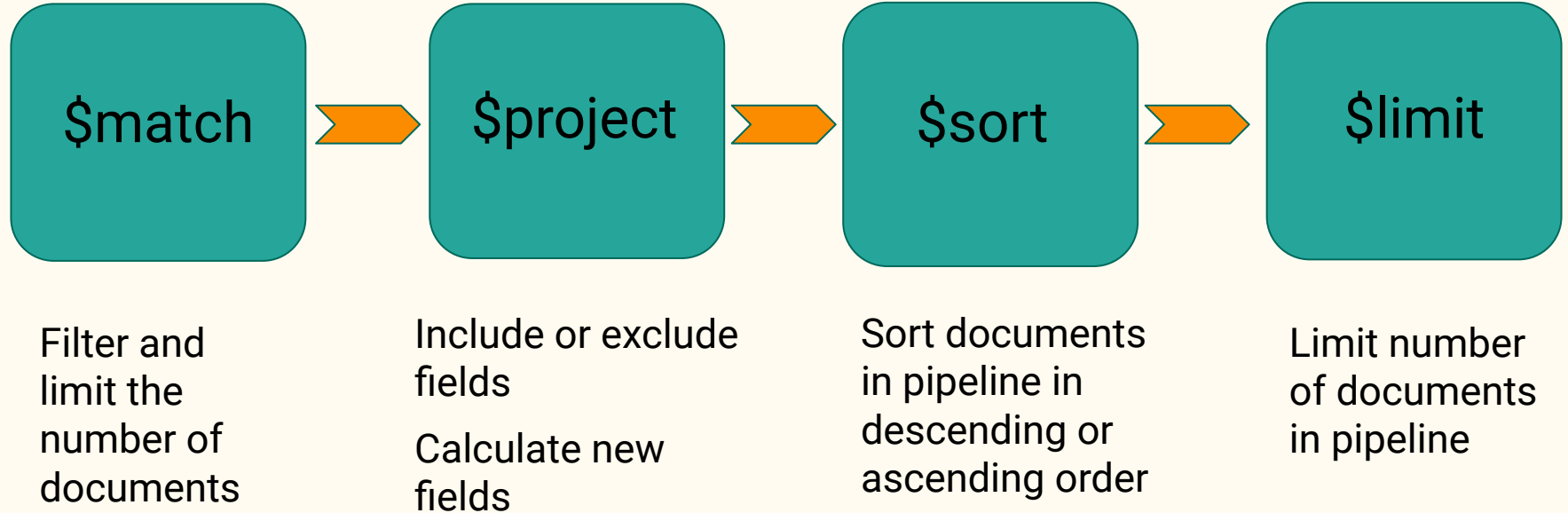# Aggregation

—

Transforming Data with the MongoDB Aggregation Pipeline

Given a Collection of Restaurants...

Query language **find()**	Retrieve, filter, sort, data	Find all restaurants serving Mexican cuisine in the borough of Manhattan
Aggregation pipeline **aggregate()**	Transform data through stages that return computed results	Calculate the average score of all Mexican restaurants in Manhattan, output a collection of the top 10 scoring restaurants

Stages

$match

Filter and limit the number of documents

$project

Include or exclude fields

Calculate new fields

$sort

Sort documents in pipeline in descending or ascending order

$limit

Limit number of documents in pipeline

10 Highest Scoring Mexican Restaurants in Manhattan

```
aggregate([
  {'$match':  { cuisine: "Mexican", borough: "Manhattan"}},
  {'$project': {
      name: 1,
      averageScore: {
        $round: [ { $avg: "$grades.score" }, 1]
      },
      address: 1,
      borough: 1
    }
  },
  {'$sort': { "averageScore": -1}},
  {'$limit': 10}
]);
```

```
{'$match':  { cuisine: "Mexican", borough: "Manhattan"}}
```

```
 _id: ObjectId("5eb3d668b31de5d588f4298b")
> address: Object
  borough: "Manhattan"
  cuisine: "Mexican"
∨ grades: Array
  ∨ 0: Object
      date: 2014-05-22T00:00:00.000+00:00
      grade: "A"
      score: 10
  > 1: Object
  > 2: Object
  > 3: Object
  name: "Panchito'S"
  restaurant_id: "40365348"
```

$project

```
{'$project': {
    _id: 0,
    name: 1,
    averageScore: {
      $round: [
        { $avg: "$grades.score" }, 1]
    }
  }
},
```

name: "Panchito'S"
averageScore: 13

```
{'$sort': { "averageScore": -1}}
```

```
{ name: 'El Ranchito Del Agave', averageScore: 27 }
{ name: 'El Coco', averageScore: 26 }
{ name: 'Maya', averageScore: 24 }
{ name: 'La Cabana Restaurant', averageScore: 23.3 }
{ name: "Maryann'S", averageScore: 22.3 }
{ name: 'Casa Mezcal', averageScore: 22 }
{ name: 'Oaxaca', averageScore: 22 }
{ name: 'Mexicue', averageScore: 22 }
{ name: 'Al Horno Lean Mexican', averageScore: 22 }
{ name: 'Downtown Bakery Ii Mexican Food', averageScore: 21.7 }
{ name: 'Cascabel Taqueria', averageScore: 21 }
{ name: 'Salvation Taco', averageScore: 20.2 }
{ name: "Mojito'S", averageScore: 19.9 }
{ name: 'El Rancho Sports Bar', averageScore: 19.7 }
{ name: 'El Tapatio Mexican Restaurant', averageScore: 19.6 }
{ name: 'Las Panteras Negras Restaurant', averageScore: 19.2 }
{ name: "Mary Ann'S", averageScore: 19 }
{ name: 'Taqueria San Pedro', averageScore: 19 }
{ name: 'Papasito Mexican Grill', averageScore: 19 }
{ name: 'La Palapa', averageScore: 18.8 }
{ name: 'La Nueva Juquila Restaurant', averageScore: 18.8 }
{ name: 'Mercadito', averageScore: 18.2 }
{ name: 'Cancun Mexican Restaurant', averageScore: 18.2 }
{ name: 'Ocelotl Diner', averageScore: 18 }
{ name: 'Agave', averageScore: 17.8 }
{ name: 'Chips & Salsa', averageScore: 17.8 }
{ name: 'Picante Bar And Grill Restaurant', averageScore: 17.5 }
{ name: 'Iguana Restaurant', averageScore: 17 }
{ name: 'La Lucha', averageScore: 17 }
{ name: 'Taqueria Guadalupe', averageScore: 17 }
{ name: 'Chevys Fresh Mex', averageScore: 17 }
{ name: 'Casa Mexicana', averageScore: 17 }
```

```
{'$limit': 10}
```

```
{ name: 'El Ranchito Del Agave', averageScore: 27 }
{ name: 'El Coco', averageScore: 26 }
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```