1.1 Query: db.airlines.aggregate([

{

$group: {

\_id: "$class",

total: { $sum: 1 }

}

}, {

$project: {

\_id: 0,

class: "$\_id",

total: 1

}

}

])

Result:

{ "total" : 140343, "class" : "F" }

{ "total" : 23123, "class" : "L" }

{ "total" : 5683, "class" : "P" }

{ "total" : 17499, "class" : "G" }

1.2 Query: db.airlines.aggregate([

{

$match: {

destCountry: {

$ne: "United States"

}

}

},

{

$group: {

\_id: {

destCity: "$destCity"

},

avgPassangers: { $avg: "$passengers" }

}

},

{

$sort: {

avgPassangers: -1

},

},

{

$limit: 3

},

{

$project: {

city: "$\_id.destCity",

avgPassangers: 1,

\_id: 0

}

}

])

Result:

{ "avgPassangers" : 8052.380952380952, "city" : "Abu Dhabi, United Arab Emirates" }

{ "avgPassangers" : 7176.596638655462, "city" : "Dubai, United Arab Emirates" }

{ "avgPassangers" : 7103.333333333333, "city" : "Guangzhou, China" }

1.3 Query: db.airlines.aggregate([

{

$match: {

destCountry: "Latvia"

}

},

{

$group: {

\_id: "$destCountry",

carriers: {

$addToSet: "$carrier"

}

}

}

])

Result:

{ "\_id" : "Latvia", "carriers" : [ "Uzbekistan Airways", "Blue Jet SP Z o o", "JetClub AG" ] }

1.4 Query: db.airlines.aggregate([

{

$match: {

originCountry: "United States",

destCountry:{$in: ["Greece", "Spain", "Italy"]}

}

},

{

$group: {

\_id: "$carrier",

total: { $max: "$passengers" }

}

},

{

$sort: {

total: -1

},

},

{

$limit: 10

},

{

$skip: 3

}

])

Result:

{ "\_id" : "Emirates", "total" : 12144 }

{ "\_id" : "Air Europa", "total" : 8086 }

{ "\_id" : "American Airlines Inc.", "total" : 8065 }

{ "\_id" : "United Air Lines Inc.", "total" : 7313 }

{ "\_id" : "Meridiana S.p.A", "total" : 6173 }

{ "\_id" : "Norwegian Air Shuttle ASA", "total" : 2381 }

{ "\_id" : "Atlas Air Inc.", "total" : 85 }

1.5 Query: db.airlines.aggregate([

{

$match: {

originCountry: "United States"

}

},

{

$group: {

\_id: {

originState: "$originState",

originCity: "$originCity"

},

totalPassengers: { $sum: "$passengers" }

}

},

{

$sort: {

totalPassengers: -1

},

},

{

$group: {

\_id: {

originState: "$\_id.originState"

},

totalPassengers: { $max: "$totalPassengers" },

city: {$first: "$\_id.originCity"}

}

},

{

$sort: {

"\_id.originState": 1

},

},

{

$limit: 5

},

{

$project: {

location: {

state: "$\_id.originState",

city: "$city"

},

totalPassengers: 1,

\_id: 0

}

}

])

Result:

{ "totalPassengers" : 760120, "location" : { "state" : "Alabama", "city" : "Birmingham, AL" } }

{ "totalPassengers" : 1472404, "location" : { "state" : "Alaska", "city" : "Anchorage, AK" } }

{ "totalPassengers" : 13152753, "location" : { "state" : "Arizona", "city" : "Phoenix, AZ" } }

{ "totalPassengers" : 571452, "location" : { "state" : "Arkansas", "city" : "Little Rock, AR" } }

{ "totalPassengers" : 23701556, "location" : { "state" : "California", "city" : "Los Angeles, CA" } }

Query 2.1 db.enron.aggregate([

{

$group: {

\_id: "$\_id",

To: {$addToSet: "$headers.To"},

From: {$first: "$headers.From"}

}

},

{

$unwind: "$To"

},

{

$unwind: "$To"

},

{

$group: {

\_id: {

From: "$From",

To: "$To"

},

count: {$sum: 1}

}

},

{

$sort: {

count: -1

}

},

{

$limit: 1

}

])

Result:

{ "\_id" : { "From" : "veronica.espinoza@enron.com", "To" : "recipients@enron.com" }, "count" : 2181 }