

Query 1: Top 10 movies by user ratings

```
db.movie_ratings.aggregate([
  // First add a field for average user rating
  {
    $addFields: {
      user_rating_avg: { $avg: "$ratings.rating" },
      number_of_ratings: { $size: "$ratings" }
    }
  },
  // Filter to ensure we have enough ratings for meaningful average
  {
    $match: {
      number_of_ratings: { $gte: 5 } // At least 5 user ratings
    }
  },
  // Sort by user rating average in descending order
  {
    $sort: {
      user_rating_avg: -1
    }
  },
  // Limit to top 10
  {
    $limit: 10
  },
  // Project the fields we want to see
  {
    $project: {
      _id: 0,
      title: 1,
      user_rating_avg: { $round: ["$user_rating_avg", 2] },
      number_of_ratings: 1,
      vote_average: 1,
      vote_count: 1
    }
  }
]);
```

Screenshot of query:

```
msds697> db.movie_ratings.aggregate([
  {
    $addFields: {
      user_rating_avg: { $avg: "$ratings.rating" },
      number_of_ratings: { $size: "$ratings" }
    }
  },
  {
    $match: {
      number_of_ratings: { $gte: 5 } // At least 5 user ratings
    }
  },
  {
    $sort: {
      user_rating_avg: -1
    }
  },
  {
    $limit: 10
  },
  {
    $project: {
      _id: 0,
      title: 1,
      user_rating_avg: { $round: ["$user_rating_avg", 2] },
      number_of_ratings: 1,
      vote_average: 1,
      vote_count: 1
    }
  }
]);
```

Screenshot of result:

```
< {
  title: 'Violet Evergarden: The Movie',
  vote_average: 8.3,
  vote_count: 415,
  number_of_ratings: 6,
  user_rating_avg: 9.33
}
{
  title: 'War Room',
  vote_average: 7.827,
  vote_count: 532,
  number_of_ratings: 9,
  user_rating_avg: 9.33
}
{
  title: 'I'm Still Here',
  vote_average: 7.8,
  vote_count: 247,
  number_of_ratings: 8,
  user_rating_avg: 9.25
}
{
  title: 'The Shawshank Redemption',
  vote_average: 8.708,
  vote_count: 27659,
  number_of_ratings: 579,
  user_rating_avg: 9.21
}
{
  title: 'The Dark Knight',
  vote_average: 8.519,
  vote_count: 33349,
  number_of_ratings: 842,
  user_rating_avg: 9
}
{
  title: 'The Godfather',
  vote_average: 8.688,
  vote_count: 28974,
  number_of_ratings: 413,
  user_rating_avg: 8.98
}
{
  title: '12 Angry Men',
  vote_average: 8.5,
  vote_count: 8850,
  number_of_ratings: 224,
  user_rating_avg: 8.93
}
{
  title: 'Cinema Paradiso',
  vote_average: 8.445,
  vote_count: 4440,
  number_of_ratings: 63,
  user_rating_avg: 8.92
}
{
  title: 'The Matrix',
  vote_average: 8.221,
  vote_count: 25993,
  number_of_ratings: 771,
  user_rating_avg: 8.91
}
}
```

Query 2: Top movie by user rating in the last 5 years

```
db.movie_ratings.aggregate([
  {
    $addFields: {
      user_rating_avg: { $avg: "$ratings.rating" },
      number_of_ratings: { $size: "$ratings" },
      year: { $substr: ["$release_date", 0, 4] }
    }
  },
  {
    $match: {
      release_date: {
        $gte: "2020-02-21",
        $lte: "2025-02-21"
      },
      number_of_ratings: { $gte: 5 }
    }
  },
  {
    $sort: {
      year: 1,
      user_rating_avg: -1
    }
  },
  {
    $group: {
      _id: "$year",
      title: { $first: "$title" },
      vote_average: { $first: "$vote_average" },
      vote_count: { $first: "$vote_count" },
      number_of_ratings: { $first: "$number_of_ratings" },
      user_rating_avg: { $first: "$user_rating_avg" }
    }
  },
  {
    $sort: {
      _id: -1
    }
  },
  {
    $project: {
      _id: 0,
      year: "$_id",
```

```
    title: 1,  
    user_rating_avg: { $round: ["$user_rating_avg", 2] },  
    number_of_ratings: 1,  
    vote_average: 1,  
    vote_count: 1  
  }  
}  
]);
```

Query Snapshot:

```
msds697> db.movie_ratings.aggregate([
  {
    $addFields: {
      user_rating_avg: { $avg: "$ratings.rating" },
      number_of_ratings: { $size: "$ratings" },
      year: { $substr: ["$release_date", 0, 4] }
    }
  },
  {
    $match: {
      release_date: {
        $gte: "2020-02-21",
        $lte: "2025-02-21"
      },
      number_of_ratings: { $gte: 5 }
    }
  },
  {
    $sort: {
      year: 1,
      user_rating_avg: -1
    }
  },
  {
    $group: {
      _id: "$year",
      title: { $first: "$title" },
      vote_average: { $first: "$vote_average" },
      vote_count: { $first: "$vote_count" },
      number_of_ratings: { $first: "$number_of_ratings" },
      user_rating_avg: { $first: "$user_rating_avg" }
    }
  },
  {
    $sort: {
      _id: -1
    }
  },
  {
    $project: {
      _id: 0,
      year: "$_id",
      title: 1,
      user_rating_avg: { $round: ["$user_rating_avg", 2] },
      number_of_ratings: 1,
      vote_average: 1,
      vote_count: 1
    }
  }
]);
```

Result Snapshot:

```
< {
  title: 'Ad Vitam',
  vote_average: 6.319,
  vote_count: 279,
  number_of_ratings: 12,
  year: '2025',
  user_rating_avg: 7.58
}
{
  title: 'I'm Still Here',
  vote_average: 7.8,
  vote_count: 247,
  number_of_ratings: 8,
  year: '2024',
  user_rating_avg: 9.25
}
{
  title: 'Spider-Man: Across the Spider-Verse',
  vote_average: 8.4,
  vote_count: 7260,
  number_of_ratings: 182,
  year: '2023',
  user_rating_avg: 8.64
}
{
  title: 'The First Slam Dunk',
  vote_average: 7.816,
  vote_count: 411,
  number_of_ratings: 10,
  year: '2022',
  user_rating_avg: 8.1
}
{
  title: 'Spider-Man: No Way Home',
  vote_average: 7.95,
  vote_count: 20451,
  number_of_ratings: 379,
  year: '2021',
  user_rating_avg: 8.11
}
{
  title: 'Violet Evergarden: The Movie',
  vote_average: 8.3,
  vote_count: 415,
  number_of_ratings: 6,
  year: '2020',
  user_rating_avg: 9.33
}
}
```

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