// Q1

use a6

db.createCollection("emp")

db.emp.insert([{ssn: "123-22-3666", name: "Attishoo", rating: 8, wages: 10, hours: 40}, {ssn: "231-31-5368", name: "Smiley", rating: 8, wages: 10, hours: 30}, {ssn: "131-24-3650", name: "Smethurst", rating: 5, wages: 7, hours: 30}, {ssn: "434-26-3751", name: "Guldu", rating: 5, wages: 7, hours: 32}, {ssn: "612-67-4134", name: "Madayan", rating: 8, wages: 10, hours: 40}])

db.emp.find()

// Q2

db.emp.find({rating: 5}).pretty()

// Q3

db.emp.find({rating: 5}, {\_id: 0, name: 1})

// Q4

db.emp.find({$and: [{rating: 8}, {hours: 40}]}, {\_id: 0, name: 1, rating: 1, hours: 1}).sort({name: 1})

// Q5

db.emp.aggregate([{$group: {\_id: "$rating", minhours: {$min: "$hours"}}}, {$project: {\_id: 0, rating: "$\_id", minhour: "$minhours"}}])

// Q6

use a6

db.createCollection("wages")

db.wages.insert([{rating: 8,wages: 10}, {rating: 5,wages: 7}])

db.wages.find()

// Q7

use a6

db.createCollection("emp2")

var oid8 = db.wages.find({rating: 8}, {"\_id": 1}).map(function(item){ return item.\_id; })

var oid5 = db.wages.find({rating: 5}, {"\_id": 1}).map(function(item){ return item.\_id; })

db.emp2.insert([{ssn: "123-22-3666", name: "Attishoo", rating: {"$ref": "emp2", "$id": oid8, "$db": "wages"}, hours: 40}, {ssn: "231-31-5368", name: "Smiley", rating: {"$ref": "emp2", "$id": oid8, "$db": "wages"}, hours: 30}, {ssn: "131-24-3650", name: "Smethurst", rating: {"$ref": "emp2", "$id": oid5, "$db": "wages"}, hours: 30}, {ssn: "434-26-3751", name: "Guldu", rating: {"$ref": "emp2", "$id": oid5, "$db": "wages"}, hours: 32}, {ssn: "612-67-4134", name: "Madayan", rating: {"$ref": "emp2", "$id": oid8, "$db": "wages"}, hours: 40}])

db.emp2.find()

// Q8

db.emp2.find({}, {\_id: 0}).sort({name: 1})

// Q9

db.wages.find({}, {\_id: 0}).sort({rating: -1})

// Q10

db.emp2.aggregate([{$match: {name: "Smiley"}}, {$addFields: {"rating": {$arrayElemAt: [{$objectToArray: "$rating"}, 1]}}}, {$addFields: {"rating": "$rating.v"}}, {$lookup: {from: "wages", localField: "rating", foreignField: "\_id", as: "rating"}},{$addFields:{"rating" :{$arrayElemAt: ["$rating",0]}}}, {$addFields: {"wages": "$rating.wages"}}, {$addFields: {"rating": "$rating.rating"}}, {$project: {\_id: 0}}])