Chapter 3: Core Aggregation - Combining Information

Lab - Using $lookup

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```
db.air_routes.aggregate([
  {
    $match: {
      airplane: /747|380/
    }
  },
  {
    $lookup: {
      from: "air_alliances",
      foreignField: "airlines",
      localField: "airline.name",
      as: "alliance"
    }
  },
  {
    $unwind: "$alliance"
  },
  {
    $group: {
      _id: "$alliance.name",
      count: { $sum: 1 }
    }
  },
  {
    $sort: { count: -1 }
  }
])
```

We begin by aggregating over our `air_routes` collection to allow for filtering of documents containing the string "747" or "380". If we started from `air_alliances` we would have to do this **after** the lookup!

```
{
  $match: {
    airplane: /747|380/
  }
},
```

Next, we use the `$lookup` stage to match documents from `air_alliances` on the value of their `airlines` field against the current document's `airline.name` field

```
{
  $lookup: {
    from: "air_alliances",
    foreignField: "airlines",
    localField: "airline.name",
    as: "alliance"
  }
},
```

We then use `$unwind` on the `alliance` field we created in `$lookup`, creating a document with each entry in `alliance`

```
{
  $unwind: "$alliance"
},
```

We end with a `$group` and `$sort` stage, grouping on the name of the alliance and counting how many times it appeared

```
{
  $group: {
    _id: "$alliance.name",
    count: { $sum: 1 }
  }
},
{
  $sort: { count: -1 }
}
```

This produces the following output

```
{ "_id" : "SkyTeam", "count" : 16 }
{ "_id" : "Star Alliance", "count" : 11 }
{ "_id" : "OneWorld", "count" : 11 }
```

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Proceed to next section