# PUNE VIDYARTHI GRIHA'S

**COLLEGE OF ENGINEERING & TECHNOLOGY, PUNE-9**

**Department of Infromation Technology**

**Assignment No :- 1**

**Subject:** ADBMS Laboratory Practice-I

**Name:-** Sahil Thite **Roll No:-** 3024

**Class :-** TE IT **Batch :** T3

# Problem Statement

## Create employee collection in company database and insert at least 10 employee information in employee collection containing eid,ename,disignation,hiredate,salary,hobbies and department. And execute following queries on employee collection.

**test>** show dbs;

Sahil 144.00 KiB

admin 40.00 KiB

config 60.00 KiB

local 96.00 KiB

test 108.00 KiB

**test>** use Sahil

switched to db Sahil

**Sahil>** show collections

text

### **Sahil>** db.Employee.insertMany([ {eid: 7369, ename:"Smith", designation:"Clerk",hiredate: ISODate ("1980-12-17") ,salary:9800,hobbies:["Reading", "Painting"],department:"HR"},

{eid: 7499, ename:"Allen", designation:"Salesman", hiredate: ISODate("1981-02-20"),salary:10000 , hobbies:["Gaming","Traveling", "Watching movies"],department:"Sales"} ,

{eid: 7521, ename:"Ward", designation:"Salesman",hiredate: ISODate("1981-02- 22"),salary:18000,hobbies:["Cooking", "Hiking"],department:"Production"},

{eid: 7566, ename:"Jones", designation:"Manager", hiredate: ISODate("2015-04-02"),salary:13000 , hobbies:["Swimming","Reading"],department:"HR"} ,

{eid: 7654, ename:"Martin", designation:"Salesman",hiredate: ISODate("2011-01-27"), salary:14800

,hobbies:["Painting","Cooking"],department:"Sales"},

{eid: 7698, ename:"Blake", designation:"Manager", hiredate: ISODate("2015-06-23"),salary:19800 , hobbies:["Reading","Gardening"],department:"Sales"} ,

{eid: 7782, ename:"Clark", designation:"Manager",hiredate: ISODate("2017-08- 17"),salary:15200,hobbies:["Reading","Traveling"],department:"HR"},

{eid: 7788, ename:"Scott", designation:"Analyst", hiredate: ISODate("2012-11-14"),salary:11300 , hobbies:["Hiking","Swimming"],department:"Production"} ,

{eid: 7839, ename:"King", designation:"President",hiredate: ISODate("2001-12-01"),salary:15000

,hobbies:["Painting","Reading"],department:"Sales"},

{eid: 7844, ename:"Turner", designation:"Salesman", hiredate: ISODate("2016-07-02"),salary:13500 , hobbies:["Reading","Cooking"],department:"HR"} ]

{

acknowledged: true, insertedIds: {

'0' : ObjectId("651a4500b3fe6b01ad63375c "), '1' : ObjectId("651a4500b3fe6b01ad63375d"),

'2': ObjectId("651a47c2b3fe6b01ad63375e"),

'3': ObjectId("651a47c2b3fe6b01ad63375f "),

'4': ObjectId("651a4b7cb3fe6b01ad633760"),

'5': ObjectId("651a4b7cb3fe6b01ad633761"),

'6': ObjectId("651a4b7cb3fe6b01ad633762"),

'7': ObjectId("651a4b7cb3fe6b01ad633763"),

'8': ObjectId("651a4b7cb3fe6b01ad633764"),

'9': ObjectId("651a4b7cb3fe6b01ad633765")

}

}

**Sahil>** db.Employee.find().pretty()

[

{

} , {

\_id: ObjectId("651a4500b3fe6b01ad63375c"), eid: 7369,

ename: 'Smith', designation: 'Clerk',

hiredate: ISODate("1980-12-17T00:00:00.000Z"),

salary: 9800,

hobbies: [ 'Reading', 'Painting' ], department: 'HR'

\_id: ObjectId("651a4500b3fe6b01ad63375d"), eid: 7499,

ename: 'Allen', designation: 'Salesman',

hiredate: ISODate("1981-02-20T00:00:00.000Z"),

salary: 10000,

hobbies: [ 'Gaming', 'Traveling', 'Watching movies' ], department: 'Sales'

} , {

\_id: ObjectId("651a47c2b3fe6b01ad63375e"), eid: 7521,

ename: 'Ward', designation: 'Salesman',

salary: 18000,

hobbies: [ 'Cooking', 'Hiking' ], department: 'Production'

} , {

\_id: ObjectId("651a47c2b3fe6b01ad63375f"), eid: 7566,

ename: 'Jones', designation: 'Manager',

hiredate: ISODate("2015-04-02T00:00:00.000Z"),

salary: 13000,

hobbies: [ 'Swimming', 'Reading' ], department: 'HR'

} , {

\_id: ObjectId("651a4b7cb3fe6b01ad633760"), eid: 7654,

ename: 'Martin', designation: 'Salesman',

hiredate: ISODate("2011-01-27T00:00:00.000Z"),

salary: 14800,

hobbies: [ 'Painting', 'Cooking' ], department: 'Sales'

} , {

\_id: ObjectId("651a4b7cb3fe6b01ad633761"), eid: 7698,

ename: 'Blake', designation: 'Manager',

hiredate: ISODate("2015-07-23T00:00:00.000Z"),

salary: 19800,

hobbies: [ 'Reading', 'Gardening' ], department: 'Sales'

} , {

\_id: ObjectId("651a4ce8b3fe6b01ad633762"), eid: 7782,

ename: 'Clark', designation: 'Manager',

hiredate: ISODate("2017-08-17T00:00:00.000Z"),

salary: 15200,

hobbies: [ 'Reading', 'Traveling' ], department: 'HR'

} , {

\_id: ObjectId("651a4ce8b3fe6b01ad633763"), eid: 7788,

ename: 'Scott', designation: 'Analyst',

salary: 11300,

hobbies: [ 'Hiking', 'Swimming' ], department: 'Production'

} , {

\_id: ObjectId("651a4de4b3fe6b01ad633764"), eid: 7839,

ename: 'King', designation: 'President',

hiredate: ISODate("2001-12-01T00:00:00.000Z"),

salary: 15000,

hobbies: [ 'Painting', 'Reading' ], department: 'Sales'

} , {

\_id: ObjectId("651a4de4b3fe6b01ad633765"), eid: 7844,

ename: 'Turner', designation: 'Salesman',

hiredate: ISODate("2016-07-02T00:00:00.000Z"),

salary: 13500,

hobbies: [ 'Reading', 'Cooking' ], department: 'HR'

}

]

## List the names of analysts and salesmen.

### **Sahil>** db.Employee.find({ $or: [{ designation: "Analyst" },{ designation: "Salesman"}] }, { \_id: 0, ename: 1 })

[

{ ename: 'Allen' },

{ ename: 'Ward' },

{ ename: 'Martin' },

{ ename: 'Scott' },

{ ename: 'Turner' }

]

1. **List the eid,ename and salary from employee collection. Sahil>** db.Employee.find( {}, { \_id: 0, eid: 1, ename: 1, salary: 1 } )

### [

{ eid: 7369, ename: 'Smith', salary: 9800 },

{ eid: 7499, ename: 'Allen', salary: 10000 },

{ eid: 7521, ename: 'Ward', salary: 18000 },

{ eid: 7566, ename: 'Jones', salary: 13000 },

{ eid: 7654, ename: 'Martin', salary: 14800 },

{ eid: 7698, ename: 'Blake', salary: 19800 },

{ eid: 7782, ename: 'Clark', salary: 15200 },

{ eid: 7788, ename: 'Scott', salary: 11300 },

{ eid: 7839, ename: 'King', salary: 15000 },

{ eid: 7844, ename: 'Turner', salary: 13500 }

]

1. **List names of employees who are not managers.**

**Sahil>** db.Employee.find({ designation:{ $ne: "Manager" } }, { \_id: 0, ename: 1 }) [

{ ename: 'Smith' },

{ ename: 'Allen' },

{ ename: 'Ward' },

{ ename: 'Martin' },

{ ename: 'Scott' },

{ ename: 'King' },

{ ename: 'Turner' }

]

1. **List the names of employees whose employee numbers are 1,3,7,9. ( 7499,7654,7788,7839 )**

**Sahil>** db.Employee.find({ eid: { $in: [7499,7654,7788,7839] }}, { \_id: 0, ename: 1 }) [

{ ename: 'Allen' },

{ ename: 'Martin' },

{ ename: 'Scott' },

{ ename: 'King' }

]

1. **List the names of all employees those having reading as a second hobby.**

**Sahil>** db.Employee.find({ hobbies: { $size: 2, $all: ["Reading"] }}, { \_id: 0, ename: 1 }) [

{ ename: 'Smith' },

{ ename: 'Jones' },

{ ename: 'Blake' },

{ ename: 'Clark' },

{ ename: 'King' },

{ ename: 'Turner' }

]

1. **List employee names for those who have joined between 30 June and 31 Dec 2015.**

**Sahil>** db.Employee.find({ hiredate: { $gte: ISODate("2015-06-30"), $lte: ISODate("2015-12-31") }}, {

\_id: 0, ename: 1 }) [

1. **List the different designations in the company. Sahil>** db.Employee.distinct("designation")

### [ 'Analyst', 'Clerk', 'Manager', 'President', 'Salesman' ]

1. **List the eid,ename,salary of all employees whose salary is less than 10000. Sahil>** db.Employee.find({ salary: { $lt: 10000 } }, { \_id: 0, eid: 1, ename: 1, salary: 1 }) [ { eid: 7369, ename: 'Smith', salary: 9800 } ]
2. **List the name and designation of the employee who works in production department. Sahil>** db.Employee.find({ department: "Production" }, { \_id: 0, ename: 1, designation: 1 })

### [

{ ename: 'Ward', designation: 'Salesman' },

{ ename: 'Scott', designation: 'Analyst' }

]

1. **List the all employees whose name start with "A" letter. Sahil>** db.Employee.find({ ename: /^A/ }, { \_id: 0, ename: 1 }) [ { ename: 'Allen' } ]
2. **List the all employees whose name containing "sh" string. Sahil>** db.Employee.find({ ename: /sh/ }, { \_id: 0, ename: 1 })

## List the all employees whose names either start or end with “S”.

### **Sahil>** db.Employee.find({ $or: [{ ename: /^S/ },{ ename: /S$/}] }, { \_id: 0, ename: 1 }) [ { ename: 'Smith' }, { ename: 'Scott' } ]

1. **List the names of employees whose department is not HR.**

**Sahil>** db.Employee.find({ department:{ $ne: "HR" } }, { \_id: 0, ename: 1 })

[

{ ename: 'Allen' },

{ ename: 'Ward' },

{ ename: 'Martin' },

{ ename: 'Blake' },

{ ename: 'Scott' },

1. **List the number of employees working in sales department. Sahil>** db.Employee.count({ department: "Sales" })

### DeprecationWarning: Collection.count() is deprecated. Use countDocuments or estimatedDocumentCount.

4

1. **List the number of designations available in the EMP collections. Sahil>** db.Employee.distinct( "designation" ).length

### 5

1. **List the eid,ename,salary of all employees whose salary in between 10000 to 20000.**

**Sahil>** db.Employee.find( { salary: { $gte: 10000, $lte: 20000 } }, { \_id: 0, eid: 1, ename: 1, salary: 1 } )

[

{ eid: 7499, ename: 'Allen', salary: 10000 },

{ eid: 7521, ename: 'Ward', salary: 18000 },

{ eid: 7566, ename: 'Jones', salary: 13000 },

{ eid: 7654, ename: 'Martin', salary: 14800 },

{ eid: 7698, ename: 'Blake', salary: 19800 },

{ eid: 7782, ename: 'Clark', salary: 15200 },

{ eid: 7788, ename: 'Scott', salary: 11300 },

{ eid: 7839, ename: 'King', salary: 15000 },

{ eid: 7844, ename: 'Turner', salary: 13500 }

]

1. **List the eid,ename of all employees whose salary is gretter than or equal to 15000. Sahil>** db.Employee.find( { salary: { $gte: 15000 } }, { \_id: 0, eid: 1, ename: 1} )

### [

{ eid: 7521, ename: 'Ward' },

{ eid: 7698, ename: 'Blake' },

{ eid: 7782, ename: 'Clark' },

{ eid: 7839, ename: 'King' }

]

1. **List details of employees whose department is Sales and salary is 10000. Sahil>** db.Employee.find({ department: "Sales", salary: 10000 }, { \_id: 0 })

### [

ename: 'Allen', designation: 'Salesman',

hiredate: ISODate("1981-02-20T00:00:00.000Z"),

salary: 10000,

hobbies: [ 'Gaming', 'Traveling', 'Watching movies' ], department: 'Sales'

}

]

1. **List the names of employees those having reading and painting hobbies.**

**Sahil>** db.Employee.find({ hobbies: { $all: ["Reading", "Painting"] } }, { \_id: 0, ename: 1 }) [ { ename: 'Smith' }, { ename: 'King' } ]

1. **List the first hobby of all employees from the employee collection.**

**Sahil>** db.Employee.aggregate([ { $project: { \_id: 0, first\_hobby: { $arrayElemAt: ["$hobbies", 0] } } } ]) [

{ first\_hobby: 'Reading' },

{ first\_hobby: 'Gaming' },

{ first\_hobby: 'Cooking' },

{ first\_hobby: 'Swimming' },

{ first\_hobby: 'Painting' },

{ first\_hobby: 'Reading' },

{ first\_hobby: 'Reading' },

{ first\_hobby: 'Hiking' },

{ first\_hobby: 'Painting' },

{ first\_hobby: 'Reading' }

]

1. **List the names of all employees those having three different hobbies. Sahil>** db.Employee.find( { hobbies: { $size: 3 } }, { \_id: 0, ename: 1} )

### [ { ename: 'Allen' } ]