db.TouristPlaces.insertMany([

{ \_id: 1, name: "Tourist Place 1", state: "KARNATAKA", distance\_from\_capital: 100, history: "Historical Site 1" },

{ \_id: 2, name: "Tourist Place 2", state: "KARNATAKA", distance\_from\_capital: 150, history: "Historical Site 2" },

// ... other Tourist Places

]);

db.Tourists.insertMany([

{ \_id: 1, name: "Tourist A", age: 25, country: "India", emailIds: ["emailA@example.com"] },

{ \_id: 2, name: "Tourist B", age: 30, country: "USA", emailIds: ["emailB@example.com"] visit : []},

// ... other Tourists

]);

db.TouristVisits.insertMany([

{ tourist\_id: 1, place\_id: 1, visit\_date: ISODate("2023-01-15") },

{ tourist\_id: 1, place\_id: 2, visit\_date: ISODate("2023-02-20") },

// ... other Tourist Visits

]);

Query 1) List the state name with max num of tourist place

db.TouristPlaces.aggregate([

{ $group: { \_id: "$state", count: { $sum: 1 } } },

{ $sort: { count: -1 } },

{ $limit: 1 }

]);

Query 2) List the toutist place where max number of tourist visited

db.TouristVisits.aggregate([

{ $group: { \_id: "$place\_id", count: { $sum: 1 } } },

{ $sort: { count: -1 } },

{ $limit: 1 },

{

$lookup: {

from: "TouristPlaces",

localField: "\_id",

foreignField: "\_id",

as: "touristPlaceDetails"

}

},

{ $unwind: "$touristPlaceDetails" },

{ $project: { \_id: "$touristPlaceDetails.\_id", name: "$touristPlaceDetails.name", state: "$touristPlaceDetails.state", num\_visits: "$count" } }

]);

Query 3) tourist visited all tourist places of state karnataka

db.Tourists.find({

country: "India",

\_id: {

$nin: db.TouristVisits.distinct("tourist\_id", { place\_id: { $in: db.TouristPlaces.find({ state: "KARNATAKA" }).map(function(doc) {

return doc.\_id;

}

) } })

}

});

Query 4) tourist visited atlest one tpurist place of state , but

db.Tourists.find({

\_id: {

$nin: db.TouristVisits.distinct("tourist\_id", { place\_id: { $nin: db.TouristPlaces.find({ state: "KARNATAKA" }).map(function(doc) { return doc.\_id; }) } })

}

});

Query 5) display tourist place visited by all country

db.TouristPlaces.find({

\_id: {

$in: db.TouristVisits.distinct("place\_id", { tourist\_id: { $in: db.Tourists.distinct("\_id", { country: { $nin: ["India", "USA"] } }) } })

}

});