**PRACTICAL NO.1**

**Exercise: - 1. Student Database**

> show dbs

admin 0.000GB

config 0.000GB

local 0.000GB

student1 0.000GB

test 0.000GB

> use student1

switched to db student1

> db.student.find()

{ "\_id" : ObjectId("631ee3effbaea433283ec7cf"), "srn" : 1, "sname" : "Hajisab", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.71 }

{ "\_id" : ObjectId("631f0613a980a244a7fb6b22"), "srn" : 2, "sname" : "Sanket", "Degree" : "BCA", "sem" : 6, "CGPA" : 7.5 }

{ "\_id" : ObjectId("631f0624a980a244a7fb6b23"), "srn" : 3, "sname" : "Wajahat", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.5 }

{ "\_id" : ObjectId("631f06daa980a244a7fb6b24"), "srn" : 4, "sname" : "Siddhesh", "Degree" : "MCA", "sem" : 1, "CGPA" : 7.4 }

{ "\_id" : ObjectId("631f0765a980a244a7fb6b25"), "srn" : 5, "sname" : "Omkar", "Degree" : "BCA", "sem" : 6, "CGPA" : 9.1 }

{ "\_id" : ObjectId("631f0790a980a244a7fb6b26"), "srn" : 6, "sname" : "Ajay", "Degree" : "MCA", "sem" : 1, "CGPA" : 7.1 }

{ "\_id" : ObjectId("631f07aca980a244a7fb6b27"), "srn" : 7, "sname" : "Akshay", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.6 }

{ "\_id" : ObjectId("631f07e2a980a244a7fb6b28"), "srn" : 8, "sname" : "Samir", "Degree" : "BCA", "sem" : 6, "CGPA" : 6.9 }

{ "\_id" : ObjectId("631f0818a980a244a7fb6b29"), "srn" : 9, "sname" : "Sunil", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.5 }

{ "\_id" : ObjectId("631f0853a980a244a7fb6b2a"), "srn" : 10, "sname" : "Sanjay", "Degree" : "MCA", "sem" : 1, "CGPA" : 7.6 }

> db.student.find({Degree:"BCA"})

{ "\_id" : ObjectId("631f0613a980a244a7fb6b22"), "srn" : 2, "sname" : "Sanket", "Degree" : "BCA", "sem" : 6, "CGPA" : 7.5 }

{ "\_id" : ObjectId("631f0765a980a244a7fb6b25"), "srn" : 5, "sname" : "Omkar", "Degree" : "BCA", "sem" : 6, "CGPA" : 9.1 }

{ "\_id" : ObjectId("631f07e2a980a244a7fb6b28"), "srn" : 8, "sname" : "Samir", "Degree" : "BCA", "sem" : 6, "CGPA" : 6.9 }

> db.student.find().sort({sname:1})

{ "\_id" : ObjectId("631f0790a980a244a7fb6b26"), "srn" : 6, "sname" : "Ajay", "Degree" : "MCA", "sem" : 1, "CGPA" : 7.1 }

{ "\_id" : ObjectId("631f07aca980a244a7fb6b27"), "srn" : 7, "sname" : "Akshay", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.6 }

{ "\_id" : ObjectId("631ee3effbaea433283ec7cf"), "srn" : 1, "sname" : "Hajisab", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.71 }

{ "\_id" : ObjectId("631f0765a980a244a7fb6b25"), "srn" : 5, "sname" : "Omkar", "Degree" : "BCA", "sem" : 6, "CGPA" : 9.1 }

{ "\_id" : ObjectId("631f07e2a980a244a7fb6b28"), "srn" : 8, "sname" : "Samir", "Degree" : "BCA", "sem" : 6, "CGPA" : 6.9 }

{ "\_id" : ObjectId("631f0853a980a244a7fb6b2a"), "srn" : 10, "sname" : "Sanjay", "Degree" : "MCA", "sem" : 1, "CGPA" : 7.6 }

{ "\_id" : ObjectId("631f0613a980a244a7fb6b22"), "srn" : 2, "sname" : "Sanket", "Degree" : "BCA", "sem" : 6, "CGPA" : 7.5 }

{ "\_id" : ObjectId("631f06daa980a244a7fb6b24"), "srn" : 4, "sname" : "Siddhesh", "Degree" : "MCA", "sem" : 1, "CGPA" : 7.4 }

{ "\_id" : ObjectId("631f0818a980a244a7fb6b29"), "srn" : 9, "sname" : "Sunil", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.5 }

{ "\_id" : ObjectId("631f0624a980a244a7fb6b23"), "srn" : 3, "sname" : "Wajahat", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.5 }

> db.student.find().limit(5)

{ "\_id" : ObjectId("631ee3effbaea433283ec7cf"), "srn" : 1, "sname" : "Hajisab", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.71 }

{ "\_id" : ObjectId("631f0613a980a244a7fb6b22"), "srn" : 2, "sname" : "Sanket", "Degree" : "BCA", "sem" : 6, "CGPA" : 7.5 }

{ "\_id" : ObjectId("631f0624a980a244a7fb6b23"), "srn" : 3, "sname" : "Wajahat", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.5 }

{ "\_id" : ObjectId("631f06daa980a244a7fb6b24"), "srn" : 4, "sname" : "Siddhesh", "Degree" : "MCA", "sem" : 1, "CGPA" : 7.4 }

{ "\_id" : ObjectId("631f0765a980a244a7fb6b25"), "srn" : 5, "sname" : "Omkar", "Degree" : "BCA", "sem" : 6, "CGPA" : 9.1 }

> db.student.find().skip(4).limit(3)

{ "\_id" : ObjectId("631f0765a980a244a7fb6b25"), "srn" : 5, "sname" : "Omkar", "Degree" : "BCA", "sem" : 6, "CGPA" : 9.1 }

{ "\_id" : ObjectId("631f0790a980a244a7fb6b26"), "srn" : 6, "sname" : "Ajay", "Degree" : "MCA", "sem" : 1, "CGPA" : 7.1 }

{ "\_id" : ObjectId("631f07aca980a244a7fb6b27"), "srn" : 7, "sname" : "Akshay", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.6 }

> db.student.find()({Degree:1,sname:"Hajisab"})

uncaught exception: TypeError: db.student.find(...) is not a function :

@(shell):1:1

> db.student.find({Degree:1,sname:"Hajisab"})

> db.student.find({Degree:1,sname:"Hajisab"})

> db.student.find().sort({CGPA:-1}).skip(4).limit(3)

{ "\_id" : ObjectId("631f0624a980a244a7fb6b23"), "srn" : 3, "sname" : "Wajahat", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.5 }

{ "\_id" : ObjectId("631f0853a980a244a7fb6b2a"), "srn" : 10, "sname" : "Sanjay", "Degree" : "MCA", "sem" : 1, "CGPA" : 7.6 }

{ "\_id" : ObjectId("631f0613a980a244a7fb6b22"), "srn" : 2, "sname" : "Sanket", "Degree" : "BCA", "sem" : 6, "CGPA" : 7.5 }

> db.student.find({Degree:"BCA"}).count()

3

> db.student.find({Degree:"BCA"}).count()

3

> db.student.find({Degree:"MCA"}).count()

7

> db.student.find({},{\_id:0})

{ "srn" : 1, "sname" : "Hajisab", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.71 }

{ "srn" : 2, "sname" : "Sanket", "Degree" : "BCA", "sem" : 6, "CGPA" : 7.5 }

{ "srn" : 3, "sname" : "Wajahat", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.5 }

{ "srn" : 4, "sname" : "Siddhesh", "Degree" : "MCA", "sem" : 1, "CGPA" : 7.4 }

{ "srn" : 5, "sname" : "Omkar", "Degree" : "BCA", "sem" : 6, "CGPA" : 9.1 }

{ "srn" : 6, "sname" : "Ajay", "Degree" : "MCA", "sem" : 1, "CGPA" : 7.1 }

{ "srn" : 7, "sname" : "Akshay", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.6 }

{ "srn" : 8, "sname" : "Samir", "Degree" : "BCA", "sem" : 6, "CGPA" : 6.9 }

{ "srn" : 9, "sname" : "Sunil", "Degree" : "MCA", "sem" : 1, "CGPA" : 8.5 }

{ "srn" : 10, "sname" : "Sanjay", "Degree" : "MCA", "sem" : 1, "CGPA" : 7.6 }

> db.student.distinct("Degree")

[ "BCA", "MCA" ]

> db.student.find(Degree:"BCA",{CGPA:{$gt:6, $lt:7.5}})

uncaught exception: SyntaxError: missing ) after argument list :

@(shell):1:22

> db.student.find({Degree:"BCA",CGPA:{$gt:6, $lt:7.5}})

{ "\_id" : ObjectId("631f07e2a980a244a7fb6b28"), "srn" : 8, "sname" : "Samir", "Degree" : "BCA", "sem" : 6, "CGPA" : 6.9 }

> db.student.find({{$and:[{Degree:"BCA"},{sem:6}]})

**Exercise :-2 Employee database**

> show dbs

admin 0.000GB

config 0.000GB

employeedb 0.000GB

local 0.000GB

student1 0.000GB

test 0.000GB

> use employee

switched to db employee

> db.employee.insert({eid:9,ename:"Parnika",dept:"Production",desig:"Developer",salary:37000,yoj:2018,address:{dno:54,street:2,locality:"MIDC",city:"Pune"}})

WriteResult({ "nInserted" : 1 })

> db.employee.insert({eid:10,ename:"Saurabh",dept:"Production",desig:"Developer",salary:38000,yoj:2018,address:{dno:84,street:5,locality:"MIDC",city:"Mumbai"}})

WriteResult({ "nInserted" : 1 })

> db.employee.find({salary:{$gt:50000,$lt:75000}})

> use employeedb

switched to db employeedb

> db.employee.insert({eid:9,ename:"Parnika",dept:"Production",desig:"Developer",salary:37000,yoj:2018,address:{dno:54,street:2,locality:"MIDC",city:"Pune"}})

WriteResult({ "nInserted" : 1 })

> db.employee.insert({eid:10,ename:"Saurabh",dept:"Production",desig:"Developer",salary:38000,yoj:2018,address:{dno:84,street:5,locality:"MIDC",city:"Mumbai"}})

WriteResult({ "nInserted" : 1 })

> db.employee.find({salary:{$gt:50000,$lt:75000}})

{ "\_id" : ObjectId("63200fcb662f322e1d10c298"), "eid" : 5, "ename" : "Omkar", "dept" : "IT", "desig" : "Tester", "salary" : 54000, "yoj" : 2015, "address" : { "dno" : 74, "street" : 4, "locality" : "Thane", "city" : "Mumbai" } }

> db.employee.find({desig:"Developer"})

{ "\_id" : ObjectId("63200d7c662f322e1d10c294"), "eid" : 1, "ename" : "Rahul", "dept" : "IT", "desig" : "Developer", "salary" : 30000, "yoj" : 2015, "address" : { "dno" : 397, "street" : 2, "locality" : "maruti mandir", "city" : "Ratnagiri" } }

{ "\_id" : ObjectId("63200eb7662f322e1d10c296"), "eid" : 3, "ename" : "Sachin", "dept" : "IT", "desig" : "Developer", "salary" : 33000, "yoj" : 2016, "address" : { "dno" : 284, "street" : 7, "locality" : "Dombivali", "city" : "Mumbai" } }

{ "\_id" : ObjectId("63201185c345db25660bfdb2"), "eid" : 8, "ename" : "Ketan", "dept" : "Production", "desig" : "Developer", "salary" : 38000, "yoj" : 2014, "address" : { "dno" : 154, "street" : 2, "locality" : "pune", "city" : "Pune" } }

{ "\_id" : ObjectId("6320136081c7664c72267926"), "eid" : 9, "ename" : "Parnika", "dept" : "Production", "desig" : "Developer", "salary" : 37000, "yoj" : 2018, "address" : { "dno" : 54, "street" : 2, "locality" : "MIDC", "city" : "Pune" } }

{ "\_id" : ObjectId("6320136481c7664c72267927"), "eid" : 10, "ename" : "Saurabh", "dept" : "Production", "desig" : "Developer", "salary" : 38000, "yoj" : 2018, "address" : { "dno" : 84, "street" : 5, "locality" : "MIDC", "city" : "Mumbai" } }

> db.employee.find({ename:"Ketan"},{"address.city":1})

{ "\_id" : ObjectId("63201185c345db25660bfdb2"), "address" : { "city" : "Pune" } }

> db.employee.find({ename:"Hajisab"},{salary:1})

{ "\_id" : ObjectId("63201016662f322e1d10c299"), "salary" : 40000 }

> db.employee.find({ename:"Ketan"},{"address.city":1})

{ "\_id" : ObjectId("63201185c345db25660bfdb2"), "address" : { "city" : "Pune" } }

> db.employee.find({ename:"Hajisab"},{"address.city":1})

{ "\_id" : ObjectId("63201016662f322e1d10c299"), "address" : { "city" : "Ratnagiri" } }

> db.employee.update({desig:"Developer"},{$inc:{"salary":5000}})

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

> db.employee.update({ename:"Hajisab"},{$set:{age:"24"}})

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

> db.employee.update({ename:"Hajisab"},{$unset:{yoj:1}})

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

> db.employee.update({ename:"Hajisab"},{$pushAll:{projects:["p2","p3"]}})

WriteResult({

"nMatched" : 0,

"nUpserted" : 0,

"nModified" : 0,

"writeError" : {

"code" : 9,

"errmsg" : "Unknown modifier: $pushAll. Expected a valid update modifier or pipeline-style update specified as an array"

}

})

> db.employee.update({ename:"Hajisab"},{$pushAll:{projects:["p1"]}})

WriteResult({

"nMatched" : 0,

"nUpserted" : 0,

"nModified" : 0,

"writeError" : {

"code" : 9,

"errmsg" : "Unknown modifier: $pushAll. Expected a valid update modifier or pipeline-style update specified as an array"

}

})

> db.employee.update({ename:"Hajisab"},{$pushAll:{projects:["p2","p3"]}})

WriteResult({

"nMatched" : 0,

"nUpserted" : 0,

"nModified" : 0,

"writeError" : {

"code" : 9,

"errmsg" : "Unknown modifier: $pushAll. Expected a valid update modifier or pipeline-style update specified as an array"

}

})

> db.employee.update({ename:"Hajisab"},{$push:{projects:["p1"]}})

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

> db.employee.update({ename:"Hajisab"},{$pushAll:{projects:["p2","p3"]}})

WriteResult({

"nMatched" : 0,

"nUpserted" : 0,

"nModified" : 0,

"writeError" : {

"code" : 9,

"errmsg" : "Unknown modifier: $pushAll. Expected a valid update modifier or pipeline-style update specified as an array"

}

})

> db.employee.update({ename:"Hajisab"},{$pushAll:{projects:["p2","p3"]}})

WriteResult({

"nMatched" : 0,

"nUpserted" : 0,

"nModified" : 0,

"writeError" : {

"code" : 9,

"errmsg" : "Unknown modifier: $pushAll. Expected a valid update modifier or pipeline-style update specified as an array"

}

})

> db.employee.update({ename:"Sanket"},{$push:{projects:["p1"]}})

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

> db.employee.update({ename:"Sanket"},{$pushAll:{projects:["p2","p3"]}})

WriteResult({

"nMatched" : 0,

"nUpserted" : 0,

"nModified" : 0,

"writeError" : {

"code" : 9,

"errmsg" : "Unknown modifier: $pushAll. Expected a valid update modifier or pipeline-style update specified as an array"

}

})

> db.employee.update({ename:"Hajisab"},{$push:{projects:["p2"]}})

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

> db.employee.update({ename:"Hajisab"},{$push:{projects:["p3"]}})

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

> db.employee.update({ename:"Hajisab"},{$pull:{projects:["p3"]}})

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

> db.employee.update({ename:"Hajisab"},{$push:{contacts:{phone:"9586254747",email:"sanket546@gmail.com"}}})

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

> db.employee.update({ename:"Hajisab"},{$addTSet:{"contact.phone":[9857842535,6597923625]}})

WriteResult({

"nMatched" : 0,

"nUpserted" : 0,

"nModified" : 0,

"writeError" : {

"code" : 9,

"errmsg" : "Unknown modifier: $addTSet. Expected a valid update modifier or pipeline-style update specified as an array"

}

})

> db.employee.update({ename:"Hajisab"},{$addToSet:{"contact.phone":[9857842535,6597923625]}})

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

db.employee.updateMany({ename:"Hajisab"},{$addToSet:{"contact.phone":[9857842535,6597923625]}})

> db.employee.deleteOne({ename:"Hajisab"},{$addToSet:{"contact.phone":[9857842535,6597923625]}})

> db.employee.deleteMany({ename:"Hajisab"},{$addToSet:{"contact.phone":[9857842535,6597923625]}})