

1.

```
db.tickets.update({"ticketId": "T157597"}, {$set: {"flightDate": "09/20/2006", "passenger": { "passengerId": "00027", "name": "MARIAPEREZ", "birthDate": "05/26/2003", "telephone": "900190011", "airplane": { "aircraftRegistration": "NC72516", "seats": 319, "buildDate": "09/01/1993" }, "route": { "route_code": "R7556", "origin": "London", "destination": "Paris", "distance": 344, "price": 596 }}})
```

```
> db.tickets.update({"ticketId": "T157597"}, {$set: {"flightDate": "09/20/2006", "passenger": { "passengerId": "00027", "name": "MARIAPEREZ", "birthDate": "05/26/2003", "telephone": "900190011", "airplane": { "aircraftRegistration": "NC72516", "seats": 319, "buildDate": "09/01/1993" }, "route": { "route_code": "R7556", "origin": "London", "destination": "Paris", "distance": 344, "price": 596 }}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

2.

```
db.tickets.update({$or: [{"route.origin": "Madrid"}, {"route.origin": "London"}]}, {$inc: {"route.price": -100}}, {multi: true})
```

```
> db.tickets.update({$or: [{"route.origin": "Madrid"}, {"route.origin": "London"}]}, {$inc: {"route.price": -100}}, {multi: true})
WriteResult({ "nMatched" : 168, "nUpserted" : 0, "nModified" : 168 })
```

3.

```
db.tickets.find({$and: [{"airplane.seats": {$gt: 300}, "route.price": {$gt: 1000}, "route.price": {$lt: 2000}]}).count()
```

```
> db.tickets.find({$and: [{"airplane.seats": {$gt: 300}, "route.price": {$gt: 1000}, "route.price": {$lt: 2000}]}).count()
231
```

4.

```
db.tickets.find({$and: [{ $or: [{"route.origin": "Madrid"}, {"route.origin": "Bogota"}, {"route.origin": "London"}]}, {"airplane.seats": {$gt: 399}]}]).sort({"route.destination": -1})
```

```
db.tickets.find(({"$and": [{"route.origin": "Madrid"}, {"route.origin": "Bogota"}, {"route.origin": "London"}]}, {"airplane.seats": {"$gt": 399}})).sort({"route.destination": -1})
{"_id": "602b3bf9e085c21793451e", "ticketId": "T157597", "flightDate": "09/20/2006", "passenger": { "passengerId": "00012", "name": "MICHAEL THOMPSON", "birthDate": "10/27/1976", "telephone": "2095289951", "airplane": { "aircraftRegistration": "NC12224", "seats": 400, "buildDate": "01/25/1995" }, "route": { "route_code": "R7556", "origin": "London", "destination": "Paris", "distance": 344, "price": -100 } },
{"_id": "602b3bf9e085c21793452e", "ticketId": "T157597", "flightDate": "09/20/2006", "passenger": { "passengerId": "00019", "name": "THEODORE SPENCER", "birthDate": "12/18/1900", "telephone": "907200721", "airplane": { "aircraftRegistration": "NC12224", "seats": 400, "buildDate": "01/25/1995" }, "route": { "route_code": "R7556", "origin": "London", "destination": "Paris", "distance": 344, "price": -100 } },
{"_id": "602b3bf9e085c21793453e", "ticketId": "T157597", "flightDate": "09/20/2006", "passenger": { "passengerId": "00024", "name": "SALVATORE MARINO", "birthDate": "03/31/2002", "telephone": "378037801", "airplane": { "aircraftRegistration": "NC12224", "seats": 400, "buildDate": "01/25/1995" }, "route": { "route_code": "R7556", "origin": "Madrid", "destination": "Paris", "distance": 1050, "price": -100 } },
{"_id": "602b3bf9e085c21793454e", "ticketId": "T157597", "flightDate": "09/11/2001", "passenger": { "passengerId": "20034", "name": "ROYAL LONZO", "birthDate": "05/17/1956", "telephone": "560856081", "airplane": { "aircraftRegistration": "NC12224", "seats": 400, "buildDate": "01/25/1995" }, "route": { "route_code": "R7556", "origin": "Madrid", "destination": "Paris", "distance": 1050, "price": -100 } },
{"_id": "602b3bf9e085c21793455e", "ticketId": "T157597", "flightDate": "09/16/2002", "passenger": { "passengerId": "00002", "name": "MICHAEL THOMPSON", "birthDate": "02/02/1978", "telephone": "347634761", "airplane": { "aircraftRegistration": "NC12224", "seats": 400, "buildDate": "01/25/1995" }, "route": { "route_code": "R7556", "origin": "Madrid", "destination": "Paris", "distance": 1050, "price": -100 } },
{"_id": "602b3bf9e085c21793456e", "ticketId": "T156608", "flightDate": "08/18/2009", "passenger": { "passengerId": "20012", "name": "GREGOR LONZO", "birthDate": "10/18/1972", "telephone": "216721671", "airplane": { "aircraftRegistration": "NC12224", "seats": 400, "buildDate": "01/25/1995" }, "route": { "route_code": "R7556", "origin": "London", "destination": "Madrid", "distance": 1270, "price": -100 } },
{"_id": "602b3bf9e085c21793457e", "ticketId": "T156608", "flightDate": "11/08/2011", "passenger": { "passengerId": "00016", "name": "ELIZABETH PARKA", "birthDate": "04/12/1980", "telephone": "378237821", "airplane": { "aircraftRegistration": "NC12224", "seats": 400, "buildDate": "01/25/1995" }, "route": { "route_code": "R7556", "origin": "Madrid", "destination": "London", "distance": 1270, "price": -100 } },
{"_id": "602b3bf9e085c21793458e", "ticketId": "T157597", "flightDate": "09/17/2001", "passenger": { "passengerId": "00022", "name": "JENNIFER LUTZ", "birthDate": "03/19/1978", "telephone": "907206721", "airplane": { "aircraftRegistration": "NC12224", "seats": 400, "buildDate": "01/25/1995" }, "route": { "route_code": "R7556", "origin": "Madrid", "destination": "London", "distance": 1270, "price": -100 } },
{"_id": "602b3bf9e085c21793459e", "ticketId": "T157597", "flightDate": "09/10/2003", "passenger": { "passengerId": "20031", "name": "MICHELLE SPRINGER", "birthDate": "04/21/1961", "telephone": "332233221", "airplane": { "aircraftRegistration": "NC12224", "seats": 400, "buildDate": "01/25/1995" }, "route": { "route_code": "R7556", "origin": "Madrid", "destination": "London", "distance": 1270, "price": -100 } },
{"_id": "602b3bf9e085c2179345ae", "ticketId": "T157597", "flightDate": "09/20/2006", "passenger": { "passengerId": "00032", "name": "MARLA PERAZA", "birthDate": "08/11/1962", "telephone": "999999991", "airplane": { "aircraftRegistration": "NC12224", "seats": 400, "buildDate": "01/25/1995" }, "route": { "route_code": "R6665", "origin": "Bogota", "destination": "Hongkong", "distance": 10993, "price": 5790 } },
{"_id": "602b3bf9e085c2179345be", "ticketId": "T157120", "flightDate": "12/03/2008", "passenger": { "passengerId": "00012", "name": "SEAN CONNELL", "birthDate": "10/18/1972", "telephone": "216721671", "airplane": { "aircraftRegistration": "NC12224", "seats": 400, "buildDate": "01/25/1995" }, "route": { "route_code": "R6665", "origin": "Bogota", "destination": "Hongkong", "distance": 10993, "price": 5790 } }
```

5.

```
db.tickets.find({$or: [{"airplane.buildDate": null}, {"airplane.buildDate": {$exists: false}]}).count()
```

```
> db.tickets.find({$or: [{"airplane.buildDate": null}, {"airplane.buildDate": {$exists: false}]}).count()
118
```

6.

```
db.tickets.aggregate({$group: {_id: "$route.route_code", earnings_per_route: {$sum: "$route.price"}}})
```

```
> db.tickets.aggregate([{$group: {_id: "$route.route_code", earnings_per_route: {$sum: "$route.price"}}}])
{ "_id" : "R2912", "earnings_per_route" : 180558 }
{ "_id" : "R7405", "earnings_per_route" : 38976 }
{ "_id" : "R1210", "earnings_per_route" : 14742 }
{ "_id" : "R4264", "earnings_per_route" : 120330 }
{ "_id" : "R4881", "earnings_per_route" : 195468 }
{ "_id" : "R5663", "earnings_per_route" : 132048 }
{ "_id" : "R5665", "earnings_per_route" : 243180 }
{ "_id" : "R1181", "earnings_per_route" : 105882 }
{ "_id" : "R7425", "earnings_per_route" : 321468 }
{ "_id" : "R4063", "earnings_per_route" : 31458 }
{ "_id" : "R1019", "earnings_per_route" : 167580 }
{ "_id" : "R1918", "earnings_per_route" : 56238 }
{ "_id" : "R2387", "earnings_per_route" : 25326 }
{ "_id" : "R5325", "earnings_per_route" : 141372 }
{ "_id" : "R5712", "earnings_per_route" : 65058 }
{ "_id" : "R7203", "earnings_per_route" : 183456 }
{ "_id" : "R7556", "earnings_per_route" : 20832 }
{ "_id" : "R6824", "earnings_per_route" : 91014 }
{ "_id" : "R1152", "earnings_per_route" : 229404 }
{ "_id" : "R7032", "earnings_per_route" : 32382 }
Type "it" for more
> █
```

7.

```
db.tickets.aggregate([{$group: {_id: null, total_earnings: {$sum: "$route.price"}}}])
```

```
> db.tickets.aggregate([{$group: {_id: null, total_earnings: {$sum: "$route.price"}}}])
{ "_id" : null, "total_earnings" : 3534594 }
> █
```

8.

```
db.tickets.remove({'$and': [{'passenger.name': '/SALLY/i'}, {"route.price": {$gt: 500}}, {"route.price": {$lt: 600}},
{$or:[{"route.origin": "Madrid"}, {"route.origin": "London"}]}})
```

```
> db.tickets.remove({"passenger.name": "/SALLY/i"}, {"route.price": {$gt: 500}}, {"route.price": {$lt: 600}}, {$or:
... [{"route.origin": "Madrid"}, {"route.origin": "London"}] } )
WriteResult({ "nRemoved" : 28 })
```