# **MongoDB Aggregation**

## **1. Users-$unwind,$group**

### **Q1: Top 5 most common offered skills**

db.users.aggregate([

{ $unwind: "$skillsOffered" },

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

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

{ $limit: 5 }

])

**Q2: Top 3 most common skills users are looking to learn (skillsNeeded)**

db.users.aggregate([

{ $unwind: "$skillsNeeded" },

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

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

{ $limit: 3 }

])

## **2. Reviews-$group, $match**

### **Q3: Average rating and total number of reviews received by each user**

db.reviews.aggregate([

{

$group: {

\_id: "$toUser",

averageRating: { $avg: "$rating" },

totalReviews: { $sum: 1 }

    }

  }

])

**Q4: Users who received more than 10 reviews and their average rating**

db.reviews.aggregate([

{

$group: {

\_id: "$toUser",

averageRating: { $avg: "$rating" },

totalReviews: { $sum: 1 }

}

},

{

$match: {

totalReviews: { $gt: 10 }

}

}

])

## **3. Message – $group,$match**

### **Q5: Top 5 most active senders along with total message count**

db.messages.aggregate([

{

$group: {

\_id: "$senderId",

totalMessages: { $sum: 1 }

}

},

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

{ $limit: 5 }

])

**Q6: Number of messages sent by each user in the last 30 days**

db.messages.aggregate([

{

$match: {

sentAt: { $gte: new Date(new Date().setDate(new Date().getDate() - 30)) }

}

},

{

$group: {

\_id: "$senderId",

messagesLast30Days: { $sum: 1 }

}

}

])

## **4. Scheduled– $unwind,$match,$group**

### **Q7: How many completed sessions happened per skill, and who hosted them?**

db.scheduled.aggregate([

{ $match: { status: "completed" } },

{ $unwind: "$skillsExchanged" },

{

$group: {

\_id: { skill: "$skillsExchanged", hostedBy: "$hostedBy" },

totalSessions: { $sum: 1 }

}

},

{

$project: {

skill: "$\_id.skill",

hostedBy: "$\_id.hostedBy",

totalSessions: 1,

\_id: 0

    }

  }

])

**Q8: Count of sessions scheduled per status (e.g., pending, completed, cancelled)**

db.scheduled.aggregate([

{

$group: {

\_id: "$status",

totalSessions: { $sum: 1 }

    }

  }

])