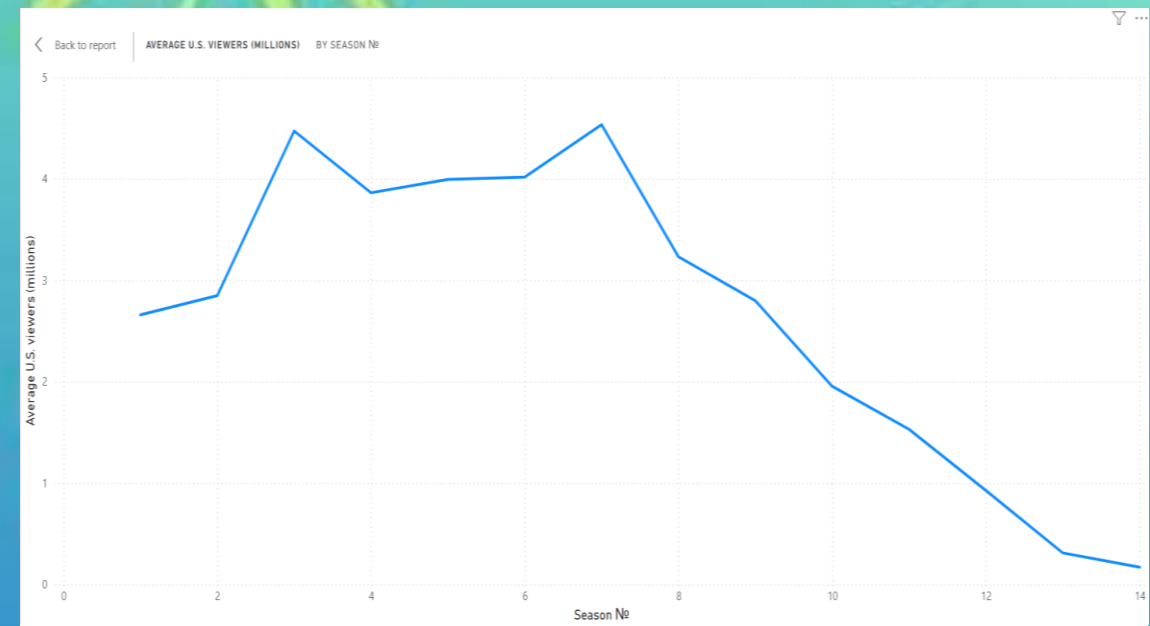


Stage 2 – Counts the number of episodes remaining after being filtered

Visualisations



A bar chart created in Power BI based on the data handled and queried through Mongo DB. This shows the count of episode appearances throughout the series of the 10 most common characters.



A line graph created in Power BI based on the data handled and queried through Mongo DB. This shows the average U.S. Viewership numbers in millions per each season of the series.