TASK1:

a) db.employee.countDocuments({"Gender":"F"})

b)db.employee.countDocuments({"Gender":"F","Department":"IT"})

c)db.employee.countDocuments({"Gender":"F","Department":{$inn:["IT","HR","Marketing"]}})

TASK2:

a)db.employee.find({"Position":{$ne:"Teaching"}},{"Name":1,"Gender":1,"Position":1,"Department":1})

b)db.employee.find({"Position":{$ne:"Teaching"}},{"\_id":0,"Salary":0})

TASK3:

a) db.employee.find({$or:[{"Department":"IT"},{"Job List":"Daily Support"}]},{"\_id":0,"Department":1,"Salary":1})

b) db.employee.find({$or:[{"Department":"IT"},{"Job List":"Daily Support"}]},{"\_id":0,"Department":1,"Salary":1})

c) db.employee.find({$or:[{"Department":"IT"},{"Job List":"Daily Support"},{"Job List":"Accounting"}]},{"\_id":0,"Department":1,"Salary":1})

or

db.employee.find({$or:[{"Department":"IT"},{"Job List":{$in:["Daily Support","Accounting"]}}]},{"\_id":0,"Department":1,"Salary":1})

TASK4:

a) db.employee.find({"Salary.Salary Type":"Hourly","Salary.Rate":{$gte:100,$lte:200}})

b) db.employee.find({"Salary.Salary Type":"Hourly","Salary.Rate":{$gte:50,$lte:200},"Job List":{$exists:1}})

c) db.employee.find({"Salary.Salary Type":"Hourly","Salary.Rate":{$gte:50,$lte:200},"Job List.1":{$exists:1}}

TASK5:

db.employee.find({"Salary.Salary Type":"Fixed","Date Hired":{$lte:new Date('2022-01-01')}},{"Salary.Net":1,"Date Hired":1})

TASK6:

a)db.employee.find({"Projects": { $elemMatch: { "Budget":{$gte: 100000, $lte: 500000}}}},{"Name":1,"Department":1,"Projects":1,"\_id":0})

b)db.employee.find({"Projects": { $elemMatch: { "Budget":{$gte: 100000, $lte: 500000}}}},{"Name":1,"Department":1,"Projects.$":1,"\_id":0})

TASK 1:

db.employees.updateMany(

{ "Salary.Salary Type": "Fixed" },{

$inc: { "Salary.Housing": 150 },

$set: { "Salary.Extras": ["Flight Ticket", "Parking", "Insurance"] }})

db.employees.updateMany(

{ "Department": "Finance", "Salary.Salary Type": "Fixed" },

{$addToSet: { "Salary.Extras": { $each: ["Mobile Package", "Kids School Support", "Family Insurance"] } }})

TASK 2:

a)db.employees.aggregate([{ $group: { \_id: "$Salary.Salary Type", count: { $sum: 1 } } }])

b)db.employees.find().sort({ "Salary.Salary Type": -1 })

TASK 3: a)

db.employees.aggregate([ { $match: { "Position": { $ne: "Teacher" } } },

{ $group: { \_id: { $dayOfMonth: "$Date Hired" }, count: { $sum: 1 } } }])

b)db.employees.aggregate([

{ $match: { "Position": { $ne: "Teacher" } } },

{ $group: { \_id: { $dayOfMonth: "$Date Hired" }, count: { $sum: 1 } } },

{ $sort: { "\_id": -1, "count": 1 } }])

c) db.employees.aggregate([

{ $match: { "Position": { $ne: "Teacher" } } },

{ $group: { \_id: { $dayOfMonth: "$Date Hired" }, count: { $sum: 1 } } },

{ $match: { count: { $gt: 2 } } },

{ $sort: { "\_id": -1 } }

])TASK 4:

db.employees.updateMany(

{ "Projects.Duration": { $gt: 4 } },

{ $inc: { "Projects.$.Budget": 10000 } }

)