**MongoDB Aggregation Commands**

**Question 1:**

db.students.aggregate([  
 {  
 $lookup: {  
 from: "courses",  
 localField: "course\_id",  
 foreignField: "\_id",  
 as: "course\_info"  
 }  
 },  
 {  
 $unwind: "$course\_info"  
 },  
 {  
 $project: {  
 name: 1,  
 course\_name: "$course\_info.course\_name"  
 }  
 }  
])

**Question 2:**

db.students.aggregate([  
 {  
 $match: {  
 score: { $gt: 75 }  
 }  
 }  
])

**Question 3:**

db.orders.aggregate([  
 {  
 $match: {  
 amount: { $gt: 500 }  
 }  
 },  
 {  
 $lookup: {  
 from: "customers",  
 localField: "customerId",  
 foreignField: "\_id",  
 as: "customer\_info"  
 }  
 },  
 {  
 $unwind: "$customer\_info"  
 },  
 {  
 $match: {  
 "customer\_info.location": "New York"  
 }  
 },  
 {  
 $project: {  
 amount: 1,  
 "customer\_info.location": 1  
 }  
 }  
])

**Question 4:**

db.sales.aggregate([  
 {  
 $lookup: {  
 from: "products",  
 localField: "productId",  
 foreignField: "\_id",  
 as: "product\_info"  
 }  
 },  
 {  
 $unwind: "$product\_info"  
 },  
 {  
 $match: {  
 "product\_info.price": { $gt: 20 }  
 }  
 },  
 {  
 $group: {  
 \_id: "$productId",  
 totalRevenue: { $sum: { $multiply: ["$quantity", "$product\_info.price"] } }  
 }  
 }  
])

**Question 5:**

db.employees.aggregate([  
 {  
 $match: {  
 department: { $in: ["HR", "Engineering", "Marketing"] }  
 }  
 }  
])

**Question 6:**

db.transactions.aggregate([  
 {  
 $match: {  
 $or: [  
 { type: "credit" },  
 { amount: { $gt: 1000 } }  
 ]  
 }  
 }  
])

**Question 7:**

db.orders.aggregate([  
 {  
 $lookup: {  
 from: "customers",  
 localField: "customerId",  
 foreignField: "\_id",  
 as: "customer\_info"  
 }  
 },  
 {  
 $unwind: "$customer\_info"  
 },  
 {  
 $match: {  
 "customer\_info.membership": { $ne: "premium" }  
 }  
 }  
])

**Question 8:**

db.students.aggregate([  
 {  
 $lookup: {  
 from: "courses",  
 localField: "courseId",  
 foreignField: "\_id",  
 as: "course\_info"  
 }  
 },  
 {  
 $unwind: "$course\_info"  
 },  
 {  
 $lookup: {  
 from: "instructors",  
 localField: "course\_info.instructorId",  
 foreignField: "\_id",  
 as: "instructor\_info"  
 }  
 },  
 {  
 $unwind: "$instructor\_info"  
 },  
 {  
 $project: {  
 name: 1,  
 course\_name: "$course\_info.course\_name",  
 instructor\_name: "$instructor\_info.name"  
 }  
 }  
])

**Question 9:**

db.purchases.aggregate([  
 {  
 $lookup: {  
 from: "customers",  
 localField: "customerId",  
 foreignField: "\_id",  
 as: "customer\_info"  
 }  
 },  
 {  
 $unwind: "$customer\_info"  
 },  
 {  
 $match: {  
 "customer\_info.loyaltyPoints": { $gte: 1000 }  
 }  
 }  
])

**Question 10:**

db.products.aggregate([  
 {  
 $match: {  
 $and: [  
 { category: "electronics" },  
 { price: { $lt: 500 } },  
 { stock: { $gt: 10 } }  
 ]  
 }  
 }  
])