**1. To create a product details collection which includes the following fields**

**product\_id, product\_name, price, no.quantity, company:{name,purchasedate}**

**Note: create 12 records and repeat multiple products entry with different purchase date**

MongoDB> use product

switched to db product

product> db.createCollection("product\_details")

{ ok: 1 }

product> db.product\_details.insertMany([{"product\_id":1101,product\_name:"iphone\_11","price":65000,"no\_quantity":2,"company":{name:"apple",purchasedate:new Date('jun 06,2023')}}])

{

acknowledged: true,

insertedIds: { '0': ObjectId("64417303a4858f49b444ae35") }

}

product> db.product\_details.insertMany([{"product\_id":1102,product\_name:"iphone\_11","price":68000,"no\_quantity":3,"company":{name:"apple",purchasedate:new Date('aprl 23,2023')}}])

{

acknowledged: true,

insertedIds: { '0': ObjectId("6441738aa4858f49b444ae36") }

}

product> db.product\_details.insertMany([{"product\_id":1103,product\_name:"iphone\_11","price":71000,"no\_quantity":4,"company":{name:"apple",purchasedate:new Date('feb 26,2023')}}])

{

acknowledged: true,

insertedIds: { '0': ObjectId("644173c6a4858f49b444ae37") }

}

product> db.product\_details.insertMany([{"product\_id":1104,product\_name:"iphone\_11","price":80000,"no\_quantity":5,"company":{name:"apple",purchasedate:new Date('feb 27,2023')}}])

{

acknowledged: true,

insertedIds: { '0': ObjectId("644173eaa4858f49b444ae38") }

}

product> db.product\_details.insertMany([{"product\_id":1105,product\_name:"iphone\_11","price":95000,"no\_quantity":6,"company":{name:"apple",purchasedate:new Date('nov 20,2023')}}])

{

acknowledged: true,

insertedIds: { '0': ObjectId("6441740da4858f49b444ae39") }

}

product> db.product\_details.insertMany([{"product\_id":1105,product\_name:"redmi\_pro","price":20000,"no\_quantity":2,"company":{name:"apple",purchasedate:new Date('nov 01,2023')}}])

{

acknowledged: true,

insertedIds: { '0': ObjectId("64417475a4858f49b444ae3a") }

}

product> db.product\_details.insertMany([{"product\_id":1107,product\_name:"realme\_6pro","price":14000,"no\_quantity":2,"company":{name:"realme",purchasedate:new Date('dec 10,2023')}}])

{

acknowledged: true,

insertedIds: { '0': ObjectId("644174dba4858f49b444ae3b") }

}

product> db.product\_details.insertMany([{"product\_id":1108,product\_name:"oneplus\_nord","price":25000,"no\_quantity":3,"company":{name:"oneplus",purchasedate:new Date('jan 01,2023')}}])

{

acknowledged: true,

insertedIds: { '0': ObjectId("6441763da4858f49b444ae3c") }

}

product> db.product\_details.insertMany([{"product\_id":1109,product\_name:"oppo\_f9","price":15000,"no\_quantity":2,"company":{name:"oppo",purchasedate:new Date('mar 07,2023')}}])

{

acknowledged: true,

insertedIds: { '0': ObjectId("64417691a4858f49b444ae3d") }

}

product> db.product\_details.insertMany([{"product\_id":1110,product\_name:"googlephone\_g1","price":35000,"no\_quantity":2,"company":{name:"google",purchasedate:new Date('jun 10,2023')}}])

{

acknowledged: true,

insertedIds: { '0': ObjectId("644176dea4858f49b444ae3e") }

}

product> db.product\_details.insertMany([{"product\_id":1111,product\_name:"pixel","price":20000,"no\_quantity":1,"company":{name:"pixelgoogle",purchasedate:new Date('aprl 23,2023')}}])

{

acknowledged: true,

insertedIds: { '0': ObjectId("6441773da4858f49b444ae3f") }

}

product> db.product\_details.insertMany([{"product\_id":1112,product\_name:"sony expression1","price":10000,"no\_quantity":2,"company":{name:"sony",purchasedate:new Date('mar 19,2023')}}])

{

acknowledged: true,

insertedIds: { '0': ObjectId("6441778ca4858f49b444ae40") }

}

product>

product> db.product\_details.find().pretty()

[

{

\_id: ObjectId("64417303a4858f49b444ae35"),

product\_id: 1101,

product\_name: 'iphone\_11',

price: 65000,

no\_quantity: 2,

company: {

name: 'apple',

purchasedate: ISODate("2023-06-05T18:30:00.000Z")

}

},

{

\_id: ObjectId("6441738aa4858f49b444ae36"),

product\_id: 1102,

product\_name: 'iphone\_11',

price: 68000,

no\_quantity: 3,

company: {

name: 'apple',

purchasedate: ISODate("2023-04-22T18:30:00.000Z")

}

},

{

\_id: ObjectId("644173c6a4858f49b444ae37"),

product\_id: 1103,

product\_name: 'iphone\_11',

price: 71000,

no\_quantity: 4,

company: {

name: 'apple',

purchasedate: ISODate("2023-02-25T18:30:00.000Z")

}

},

{

\_id: ObjectId("644173eaa4858f49b444ae38"),

product\_id: 1104,

product\_name: 'iphone\_11',

price: 80000,

no\_quantity: 5,

company: {

name: 'apple',

purchasedate: ISODate("2023-02-26T18:30:00.000Z")

}

},

{

\_id: ObjectId("6441740da4858f49b444ae39"),

product\_id: 1105,

product\_name: 'iphone\_11',

price: 95000,

no\_quantity: 6,

company: {

name: 'apple',

purchasedate: ISODate("2023-11-19T18:30:00.000Z")

}

},

{

\_id: ObjectId("64417475a4858f49b444ae3a"),

product\_id: 1106,

product\_name: 'redmi\_note\_11',

price: 20000,

no\_quantity: 2,

company: {

name: 'redmi',

purchasedate: ISODate("2023-10-31T18:30:00.000Z")

}

},

{

\_id: ObjectId("644174dba4858f49b444ae3b"),

product\_id: 1107,

product\_name: 'realme\_6pro',

price: 14000,

no\_quantity: 2,

company: {

name: 'realme',

purchasedate: ISODate("2023-12-09T18:30:00.000Z")

}

},

{

\_id: ObjectId("6441763da4858f49b444ae3c"),

product\_id: 1108,

product\_name: 'oneplus\_nord',

price: 25000,

no\_quantity: 3,

company: {

name: 'oneplus',

purchasedate: ISODate("2022-12-31T18:30:00.000Z")

}

},

{

\_id: ObjectId("64417691a4858f49b444ae3d"),

product\_id: 1109,

product\_name: 'oppo\_f9',

price: 15000,

no\_quantity: 2,

company: { name: 'oppo', purchasedate: ISODate("2023-03-06T18:30:00.000Z") }

},

{

\_id: ObjectId("644176dea4858f49b444ae3e"),

product\_id: 1110,

product\_name: 'googlephone\_g1',

price: 35000,

no\_quantity: 2,

company: {

name: 'google',

purchasedate: ISODate("2023-06-09T18:30:00.000Z")

}

},

{

\_id: ObjectId("6441773da4858f49b444ae3f"),

product\_id: 1111,

product\_name: 'pixel',

price: 20000,

no\_quantity: 1,

company: {

name: 'pixelgoogle',

purchasedate: ISODate("2023-04-22T18:30:00.000Z")

}

},

{

\_id: ObjectId("6441778ca4858f49b444ae40"),

product\_id: 1112,

product\_name: 'sony expression1',

price: 10000,

no\_quantity: 2,

company: { name: 'sony', purchasedate: ISODate("2023-03-18T18:30:00.000Z") }

}

]

product>

**2. To display five matching of a product name "iphone 11".**

product> db.product\_details.aggregate([{$match:{product\_name:"iphone\_11"}}])

[

{

\_id: ObjectId("64417303a4858f49b444ae35"),

product\_id: 1101,

product\_name: 'iphone\_11',

price: 65000,

no\_quantity: 2,

company: {

name: 'apple',

purchasedate: ISODate("2023-06-05T18:30:00.000Z")

}

},

{

\_id: ObjectId("6441738aa4858f49b444ae36"),

product\_id: 1102,

product\_name: 'iphone\_11',

price: 68000,

no\_quantity: 3,

company: {

name: 'apple',

purchasedate: ISODate("2023-04-22T18:30:00.000Z")

}

},

{

\_id: ObjectId("644173c6a4858f49b444ae37"),

product\_id: 1103,

product\_name: 'iphone\_11',

price: 71000,

no\_quantity: 4,

company: {

name: 'apple',

purchasedate: ISODate("2023-02-25T18:30:00.000Z")

}

},

{

\_id: ObjectId("644173eaa4858f49b444ae38"),

product\_id: 1104,

product\_name: 'iphone\_11',

price: 80000,

no\_quantity: 5,

company: {

name: 'apple',

purchasedate: ISODate("2023-02-26T18:30:00.000Z")

}

},

{

\_id: ObjectId("6441740da4858f49b444ae39"),

product\_id: 1105,

product\_name: 'iphone\_11',

price: 95000,

no\_quantity: 6,

company: {

name: 'apple',

purchasedate: ISODate("2023-11-19T18:30:00.000Z")

}

}

]

product>

**3. To group all the products based on their company name.**

**example:**

**iPhone 11 - Apple – 5**

product> db.product\_details.aggregate([{$group:{\_id:"$product\_name",\_id:"$company.name",sum:{$sum:1}}}])

[

{ \_id: 'oppo', sum: 1 },

{ \_id: 'google', sum: 1 },

{ \_id: 'realme', sum: 1 },

{ \_id: 'redmi', sum: 1 },

{ \_id: 'sony', sum: 1 },

{ \_id: 'oneplus', sum: 1 },

{ \_id: 'pixelgoogle', sum: 1 },

{ \_id: 'apple', sum: 5 }

]

**4.To group all the products and its total sum\_price.**

product> db.product\_details.aggregate([{$group:{\_id:"$product\_name",totalprice:{$sum:"$price"}}}])

[

{ \_id: 'iphone\_11', totalprice: 379000 },

{ \_id: 'pixel', totalprice: 20000 },

{ \_id: 'redmi\_note\_11', totalprice: 20000 },

{ \_id: 'realme\_6pro', totalprice: 14000 },

{ \_id: 'oneplus\_nord', totalprice: 25000 },

{ \_id: 'googlephone\_g1', totalprice: 35000 },

{ \_id: 'sony expression1', totalprice: 10000 },

{ \_id: 'oppo\_f9', totalprice: 15000 }

]

product>

**5..To group all the products , total sum\_price, and average price .of a product.**

product> db.product\_details.aggregate([{$group:{\_id:"$product\_name",totalprice:{$sum:"$price"},totalaverage:{$avg:"$price"}}}])

[

{ \_id: 'iphone\_11', totalprice: 379000, totalaverage: 75800 },

{ \_id: 'pixel', totalprice: 20000, totalaverage: 20000 },

{ \_id: 'redmi\_note\_11', totalprice: 20000, totalaverage: 20000 },

{ \_id: 'googlephone\_g1', totalprice: 35000, totalaverage: 35000 },

{ \_id: 'realme\_6pro', totalprice: 14000, totalaverage: 14000 },

{ \_id: 'oneplus\_nord', totalprice: 25000, totalaverage: 25000 },

{ \_id: 'sony expression1', totalprice: 10000, totalaverage: 10000 },

{ \_id: 'oppo\_f9', totalprice: 15000, totalaverage: 15000 }

]

product>

**6. To group all the products and sort it based on the company name.**

product> db.product\_details.aggregate([{$group:{\_id:"$company.name"}},{$sort:{"comapany.name":1}}])

[

{ \_id: 'google' },

{ \_id: 'realme' },

{ \_id: 'redmi' },

{ \_id: 'sony' },

{ \_id: 'pixelgoogle' },

{ \_id: 'oneplus' },

{ \_id: 'oppo' },

{ \_id: 'apple' }

]

product> db.product\_details.aggregate([{$group:{\_id:"$company.name"}},{$sort:{"comapany.name":-1}}])

[

{ \_id: 'apple' },

{ \_id: 'oppo' },

{ \_id: 'oneplus' },

{ \_id: 'pixelgoogle' },

{ \_id: 'redmi' },

{ \_id: 'google' },

{ \_id: 'realme' },

{ \_id: 'sony' }

]

product>